บทความนำเสนอในการประชุมวิชาการนานาชาติ

Collected Papers

โครงการประชุมวิชาการนานาชาติ เรื่อง

International Conference on

"ประเด็นข้ามพรมแดนในอาณาบริเวณอนุภูมิภาคลุ่มน้ำโขง

(Transborder Issues in the Greater Mekong Sub-region)"

MEKONG SUB - REGION

30 มิถุนายน 2548 – 2 กรกฎาคม 2548

โรงแรมเนวาด้าแกรนด์ จังหวัดอุบลราชธานี

Vol. II

Theme D: Natural Resource and Environmental Management

Theme E: Regional Market Economy

Thailand Research Fund

Oxfam America

THE ROCKEFELLER FOUNDATION 1913

Princess Maha Chakri Sirindhorn Anthropology Center

TCEB

Thailand Convention and Exhibition Bureau

THAI NATIONAL ASSEMBLY LIBRARY

3961168998

วันที่ 13 / ม.ค. / 2551
เลขทะเบียน G1905
เลขหมู่ HC 441.2972 TA2005 v.2

บทความนำเสนอในการประชุมวิชาการนานาชาติ

Collected Papers

โครงการประชุมวิชาการนานาชาติ เรื่อง

International Conference on

"ประเด็นข้ามพรมแดนในอาณาบริเวณอนุภูมิภาคลุ่มน้ำโขง
(Transborder Issues in the Greater Mekong Sub-region)"

MEKONG SUB - REGION

30 มิถุนายน 2548 – 2 กรกฎาคม 2548

โรงแรมเนวาด้าแกรนด์ จังหวัดอุบลราชธานี

Theme D: **Natural Resource and Environmental Management**

Theme E: **Regional Market Economy**

เพื่อนัดห้องสมุดรัฐสภา

Thailand Research Fund

Princess Maha Chakri Sirindhorn Anthropology Center

Thailand Convention and Exhibition Bureau

Theme D

Natural Resource and Environmental Management

Rational Approach to International River Management in Different Jurisdictional Contexts of the Greater Mekong Sub-region: Water Development Vs Biodiversity Conservation

TOUCH SEANG TANA[1]

Key words: different jurisdictional contexts, water development, biodiversity conservation

ABSTRACT

Who hasn't heard of the Greater Mekong? The Southeast Asian River originated from Tibet which flows across southern province of China, Myanmar, Thailand, Laos, Cambodia and Vietnam before discharging to the South China Sea. The Mekong is a peaceful river and due to its hydrological and sedimentological regime that formed a pristine aquatic ecology and splendid watershed environment, various habitats for existence and development of endemic fish species and other wildlife occurred.

The ecological characteristics of the Mekong River are diversified following the physical conditions of its natural structures and hydrological regime, of which 4 distinguished ecosystems are empirically defined: the valley waterway system (1), the plateau watershed system (2), the reverse water system (3) and the delta system (4). The hydrological resources contributed from the four ecosystems are crucial to the whole Greater Mekong environment in terms of biodiversity development. Living and non-living aquatic resources are differentiated from one to another ecosystem and have contributed various interests to riparian communities.

Fish, forested products, edible vegetation and lands are the first commodities of the natural resource to be utilized by local people, especially at downstream where the ecology is characterized by numerous waterway corridors and various inundated vegetation. These are home of large catfish species that prevailed the capture fisheries during the past time. Unfortunately, the straggle for food through intensive commercial and subsistent fisheries during the last century together with the surge of water development for agricultural irrigation and generating electricity in recent decades were crucial consequences of the present degradation of natural environment and fish decline.

Dispute and conflict among resource users, especially between developers and environmental conservators, dam builders and fishers, commercial fishers and subsistent fishers, agriculturists and fishers, fish farmers and fishers etc. spread throughout the region, of which the transborder issues are of great concern of this paper.

Searching for rational solution in different jurisdictional context where interest of natural resource utilization of each riparian country is different one another, an evolutionary approach with logical argument will be applied in deliberately debate. This paper describes and analyses the existing management systems and its consequences and tries to propose new rational concepts that are topics for further discussion.

****

[1] Secretary of State, Member of the Economic, Social & Cultural of Observation Unit Office of the Council of Minister
Address: Office of the Council of Minister Bldg. "B" # 41 Russian Federation Blvd. Phnom Penh, Kingdom of Cambodia
Office phone: +855 23 724 60; Hand-phone: +855 12 99 38 39; Email: seangtana@yahoo.com

Figure 1. Environmental transborder map of the Mekong River Basin

1. INTRODUCTION

The Mekong is reputed as a critical river in Asia especially Southeast Asia in term of its length, hydrological regime, sedimentological duty, landscape, ecological diversity, economic contribution and residential fitness to human. This river takes its origin from Tibetan plateau then flows 4,800 kilometers across the southern part of China, Myanmar, Thailand, Laos PDR, Cambodia and Vietnam before discharging into the South China Sea. According to Carbonnel and Guiscafre (1963), the Mekong River is one of the ten largest rivers in the world in term of its 500 billion m^3 flow annually. But in contrast, Welcomme (1985) quoted that the river ranks 14^{th} and 16^{th} in term of annual flow amount and length, respectively, as the discharge of water to the South China Sea was only 350 billion m^3, annually. However, the MRC (2003) had stated that the annual discharged volume of water of the Mekong River to the South China Sea was averaged at 475,000 m^3. The discharge of water varies seasonally by 10 to 15 percent during the dry season and 85 to 90 percent in wet season following the monsoon strength. The flood regime occurred once a year from May to October has invaded about 70,000 km^2 flood plains in which a large area located in Cambodia. The latter source also quoted that the total Mekong Basin (MB) catchment area covers 795,000 km^2 and the hydrological regime of the Mekong River is contributed by 16%, 2%, 17%, 35%, 19% and, 11% from China, Myanmar, Thailand, Laos, Cambodia and Vietnam, respectively.

Interestingly, this international river is named differently by many dialects where it based. The first 2,400 km from it origin down to the Chinese-Myanmar border is named "Lancang Jiang", which is followed by about 1,200 km "Menam Khong" that ended up at Laos-Cambodian border. It 480

kilometers passage across Cambodia territory is called "Tonle Thom" and it subordinate channel "Tonle Bassac" that forked out at the beginning of the Delta down to the Cambodia-Vietnamese border. It last part which lies on the Delta Region in Southern Vietnam is named "Song Hau", a channel continued from Tonle Bassac and "Song Tien" connected to Tonle Thom in Cambodia. This latter channel forks into 9 waterways are merely called "Song Cu Long or 9 Dragons" before reaching the South China Sea.

The population of the whole Mekong Basin catchment area has 73 million inhabitants, in which about 55-60 million inhabitants are currently living in the Lower Basin where splendid natural resources have been developed to support people livelihood for multi-millennia. The Lower Mekong Basin covers 77 percent of the total basin catchment area which extends from Myanmar-Thai-Laos border down to the South China Sea. Four countries: Thailand, Laos, Cambodia and Vietnam are part of the lower basin and shares benefit from this important river. The tangible natural resources to be benefited in the Lower Mekong Basin are arable lands, waters, forests, wildlife, fish and other aquatic animal and the intangible resource to be extracted, not only the LMB but the whole Mekong Basin are amenity. Traditionally, benefits obtained from those tangible natural resources were very different from one to another place in the old time depended upon the natural condition of geographic feature possessed.

However, the politic of economic development and population growth during the last century was driving into environmental degradation and conflict of unequal common resource benefit distribution. Perhaps, the conflicts might be started simultaneously at industrialization of fish, wildlife trade, timber for domestic consumption and sale, water damming for agricultural irrigation and electricity generation and, land for family farming and plantation. As this international river is managed by 6 jurisdictional contexts, it is really difficult to balance the natural resource benefit distribution, perhaps, it is impossible to re-distribute the benefits and to sustain the natural environment even there is effort to enact an agreement to control river development in 1995 by the four countries of the LMB and the sophisticated development plan of Greater Mekong Sub-region initiated by the 6 riparian countries and other major financial organizations. But this should not be too pessimistic with our subjective mind, perhaps we can try to use our objective mind to help improve these above solution that can be finally acceptable to all.

2. GEO-ECOLOGICAL FEATURES OF THE MEKONG RIVER

Along it course of 4,800 km the Mekong River, at it present physical feature, is one of the world youngest and high sedimentation river which has contributed tremendous extension of new lands to it delta zone for multi-millennia. In a broaden study of Rainboth (1996) on Zoogeography, the Mekong River morphology started since many million years ago following the earth eruption phenomena which made this river a geo-ecological rich and diversity. Reportedly, at least more than 2,000 fish species have been identified and these have contributed to human diet not less than 2.6 million tonnes, annually (MRC, 2003) which is about 35-6 kg/capita consumption.

There are a number of geographical and ecological studies by local and international experts to understand the uniqueness and strength of this natural creature for proper utilization the resource without dwindling the environment and social culture. Empirically, at the macro level, the whole Mekong Basin can be classified into 4 geo-ecological systems following its geo-ecological characteristics possessed: (1) the Valley Waterway system, (1) the Plateau Watershed system, (3) the Reverse Water system and, (4) the Delta system.

(1) The Valley Waterway system: The upper part of the Mekong River so called Lancang River by Chinese dialect has it course starting from Tibetan plateau at the 5,000 m asl

elevation down to the 19th parallel at about Luong Prabang in Laos PDR where the level of elevation reduced at about 2,900 m asl. It begins by two water channels confluence where a mainstream continues along the valley of Tibetan plateau until it reaches the western watershed of Annam Highland in Laos and Thailand at about 3,400 km from it origin. This means that this system consists of the whole Lancang River plus several hundred kilometers course extended in Laos and Thai territory. The main channel is mainly rocky based which receiving waters from numerous short and small tributaries. The basin at this system is typically small and has only one small flood plain at Pak In village of Chiang Khon, Chiang Rai province, Thailand. In general, there is only one water flow system from highest to lowest elevation but the volume and the water current fluctuated seasonally. During the wet season from late of May to October, the discharged water volume pick up to a maximum rate with high velocity of current then slows down from November to May. Even this Valley Waterway system covers a long course of about 70% of the total length of the Mekong River the volume of discharged waters has only about some 20% of the total discharged volume. Landscape including vegetation is characterized by mountainous dry grassland of the semi-temperate upland ecology which creates a great habitat for wildlife such as mammals and birds where many of them are endemic in this region. Forested flora growing in this zone is not tall and less dense but looks so beautiful and colorful that has been recently nominated together with other two parallel river basins: Nu or Salween River and Jinsha or Yangtze River as a World Natural Heritage by UNESCO (Yu Xiaogang & John Dore, 2004). Aquatic animal such as fish is negligible in the whole Lancang River as primary production is not well developed due to cold weather, strong current water that hampering the process of natural metabolism. In general food change in this aquatic system is very limited since it presents mainly small omnivorous and herbivorous species and very rare carnivorous species. But the geo-ecological feature of the last downstream of this system, especially the river course from the Myanmar-Thai-Laos border down to Luang Prabang in Laos has a unique physical structure which characterized by strong numerous whirling water rapid systems and pools (during the wet season) that constituted the mere spawning grounds for giant catfish and other large size fish species that are also in omnivorous and herbivorous groups. The quality of water remains good and clear with high dissolved oxygen and low sediment rate especially at it first 2,400 km course. Based on empirical observation, the geo-ecological features of the Valley Waterway systems have already been expanded across the political border of at least four nations: China, Myanmar, Laos and Thailand (see Figure 2 below).

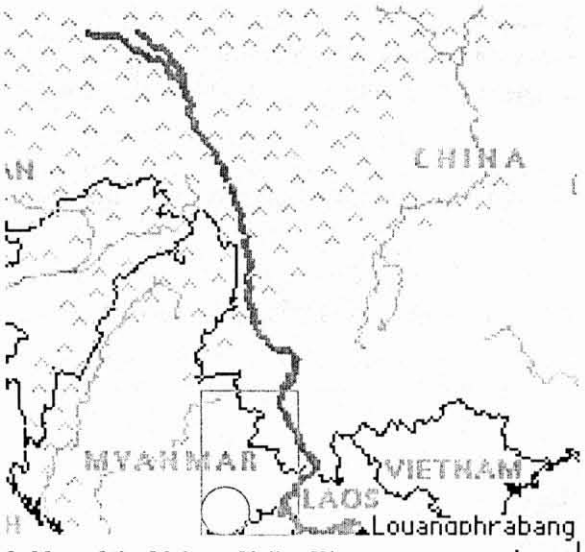


Figure 2. Map of the Mekong Valley Waterway system

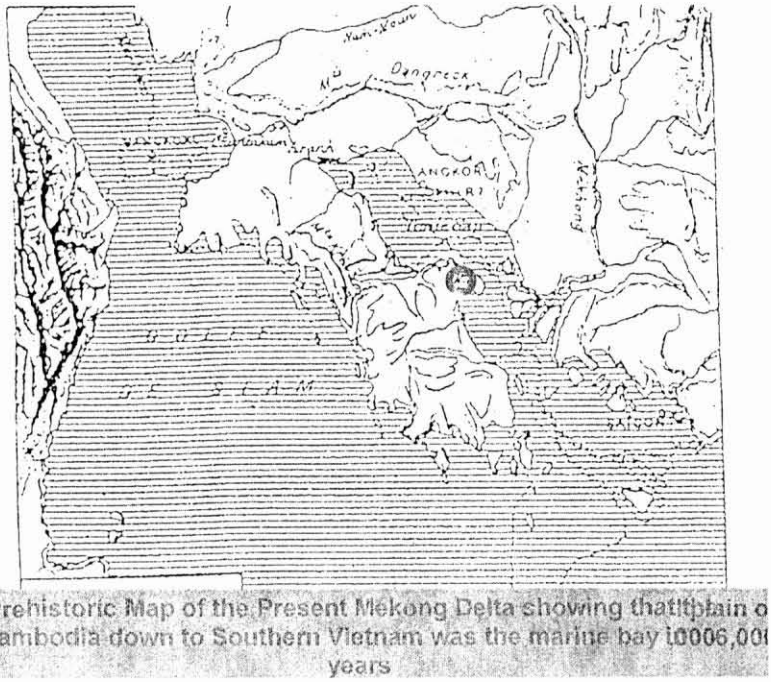
(2) The Plateau Watershed system: The course of the Mekong River from Luang Prabang in Laos down to Kratie town in Cambodia where it reaches a large basin in Northeast Thailand before the Khon Fall and the great watershed of Bullowan Plateau and Central Highland of Vietnam. The Menam Khong channel breathes out widely as it receives a huge discharged water volume of about more than 60% of the total discharged volume from a number of long and large tributaries such as Nam Gnum, Nam Thoeun, Se Pean, Se Kong and Se San/Sre Pork of the east and Songkram River and Moon River of the west. The river channel of this system is characterized by long sandy and silty floor structures and a number of islands of which some are flooded during wet season. At it course above Champasak province of Laos, several large rapid systems occurred especially at the entrance of all tributaries. The most spectacular aspect of this system is the occurrence of the 4 thousand islands around the Khon Fall region so called Sipandon and the 2 water falls: Khon Papheng and Khon Bamit of Champasak province near the Laos-Cambodia border. The total length of the river channel encountering from the 19th parallel down to Kratie town is about 855 km. The greatest rapid ecosystems are found in the main-upstream of Cambodia where within about 200 km course from the Laos-Cambodia border down to Kratie town and its large tributaries, numerous large rapids and deep pools associating with special inundated forests such as *Gimenila asiatica* flora creates a number of pristine spawning grounds and habitats for many commercial fish species, reptiles, and specially snub-fin dolphins. Interestingly, the plateau watershed system has a largest basin with complex numerous waterway corridors within enormous rain forests where huge amount of waters are produced from. Forested flora at its origin was very diversified and consisted of most valuable timber, which created a great habitats and niches for many wildlife species such as elephant, tiger, rhinoceros, Kuprey etc. Due to the abundance of elephant in this zone, Thailand, Laos and Cambodia were named as the countries of White Elephant (Mohout, 1871-2). Flood plain areas in this zone are not significant therefore the genetic population of aquatic animals are not diversified and well developed. In contrast, fish species are very diversifies but mainly riverine and rapid species that some of them are endemic. As there are a few small flood plain areas, the population of small cyprinid and other flood plain species are very limited that makes this system less fisheries attractive. Commercial fisheries are found in all main tributaries such as Nam Gnum, Nam Thoeun, Songkram River, Moon River, Se Kong, Se San/Sre Pork and below the Khon Fall. Other small water channels in Northeast Thailand, Eastern Laos and Cambodia are exposed for subsistent fishing. Rather than the above described geo-ecological resources, the underneath mineral substances such as ore, lead, lime, coil, and precious stone are also available along the western watershed of Annam highland which have become much attractively targeted at the present time (see Figure 3 below).

Figure 3. Map of the Mekong Plateau Watershed system

(3) The Reverse Water System: The Mekong River so called Tonle Thom in Cambodia reaches it first large flood plain at Kratie town then turns horizontally to the west, which further continues in southwest direction until the beginning of the Delta region at the confluence of the four rivers "the Quatre-bras or ""Tonle Chaktomuk". According to the pre-historic study, the central plain of Cambodia consisting of flood plain in Kratie, Kompong Cham and the whole Great Lake Boeung Tonle Sap region was a northwestern part of the marine bay of Indo-China Peninsula during the last 6 to 5 thousand years ago (see Figure 5) where the sea level was about 8 meters lower than that of the present time (Cobanaire, 1909. p. 6-9; Auguste Pavie, 1879-95. p. 8-11). The Mekong River met the bay at a large delta of about 20 km breath (presently Kratie-Kompong Cham provincial border) and for few thousand years of siltation duties, especially during wet season a complex freshwater ecosystem was emerged to completely replace the marine ecology of the old bay since the last 25 centuries. As evidence, a number of marine species such as Dolphin, sword fish, shark, sting ray, sea snake etc. still continue to survive in this region with its mutable ability to adopt the gradual mutability of this environment. Within this system, the Mekong River has a critical job to fill the flood waters into the flood plains that are laying along side the mainstream. Flooding the Great Lake region through Tonle Sap River is it major job which used to discharge more than 40% of the total discharged volume during the wet season from June to October (Carbonel & Guiscafre, 1963). The Great Lake Tonle Sap and other flood plains discharge the flood waters back to the Mekong River gradually following its receding water levels from November to February. The waters flow in and out between the Mekong River and its flood plain is a unique reverse water system of the whole Mekong Basin and perhaps, of the world. Even though, there are a number of tributary such as Prek Te, Prek Chhloung (eastern watershed), Stung Chinit, Stung Sen, Stung Storng, Stung Siem Reap (Dongrek chain watershed), Stung Sangke, Stung Pursat, Stung Boribo (Cadamum chain watershed) within this system also contribute waters of almost 10% of the total discharged volume to the Mekong River during the wet season. The forested watershed around this region is characterized by evergreen forests, decidous forests, secondary forests, shrublands, savanna and grassland that are critical for wildlife habitats. Many of forested floras in these above watersheds are recognized as valuable timber for excellent wood quality. The absence of rocky channel structure has caused of high degree of river bank erosion which is driving to fast river morphology. But the seasonal flood plain with reverse water system has promoted high potential of freshwater ecological evolution, which started from primary production to vegetation generation to support natural food change in this aquatic

environment. Reportedly at it origin, the inundated forest consisting of gallery forests, shrublands, aquatic grass, macrophytes and algae expand almost 70% of the total 2 million ha of flood plain, which create both feeding and spawning grounds for all resident aquatic animal and many of non-resident aquatic animals from other upstream and downstream systems (see Figure 4). Carnivorous, Omnivorous and herbivorous fish species of both riverine and lucustrine habitats in this system were tremendous in the past, which made Cambodia deserved a country of everywhere fish (Chu Ta Kuan, 1297; Mohout, 1971-2; Chevey et Le Poulin, 1939). At least about 170 of the 500 fish species of the whole Cambodia have been recorded this reverse water system (Tan, Hao &Chong, 1989; Rainboth, 1996). Other aquatic animals such as crocodiles, turtles, tortoises, and reptiles that used to live in the flood plains were also abundant. Moreover, these flood plains especially the Great Lake Tonle Sap have constituted a great seasonal nesting and feeding grounds for many water bird species and that due to it rich biodiversity resource, it is recognized by UNESCO, a World Heritage of Biosphere Reserve.

Figure 4. Map of the Mekong Reverse Water system



Prehistoric Map of the Present Mekong Delta showing that the plain o Cambodia down to Southern Vietnam was the marine bay 10006,00 years

(4) The Delta System: This system started from the confluence Chaktomuk or "Quatre-Bras" at Phnom Penh capital city of Cambodia where the Mekong River forked out into two main channels: Mekong downstream and the Bassac River flowing down to the South China Sea. These two river channels are characterized by silty and sandy soil due to high degree of sinking sediment caused by slow water current near to the sea. Most part of this basin is flooded for a long period of time every year from 3 to 9 months with no significant reverse water system. In relation to the high sediment deposit, the delta has continued to extend out to the sea, which created a large estuary covering by dense mangrove forests. River morphology was extremely evolved with sedimentology and the sea movement that westward shifted the 2 river channels for more than 100 km within the period of 2,500 years. Reportedly, the mouths of the 2 river channels were originated at Kompong Trach in Kampot province (presently at the Vietnam-Cambodia border). The flood plain within this basin was, according to the French studies in the old time covering by a huge inundated gallery forest from the above stretch of the delta down to Mangrove forest at the estuary (see Figure 6). Several large deep pools of about 30 to 50 meters that most fish used them as their shelters during dry season have been detected only in the Mekong downstream channel in Cambodian territory. Soil is generally acidic, except the areas where flood waters resist about four months a year. Even it is a very lowland region the Mekong and Bassac Rivers still receives waters from it tributary and catchment areas of about at least 15% of the total discharged volume to the South China Sea. Lucustrine fish species such as snake head and small cyprinid occur fairly in the swamps where the water retained more than 6 months a year. Pure riverine fish species are not so abundant at the lower part due to the effect of brackish acidic waters but the estuarine species such as freshwater prawn, *Pangasius Krempfi, Pangasius kugnit* etc that their life cycle patterns involved three different habitats: the estuary, the flood plain and the rapid for feeding and spawning is fairly interested. The most important fisheries resources are the estuarine species inhabited in the large mangrove forests such as mud crabs, shrimps, fish and mollusc.

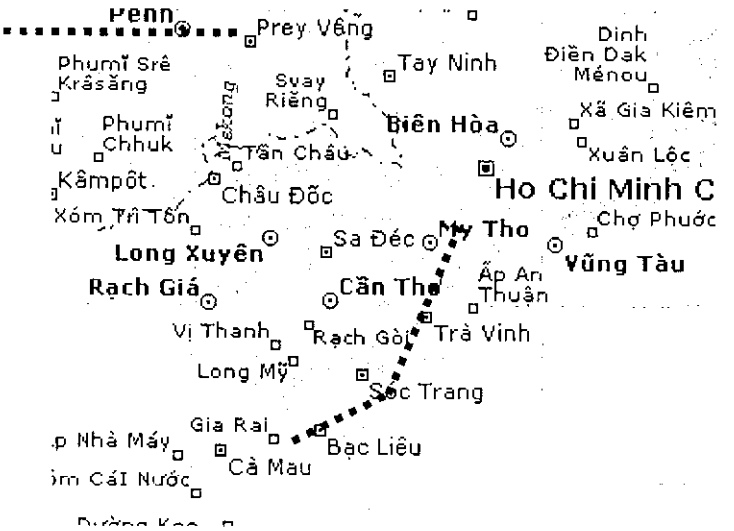


Figure 5. Map of the Mekong Delta system

In order to compare and distinguish the different features of geo-ecology of the defined systems within the Mekong River Basin, a summary Table of important information should be provided in the Table below (see Table 1).

Table 1. Summary of the Geo-ecological featuring systems of the Mekong Basin

Geo-ecological features	Valley Waterway system	Plateau Watershed system	Reverse Water system	Delta system
Political location	Southeast China-Mayanmar-Laos PDR-Thailand	Thailand-Laos PDR-Cambodia	Cambodia	Cambodia-Vietnam
Geographic location	Between 32nd and 19th parallels	Between 19th and 13th parallels	Between 13th and 11.5 Parallels	Between 11.5 and 9th parallels
Degree of elevation	Between 5,000m and 2,900m asl.	Between 2,900m and 80m asl.	Between 80m and 40m asl.	Between 40m and 0m asl
Basin area based on total 795,000 km^2	about 27%	about 54%	about 14%	about 5%
Length of river course	3,400 km	855 km	215 km	330 km
Discharged water volume based on total 475 billion m^3	about 20%	about 60%	about 11%	about 9%
Landscape of Basin	Hilly zone with dry grassland vegetation	Watershed-plateau with rain forest	Rainfed plain of Cadamum and Dongrek chains and Annam Highland with rain forest and inundated forest	Swamp and estuary with inundated forest and mangrove forest
Important wildlife	Monkey and other small mammals	Elephant, tiger, rhinoceros, Kuprey	Elephant, tiger, rhinoceros, Kuprey, water bird	Migrated and water bird
Flood plain based on the total of 70,000 km^2	Absence	20%	about 30%	50%
Degree of erosion	Negligible	High	Very high	Negligible
Sediment deposit	Negligible	High	Very High	Extremely high
Aquatic vegetation	Small plant and algae at the stretch end	Small plant and algae at the above fall and inundated trees especially Gimenila asiatica flora and algae at the below fall	Inundated gallery forest, shrubland, grass, small plant flora, macrophytes, algae	Inundated gallery forest, shrubland, grass, small plant flora, macrophytes, algae and mangrove forest
Important habitats	Water whirling rapid and pools at the last stretch end	Large riverine feeding ground and watershed spawning grounds and great	Extreme feeding and spawning grounds of resident and non-resident fish	Residence of lucustrine fish and home of estuarine species

Geo-ecological features	Valley Waterway system	Plateau Watershed system	Reverse Water system	Delta system
		rapid spawning precinct at the below fall		
Aquatic fauna trend	Small sized fish; a short visit of Giant catfish and other large species at the last stretch end during spawning period	High fish species diversity with limited genetic population diversity and its dynamic, except the below fall region where fish and other marine species in origin develop very well	Both species and genetic diversity are high with extreme dynamic population. Other aquatic animals such as crocodile, reptile, turtle, tortoise and also water birds	Lucustrine fish and estuarine species are fairly developed

3. RELATIVITY OF ENVIRONMENTAL BIO-ECOLOGICAL TRANSBORDER OF THE DEFINED SYSTEMS

Based on the dynamic of hydrological regime that flows down from a 5,000 m elevation across numerous catchment areas, the Mekong River has created a diversified natural environment and bio-ecology throughout it whole basin. As consequence, fish and forest resources were well developed to support the economy and socio-economic of the reparian states and its population for a long period of time. But among these two resources, fish was the only one necessary commodity for human food to be firstly exploited. As fish is a common source of protein for human consumption that is prevailing in the aquatic environment, a critical understanding on natural bio-ecology phenomena of this river basin is needed. Four geo-ecological systems are already defined and described but there still need to know how the bio-ecology works in each defined system and what is the relativity linking those systems in dynamic terms for the existence and development of all aquatic animals in the Mekong Basin.

- Fish was not significant in the Valley Waterways system but this not means that there are no fish at all. Fish is available in scarcity throughout the first 2,800 km mainstream and its tributaries. They are endemic and adapted to local environment that relied on algae and detritus to feed for survival. These species are generally small size and living in small population. But most of them are strength and looked very beautiful. This system is steadily changed at the last 600 km course (at the passage across Mayanmar, Thai and Laos territory) with the presence of some large sized fish such as Giant catfish, other catfish, *Siluriforms, Probarbus sp., Mystus sp.* etc. These species are so rare and found them throughout the year, except two giant catfish species: *Pangasionodon gigas* and *Pangasius sanitwongsei* that take only a short visit along this course from May to July for spawning purpose. These giant catfishes spend several months feeding in the basin catchment of the plateau watershed system before retreating to the deep pools in Mekong mainstream in around November-December. They continue to live in around the deep pool for a few month to develop their gonad with little feeding then migrate upstream to their proper spawning ground at the whirling water rapid and pools at Chiang Khon. Big fish needs strong current to stimulate hormone for mating and laying eggs. After coupling of male and female the process of hormone stimulation is taking place at the whirling pool for sometimes. Mating to fertilize the eggs laying in

undertaking at a complex whirling rapid in order to make more eggs stick on the rocky substrates. After mating, the male moves immediately to the feeding ground at downstream but once in a while there may have someone moves to upstream for many hundred kilometers for the same purpose. This latter is finally returned back to the rich feeding ground at downstream after sometimes, July or August. While the female retreats to somewhere nearby to ripe up the eggs in the gonad with little feeding on local algae available in the area and also waiting for a new male. Coupling with new male for second spawning may be about 15 to 20 days after the first one and the whole process is similarly undertaken. The couple is immediate move to feeding grounds after spawning and the rest of eggs in the gonad have been released out along the way. Sometimes in case that male is not available, overripe eggs in the gonad are naturally released out without fertilization, so this is a great lost of reproduction. The new hatchlings from natural hatcheries flow down by the water current toward their feeding grounds in the basin catchment and the flood plains where they can enter through the tributaries by the strong force of water current. Most of hatchlings of the species spawned around Chiang Khon are usually entering the basin catchment located above the Khon fall especially the western catchment in Northeast Thailand if there is no obstacle at the entrance. Despite though, there still have some hatchlings move further downstream passing by the Khon Fall then enter the Great Lake Tonle Sap flood plain for feeding and growing up within the Reverse Water system. It is very rare to find them pass over the Cambodia-Vietnam border to the lower delta region. In summary, the evidence from empirical observation in the above system can provide a high degree of corroboration to argument of relativity of environmental bio-ecological transboder of the defined system (sea figure 8)

- The Plateau Watershed system is the biggest system of the Mekong River Basin where pristine forested watershed is the interested resource for both state and people. Due to the absence of flood plain the abundance of fish is seconded in this region as it is generally exploited in family scale for local consumption. The mainstream and tributaries, especially the deep channel the rapids and deep pools are the mere habitats of all fish species, especially during dry season. Other small Cyprinid species can live in the shallow water areas throughout the suitable waterways channels within the basin catchment. Above the Khon Fall, most small and medium sized fish species live throughout the existing waterway corridors where feed is available throughout the year. Some fish spawn at the flooded river bank and some other required a particular spawning ground along the watershed canal or creek where they can spawn in the small rapid system. Except for the giant species that required a long migration to the suitable criteria matching their spawning pattern. At the below Khon Fall, the condition is a bit difference from the former one even it has been classified in one system. Empirical observation can prove that the below Khon Fall habitat can connect it bio-ecological pattern to the above habitat through the Sekong channel of which a number of fish species can move up and down between Attapeu watershed and the rapid system of the upstream in Cambodia. Perhaps some among those fish such as small Cyprinid species that it life cycle is less restricted to any specific environment like *Mekongina erythrospila* fish can move further upstream to associate with other fish species in the above habitats. It can be happened the same pattern for the above fish species. However, the below fall bio-ecology consists of a very specific characteristic in terms of complex habitat for tremendous types of aquatic animals such as marine origin species, reptile, turtle, tortoise, and all group of freshwater fish from plankton feeder to see top predator. It is good to speak that the combination of large rapids, deep pools, specific inundated flora, sandy beaches, complex waterway corridors and hydrological regime of the Mekong River and the Sekong, Sesan and Sre Pork tributaries has formed a great home for resident species and suitable temporary maternity of many non-resident breeders

from the Great Lake Tonle Sap and other flood plain regions. Despite though, until today there is neither evidence nor information to convince that this precious habitat can be able to assist the reproduction pattern of both greater catfish: the giant catfish and *P. sanitwongsei* (Thai calls Pa Loeum). All these above contemporary knowledge are of great argument to insert into the assumption that the relativity of environmental and bio-ecological transborder of the 3 defined systems relatively true in its content (see Figure 8).

- The recognition of freshwater fish abundance in the Reverse Water system of the Mekong River basin that claimed by a number of people has become a routine matter for all. The ecosystem diversity of the flood plain especially the Great Lake Tonle Sap constituted the wonderful niche for tremendous aquatic life, in which they reproduce and feed on a very rich food chain throughout (see Figure 7). Feeding in the flood plain is very common for aquatic animal including mammal, except for several riverine fish and estuarine species such as *Pangasius bocourti, Pangasius Krempfi and Pangasius Kugnit, Scombridae sp., Anguila sp.* etc. These fishes rarely entered the flood plain and in a very short time when they are fingerling, so the rest of their life is merely in the river channels and estuaries. Species and genetic population diversity of aquatic animals in the Reverse Water system are adequately disseminated worldwide but biological truth knowledge of them is very limited. Some recent efforts to discover these mysterious life cycles of a number of important species have been released to a small mass of the public. In this comprehensive way of description, some important resident and non-resident fish species often found in the flood plain like Shevron snake head (*Channa triatus*), giant snake head (*Channa micropeltis*), *Gobiidae sp. Clariidae sp., Siluridae sp., Pangasidae sp., Cyprinidae sp., Belontiidae sp.* etc. should be roughly cited. Chevron snake head, Giang snake head, *Gobiidae sp., Clariidae sp., Belontiidae sp., Bagridae sp.* are prolific and purely lucustrine species with short movement within the flood plain as they can resist in the harsh environment but the most withstanding one is Chevron snake head, which followed by *Clariidae, Belotiidae, Gobiidae, Notopteridae,* and Giant snake head fish species. Those fish feed and spawn in the flood plains almost year round with 2 peek periods: May-June and August-September, except for Giant snake head that spawns only time a year in August and requires a deep and clear water areas to live. *Siluridae sp.* have a longer movement are more active that the former groups as they shift back and forth between the river channel and the flood plain for feeding but their spawning ground is merely in the flood plain. While large *Pangasidae sp.* that prevail the natural stock use flood plain for just feeding only but they move to the below Khon Fall rapids for spawning at the specific substrate of the *Gimenila asiatica* flora concentration zone. Hatchlings of these species from the substrate together with hatchling of other fish species from the near above and below the Khon Fall regions have pushed by the Mekong current to flood plain areas especially the Great Lake Tonle Sap to enjoy feeding throughout the wet season. Interestingly, there may have about almost a half of the above hatchlings have pushed more downstream to the Delta system by 3 channels: The Tonle Toch River, which flows across Kompong Cham and Prey Veng province, Mekong downstream and the Bassac River. At the lower part of the Delta system where the water current is relatively slow, the latter group of hatchlings of about 15 days old can be able to enter the nearby flood plains and so some of them take its way back to the flood plain in the Reverse Water system. According to these above empirical observation of pragmatic scientists, just the Reverse Water system alone cannot make this region a world productive in fisheries. It is surely needed the support in many aspects from other systems of the whole Mekong Basin such spawning grounds for some specific species at the upstream rapid systems, substrate for nesting, safe rescue pools for natural brood-stock, supplementary feed etc. Now it is clear to advocate the

relativity of the environmental and bio-ecological transborder of the 3 defined system of the Mekong Basin with logical arguments of the scientific observation (see Figure 8).

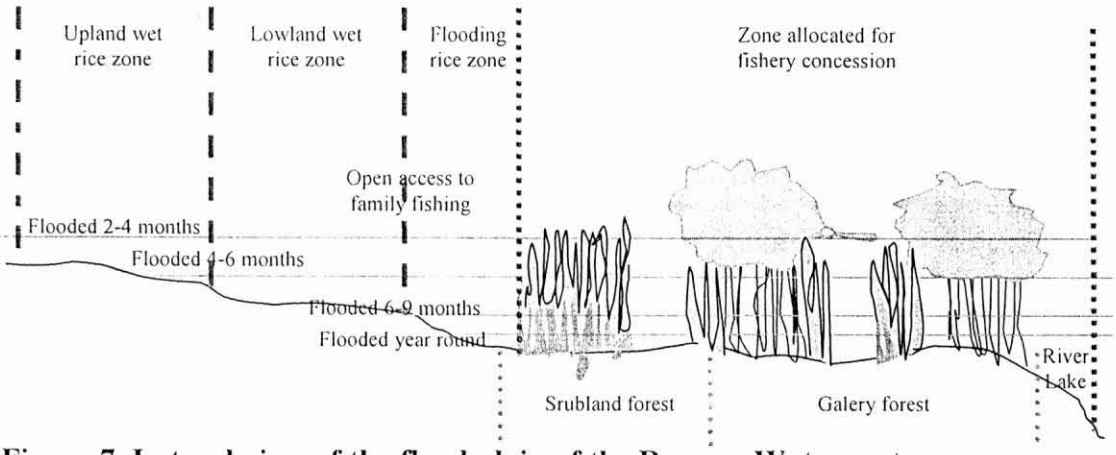


Figure 7. Lateral view of the flood plain of the Reverse Water system

- The bio-ecology strength of the Delta system is characterized by the approach of freshwater swampy ecology to the estuarine ecology and it temporary host for visitor species from the above systems and from estuarine or marine waters. Even though, there are also a number of resident species, especially the freshwater swampy species that strongly withstood in the acidic waters. They are mainly snake head fish group, walking catfish, *Anabantidae sp.*, Swampy eel, *Siluridae sp.*, *Belontiidae sp.*, *Gobiidae sp.*, *Cobitidae sp.*, etc together with small *Cyprinidae sp.* to fulfill the food chains in the swampy region, of which the first and the last one are the dominant groups. Other resident species in the estuarine waters such as Sea bass, *Dorosomatinae sp. Leiognathidae sp.*, *Scatophagidae sp.*, Mud crab, mangrove shrimp etc. use the mangrove forests as their appropriate habitats for feeding and some of them use it for spawning too. Most visitors from the upstream such as fry and adult *Pangasidae sp.* and other large *Cyprinidae sp.* entered the swampy areas in short period then move back to the mainstream and rarely passed over the brackish water system near the estuary except for *Chanidae sp.* Normally, these short visitors used to return back to upstream in the Reverse water and the Plateau Watershed systems for substantial feeding and reproduction. In contrast, the estuarine species such as *Anguila* eel, *Scombridae*, *Pangasius Kremfi*, *Pangasius Kugnit*, giant prawn (*Macrobrachium rogenbergi*) etc. have made a short visit in the upstream throughout the below Khon Fall region for enjoying feeding and spawning, except for the giant prawn that they use to go back to the estuarine waters for spawning. This latter system is empirically proved the complexity of relativity of the environmental and bio-ecological transborder of the Mekong Basin as the whole and between one to another defined system in particular that are very useful to develop a holistic rational approach for harmony development management (see Figure 8).

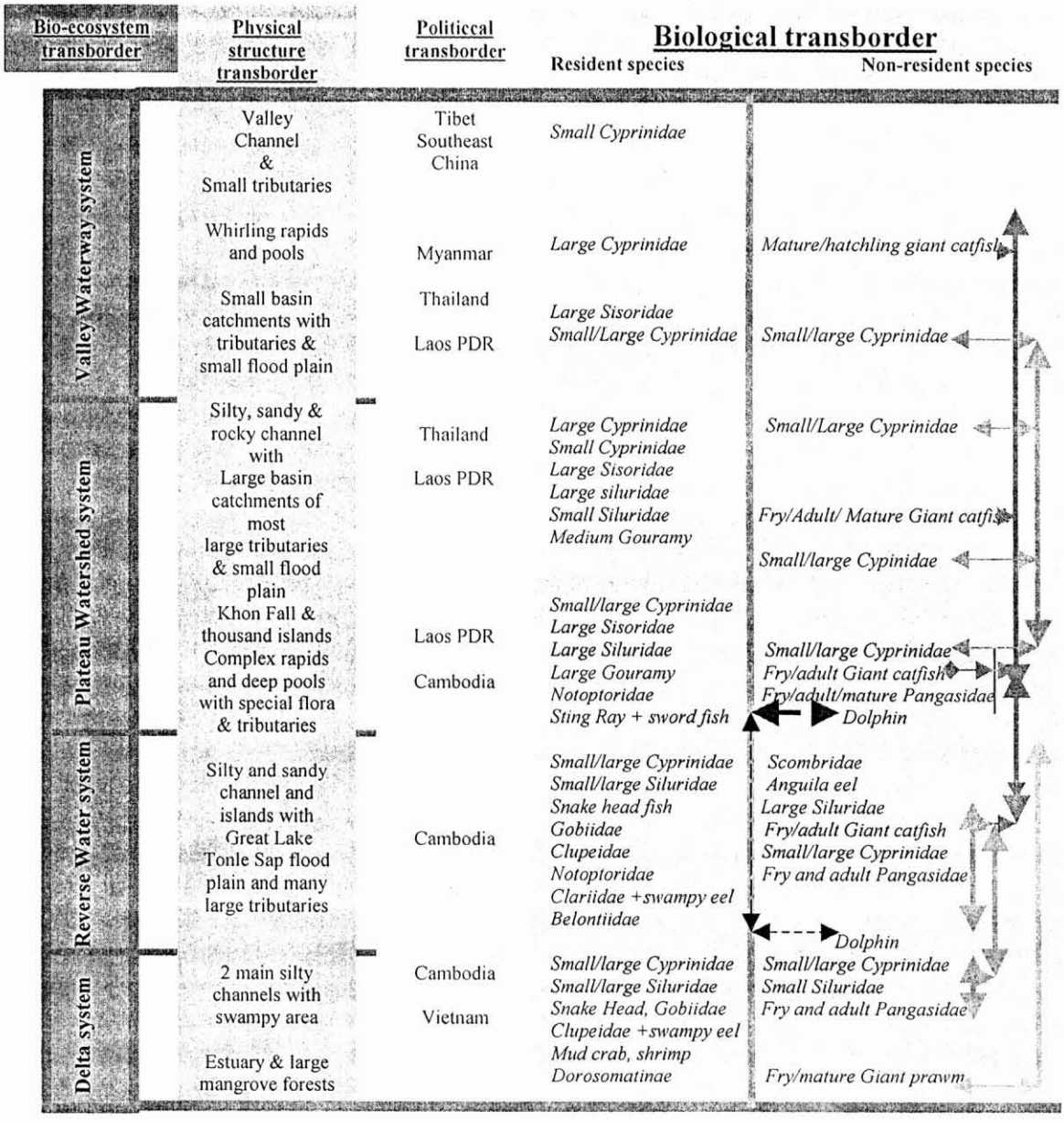


Figure 8. The Relativity of Environmental and Bio-ecological Transborder of the Mekong River

According to the above illustration of the relativity of the environmental and bio-ecological transborder of the Mekong River, the emergence of aquatic animal especially fish fauna can be considered as key indicator of environmental health of this river. However, all fish species cannot be used as key indicator as majority of fish species has some specific bio-pattern that is fit to some partial environment only. So it cannot be represented the whole Mekong River environment. Therefore, to be adopted as a key indicator, fish or group of fish should be a dominant group and widely distributed throughout with special bio-pattern such as migration, feeding, spawning etc. In Figure 8, as well as in the real environment, two groups of fish prevails the whole fish stock: *Cyprinidae sp.* and *Pangasidae sp.* but the former group has no special bio-pattern as most dominant species are herbivorous or plankton feeder that used flood plain for reproduction and develop. The latter group covers about 20 important species from small to giant size, of which *Pangasionodon hypophthalmus* is the most productive species (Blanc, 1958) dominated the catch (about 50%) with wide range of distribution from the estuary up to the first mid part of the Valley waterway system. Those species are omnivorous and have special bio-pattern of long migration between feeding and spawning grounds that merely fit to almost all natural environment of the Mekong River. So according to these above characteristic of the latter group, the *Pangasid* catfish is

a sole key indicator to be used to evaluate the environmental health of the Mekong River. The drastic dwindle of *Pangasid* catfish in the total fish stock at the present time can be assumed that the environment of Mekong River is unhealthy.

4. PAST, PRESENT AND FUTURE DEVELOPMENTS: BENEFITS AND IMPACTS

Throughout the history of the Mekong River or the Great Mekong Sub-region and even during it pre-historic time the natural resources to be exploited and utilized were firstly fishery then followed by lands and waters and, lastly negligible forests on the family-scale and traditional form. The level of exploitation and utilization of those resources increased overtime with growth of population and socio-economic evolution. The exploitation and utilization of resource on the traditional manners are the sole satisfaction of all stakeholders that every one benefits without any sigh of adverse impact on the environment. However, these above harmonized activities have no longer existed when the economic ambition concept invaded the modern society around one and a half century ago. Due to the freshwater fishery resource rich in the Reverse Water system in Cambodia, the French Protectorate authority had convinced the Cambodian monarchy to commercially exploit this resource in 1863 for national revenue to ensure the financial support empowering it administration in this region (Mohout, 1871-2). Vietnam had partially applied this concept in some small places around the 50s but for the benefit of local authority and socio-economic of local fishermen, in terms of self-financing. The impact of over-fished was resulting to strict regulated fisheries in Cambodia since 1921. However, fish continued to gradually decline along side with the growth of the population and the level of response to global and regional economy, which is good to speak that regulated fisheries is not the strategic conservation of natural resource.

Water development concept for agriculture irrigation and generate electricity power for industrial development was introduced by developed countries and firstly adopted by Thailand in around the 50s. These developments have become one of the most beneficiary investments at the beginning and continue to boom up with political and financial support of local government and international financial institutions. And finally the forested resource exploitation took place around late of the 50s in accordance to deforestation for large reservoirs building and land claimed for agriculture development in industrial scale for both export and domestic use. Water development was adopted by the rest of the region in around the 60s for improving agricultural crops. The forested product exploitation has split to Vietnam, Cambodia and Laos PDR from late 70s until today. The latest issues concerning the hydropower dam construction on the Mekong mainstream and the navigation channel development are under way to finish in the near future. Past, present and future developments as described above were perceivably aware that benefits and adverse impacts to environmental sociology are sharply occurred in the whole GMS stakeholders and need to bring all concerned issues and problems to deliberately debate in order to obtain the rational solution that can be reduced negative impacts and create reliable and equitable resource benefit re-distribution to all.

- **(i) Fisheries development: Benefits and impacts**: Historically, the industrialization programme of Cambodian economy was firstly started with the Reverse water system fisheries at the pre-colonial period in 1863 for the benefit of feudal patronage system and then the French protectorate authority in Cambodia (Vincent, 1870-1). The commercial fisheries was arbitrarily under taken throughout the Reverse Water system for export purpose due to local consumption relied mainly on self-subsistence (Loys Petillot, 1911.p. 140). There were only the Chinese corporations who devoted to buy the fisheries concession right (represented by the burden book) for further sub-leasing for many other small enterprises with very good price. According to the rule, sub-leasers also have right to divide their sub-leased areas for sub-sub-lease to many other fishermen in order to allow poor people to generate some benefit from the fisheries (Loys Petillot, 1911. p. 112-113). Most

skill labors were imported from Vietnam for fishing and processing to satisfy export. The management was typically classical as the resource just allocated for exploitation under the title of general fishing farm monopolizing by 5 or 6 and some time 7 rich corporate who were played the role of workless, non-risk and huge benefit intermediaries (Loys Petillot, 1911. p. 112-113). Revenue from this natural resource exploitation that supposed to be a substantial source of finance of the state administration was completely under the hand of the monopoly corporate due to the weakness of administration and finance of the feudal patronage system. The surge of conflict of benefit distribution among resource users and a series peasantry rebellions (Kiernan 1982a:1-3) are the matters of political, administrative and financial reform in 1884s by cutting off all provincial monopoly intermediaries for alleviating social pressure (Loys Petillot, 1911. p.113-117). Numerous restrictions and regulations for sustaining this industry activity were developed and enforced during the period 1930-1940 (Chevey et Le Poulin, 1940). More over, by the end of it rule in Cambodia, the French protectorate had established a strong state bureaucracy through which the creation of national fisheries research institute was also been deployed. But fish is claimed to have decline over time due to unrest intensification of exploitation (Chevey et Le Poulin, 1939. p.116-118; Blanc, 1958.p.41-42). Based on the fisheries administration, regulation and restriction formulated during the protectorate period, the fisheries legislation was completely prepared and promulgated in 1956 (Tan Kim Huon, 1971). The Fisheries administration and management was completely structured and fully executed its role in fisheries management administration since 1963 after the first batch of recruited staffs finishing the ad-hoc training. The fishery law was properly enforced until the spread of devastated war between 1970 and 1979. Revenue from this development was not excess US$ 3 million/year but the fishing activities intensified overtime. As result, valued fish stock was drastically declined along side with the increase of rampant illegal and destructive fishing throughout the fishery sector.

In contrast, conflict among fishermen in Thailand and Vietnam were not much serious as the fisheries resources were not so important but the sound of resource depletion such as the decline of Giant catfish fisheries in Thailand and over-fished, especially the fry fisheries in Cambodia had been claimed in recent years. General speaking, the fisheries resources of the whole Mekong River Basin are under threat of drastic decline after the introduction of economic development with the surge of conflicts amongst interested stakeholders. The cause and effect are doubtful and only the critical contribution of the fisheries resources to human diet remains in every one mind of the people in this region (see Figure 10).

- **(ii) Past, present and future of water development: benefits and impacts**: Importance of irrigation and hydropower dam for agriculture development and electricity generation for industry development have been taken into consideration by international development and financial agencies and United Nation Development Programme in around the 50s. The Mekong River Basin was one of the targeted river development of which Thailand was the first country to be involved in the region in late of the 50s about the time of the establishment of the Secretariat of Interim Committee of the Lower Mekong Basin representing four countries: Thailand, Laos, Cambodia and Vietnam under supervision of the UN. Reportedly, about 6,000 medium and small dams associating with reservoir and irrigation schemes were built since 1950s in which about 4,000 in Thailand, 700 in Cambodia, more than 600 in Laos PDR, and more than 600 in Vietnam (MRCS data, Thai country paper, 1996). Damming the water channel in the Mekong River Basin was a major objective for generating electric power of the Interim Mekong Committee, in the reason to control the flood and mitigation, of which a number of hydropower dam projects on many tributaries have been studied and planned throughout the basin especially in Thailand, Laos PDR and Vietnam. Cambodia is the least dam developed country due to disturbed war.

Experience of benefits contributed from damming in the region and the lesson from the first world countries had proved that it all the time accumulated with a number of social and environmental crisis like a vicious circle. As such, the Mekong River Commission who represented the 4 countries of the Lower Mekong Basin have had modified it policy from water development in it origin into "match the needs, keep the balance" for each individual country in terms of equitable and sustainable use the Mekong resources for the benefit of all. According to the 1995 agreement, any development on the Mekong mainstream is prohibited unless the consensus of the 4 riparian countries, except for the tributaries. Even though, local and transborder conflicts remained unsold due to under-minding the importance of consensus on the international tributaries. Evidently, the decline of giant catfish fisheries in recent years seemed to have implicated with the development of Pak Moon run-off-river dam. This might due to this fish, by instinct used this river as the main waterway corridor to feeding ground in Northeast Thailand Basin and returning to the Mekong mainstream to find it suitable spawning grounds in Chiang Khon (see Table 2 below).

Table 2. Catch data of Giant Catfish and fishing effort in the Mekong Upstream from Mayanmar down to Luong Brabang during spawning period May-July (1986-2005)

Y.	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05
T	18	24	42	60	69	31	35	48	18	16	7	6	1	20	2	0	0	0	7	3
F	6	8	15	16	22	18	16	23	8	6	2	3	0	16	1	0	0	0	3	2
M	12	16	27	44	40	12	18	25	10	10	5	3	1	4	1	0	0	0	4	1
fb	18	20	24	40	62	72	69	69	67	67	63	57	25	28	29	-	-	-	4	4

Note: Catch data of giant catfish in Chiang San during July-August was not included due to lack of record.

(Source: TERRA)

Another evidence of adverse impact of hydropower dam development on the international tributary is the Sesan River which has it origin in Vietnam and flows across two countries, Vietnam Central Highland and Northeast Cambodia. Several dam were built on after another since the last decade had changed the whole structure of hydrological regime, which was driving to fast environmental mutability especially after the first dam (Yali fall) operation. The drastic change of hydrological regime and its structure created routine uneven flood and draught of the river is seriously effect to local livelihood at downstream and the fast environmental mutation is seriously effect of most fish species disappearance from this river. These two problems are being solved by the two countries and efforts to reduce uneven disasters have already been made through equitable cooperation but the output from those are still far from what suffered people needs since the approach is merely relied on the reviewing of EIA only.

Concomitant to the effort to match the needs and keep the balance of the 4 countries, the 8 large hydropower dams on the Mekong or Lancang mainstream in China were already planned to substitute 24% of China hydropower potential by the end of 2020. Manwan dam was impounded in 1992 and operated in 1996 then started the second dam, Dachaoshan, which was operated in 2001. The 2 other dams are being constructed, which one was the world's tallest dam of 290 m high (Yu Xiaogang & John Dore, 2004). However, the reduction of flood regime and uneven flood during monsoon was already affected since the last decade. Reportedly, at least 15% of natural flow was decline during 17 years period from 1982 to 1998 if compare to the previous period of 1923–56 (MRC/ORSTOM/BCEOM 1993 and MRCS hydrological data base). The Flood regime change by the upstream development of both mainstream and

tributaries has caused a number of serious impacts at the downstream region, especially the drastic mutation of fisheries ecology, and damage agriculture crop and infrastructure. Future hydropower development plan shows that a number of dam projects in the region may reduce flow at Phnom Penh as much as 15% in the wet season resulting of 20% less flow into the Great Lake, which may cause the flood plain reduction of about 20% of the total 1.2 million ha of the above region (MRC 1998, Flo cover data). However, suspicious impact on fisheries from the past and the present water development are seriously stick in every local fishermen at the downstream as they put their concerns on 3 big issues: the decline of giant catfish fisheries at Chiang Khon (1), the decline of *Pangasidae* catfish in Cambodia (2) and, the decline of flood plain fish species throughout the Lower Mekong Bas in (3). Suspect of the first issue may be implicated with the block of Moon River gate while the second and the third issues must be related to damming in Lancang River, the upstream most of the Mekong River. Concomitant to the latter issues, 2 times uneven floods in 1996 and 2000 might be, perhaps caused by the reducing of overloaded waters in the dam reservoir to avoid the collapse of the dam structures (see Figure 10).

- **(iii) Logging and land claimed for agriculture: Benefits and Impacts**: Industrialization of forest exploitation and logging at the forested watershed started around the 60s and 70s in Thailand. This might be partially implicated with water development for both irrigation and power generation as establishment of reservoir required to clear the forest. Logging in Laos PDR and Cambodia was intensified around the 90s when forested resource in Thailand declined to an alarming stage. In Vietnam, the forested resource was strongly destroyed during the war time so the remaining forest along within the Mekong Basin is not widely opened for large-scale logging. Empirical survey in recent years found out that most rain forests in the Lower Mekong Basin were drastically depleted, which is, perhaps, consequence to the present long lasting draught in this region. On the other hand, the lost of huge forest areas may also cause the reduction of natural waters produced from the forested watershed system and lost its ability to store and adjustment the flow the waters from heavy precipitation at the high elevation zones. Perception on risk-laden of deforestation was difficult to adopt in the developing and undeveloped countries where poverty is major burden of the society. The benefit from logging and land claims which accumulated with natural calamities was already appeared in the whole region but the acceptance to give it up is hard as ecological recovery is the most complicated activities and cost a lot of money (see Figure 10).

- **(iv) Navigation channel development: Benefits and Impacts**: This development embeds 3 concepts: navigation and transport service feasible to international trade and tourism (1), optimal use of regulated water flow from the hydropower development in the upstream (2) and, alleviating the intense environmental pressure of downstream communities through economic substitution contributed by oversea trade activities. Even though, the development without critical environmental research has frustrated the achieved plan as many of protest against the project intensifies overtime from the civil societies and downstream communities. Therefore, the destruction of rapid to clear the water channel was temporary ceased before the rapid in Chiang Khon and wait for the new consensus that may allow the project to continue. Impact on fisheries is unavoidable, especially the lost of the mere spawning ground of giant catfish and other large fish species.

- (v) Mining: Benefits and Impacts. Mining occurs in some place along the Anam Highland watershed in Laos PDR and Cambodia. The charcoal mining was operated in Laos to satisfy the electric power plant in Chianf Rai, Thailand. Gold mining in Laos PDR and Cambodia were operated by foreign investors for export purpose. The adverse impacts from those mining were very negligible in the operated localities.

In general, the effect of development, deforestation and fisheries industry is the failure of biodiversity conservation resulting in fish decline and shortage of natural water supply (rain and underground waters) throughout the Lower Mekong Basin. However, critical scientists may have more than that if thoroughly observing the strength of natural phenomenon where natural calamities often occurred in the region. Despite these calamities are yet proved scientifically but some risk evidences are already appeared with those natural mutability such as the accumulation of carbon hydroxide effected from the forest degradation and large reservoir might become one of the source creation of uneven storm and heavy rain that caused of flood and landslide.

5. NATURAL MUTABILITY OF THE MEKONG BASIN ENVIRONMENT

Rather than the benefits and impacts of human-nature interface, the natural mutability of the environment is also a key factor of change such as natural sedimentation and erosion, and population growth.

- **Natural sedimentation:** Natural sedimentation has been one of the greatest environmental concerns during the last decade. Many alleged claims that the Great Lake and a number of inland wetland in Cambodia will be dried up in the near future. The FAO's fishery consultancy group stated in 1992 that according to acceleration of high sedimentation of the Mekong River the Great Lake will be possibly dried up in one decade. This claim has repeated again and again by extreme naturalist and officials, in order to persuade fund for re-deepening the lake. However, scientific evidence from empirical survey during King Sihanouk regime by Carbonel and Guiscafre (1963) on Hydrology, river morphology and sedimentology of the Mekong River and the Great Lake was clear enough for explaining this natural phenomenon. According to the sedimentological regime from the Mekong Rivers and the surrounding tributaries the Great Lake can be possibly dried up in 1,400 years, if in extreme calculation with additional erosion from its watershed system, it may take at least 500 years. Therefore, pressure from natural erosion is not a vital problem for the inland wetland environment at the present time.

- **Present and future population growth**: It is one of the most logical arguments when talking about environment degradation. MRC, 2004 noted that the population inhabited throughout the Mekong River Basin from Southwest China down to Vietnam has increased up from 55 million to 73 million inhabitants within the period of about 10 ten years time. So it is a remarkable figure to be taking into consideration. In the sense of "population growth, the natural resource decline" the problems and conflicts of resource benefit distribution is the usual case. But if these resources have been taken away on a large-scale based development for one or two parties of the interested stakeholder, the protest for equitable resource benefit re-distribution is unavoidable. These population growth figures already represented threat of intensified exploitation on natural resources overtime, of which a political input for improving the resource utilization is needed.

6. COLLABORATIVE CONCEPTS FOR RATIONAL REGIONALIZATION

Challenging the policies of the world new millennia, a number of regional and sub-regional collaborative projects were initiated and developed to sustain and harmonize the development for achieving the equitable benefit sharing of all stakeholders. The politics of fish, agricultural crop, irrigation, hydropower and other development are more or less opened for deliberately debate among interested groups to find the most rational solution.

It is very different from the past experience that the responsible government prepared only it logical response to the question of the proposed development. Logical term in this respect is revenue that state can benefit from each of these activities because for its existence the state needs to maximize national revenues with little consideration on environmental deterioration. The state may compare the official production figure and revenue generated from the fisheries and the economic efficiency of agricultural crop and hydropower. And the decision will prioritize to the most valuable and beneficial outcome for the state. These absolute attitude and behaviour of the state in decision-making are steadily changed into participatory involvement of all interested groups in development decision-making. As result, some mistake development has been modified following the suitable suggestion.

Moreover, at the regional level, many efforts to tie up cooperation among reparian countries are under tough process, in order to create trust and belief among each other. The cooperation is mainly based on economic, trade, tourism, transport development in relation to social, environmental and cultural value, which has expressed into a number of regional projects such as Asia Highway, Asian Railway, Emerald triangle etc. And the Mekong navigation channel project should be taking part with these above cooperation too. Interestingly, these above regional projects were strongly committed by each individual country and international financial institution such as ADB, World Bank etc. There still have some more bilateral projects are undertaken effectively to help build a fair and reliable transborder development cooperation. However, doubt on inequitable benefit sharing and future impact of large-scale development, especially large hydropower dam are not removable from disadvantageous group of people in the region. In reality, those groups of people may need more than an EIA to ensure their livelihood and social sustainability (see figure 9).

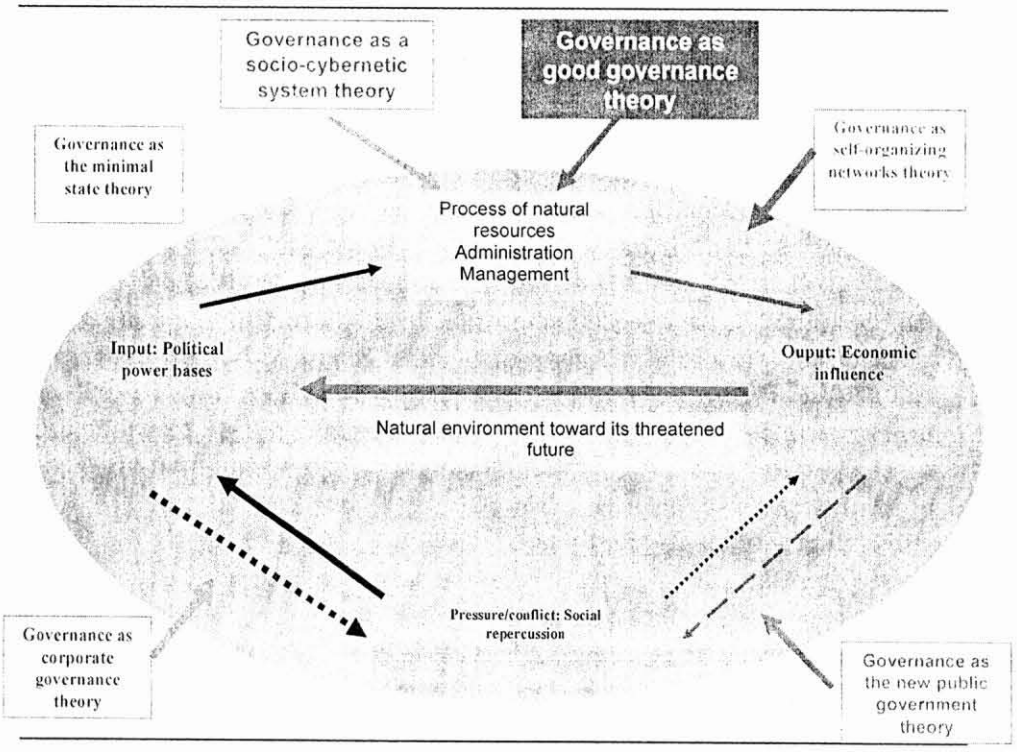


Figure 9. Multiple choice of Good Governance Theory in Collaborative Concept for Rational Regionalization

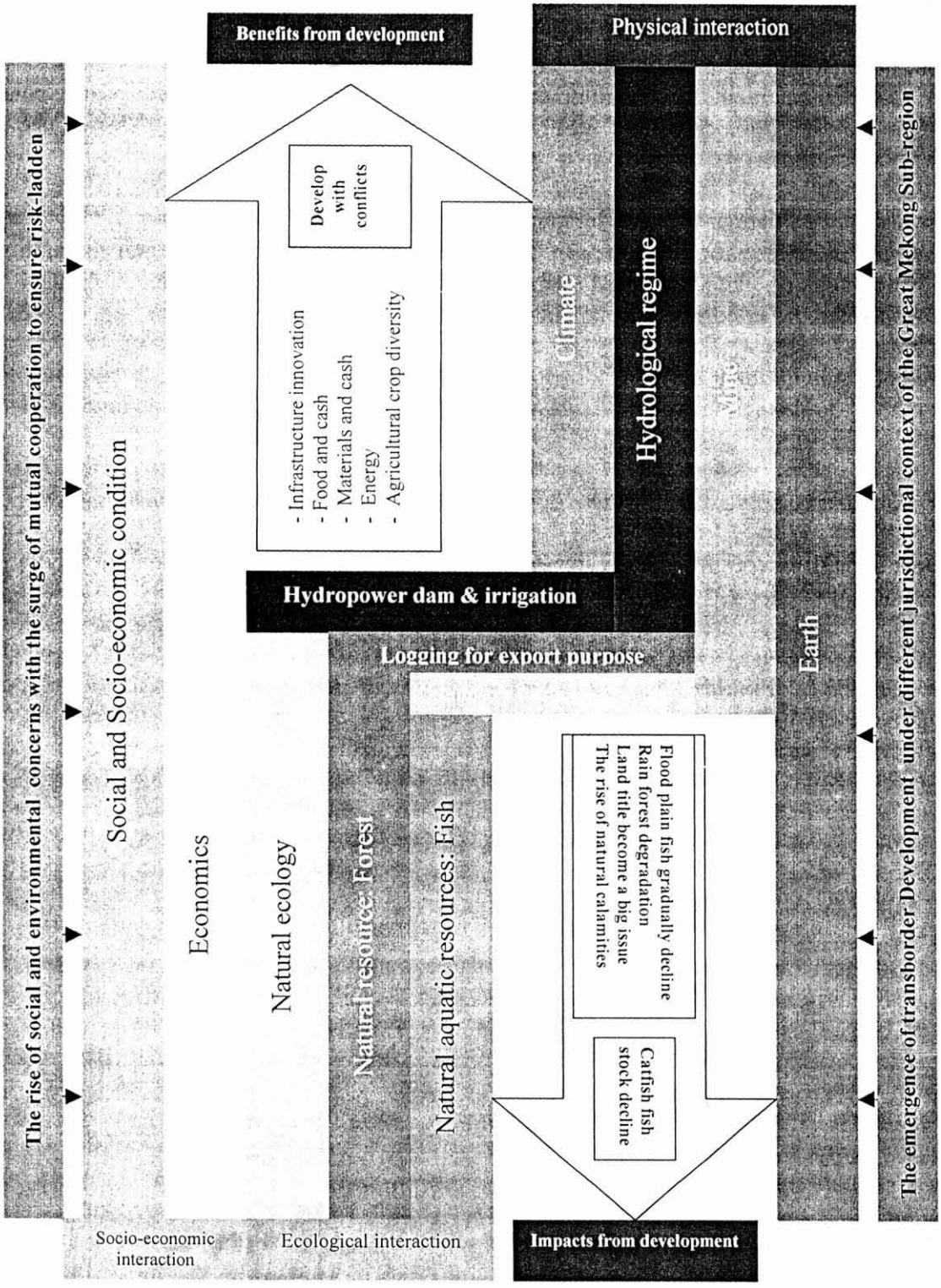


Figure 10. Level of un-structural and structural development benefits and impacts

สมบัติห้องสมุดรัฐสภา

THAI NATIONAL ASSEMBLY LIBRARY
3961168998

7. CONCLUSION AND RECOMMENDATION

7.1 Relativity of an International River of different jurisdictional context is the critical concept for reviewing individual management and development in the past to prevent the creation of a vicious circle in politic, social, environmental and cultural for generation as in experienced in the whole Greater Mekong Sub-region.

7.2 The best way of evaluating the environmental health of a natural river is to choose an appropriate group of living aquatic fauna as a sensitive key indicator to environmental mutability affected by development on the basis of nature-nature implication e.g. the status of group of *Pangasidae sp.* indicated the trend of environmental health of a natural ecosystem.

7.3 The present solutions initiated by the effort of many interested groups are partially convincible but there need more than that to ensure that the resource benefit can be redistributed on an equitable way.

7.4 Consensus shall also be applied on the development of large international tributaries.

7.5 Resource lost should be compensated to the less priority group of people and nation who are victims of development impact.

7.6 Scientific observation must be put strong effort to discover the natural calamities effect of the accumulation of Carbon hydroxide in the atmosphere caused by the lost of evergreen forest and the appearance of large reservoir.

7.7 There is need a reliable insurance with full responsibility to all adverse impact from large-scale development rather than an EIA that just only predict the impact without any commitment.

8. BIBLIOGRAPHY AND REFERENCES

August Pavie, 1898. Recherches sur L'histoire du Cambodge, du Laos et du Siam.

Baird, I.G., M.S. Flaherty and P. Bounpheng, 2000. Mekong River *Pangasiidae* catfish migration and the Khone falls wings trap fishery in Southern Laos. Environmental Protection and Community Development in the Siphandone Wetland Project Champasak Province, Laos P.D.R.

BLANC Maurice, 1959. ***Considerations biogeographiques sur la faune itchyologique des eaux douces du Cambodge***. Seance du 18 Juin 1959.

BLANC, M. et FOURMANOIR, P., 1964. ***Etude Preliminaire des Poissons de la Cote Cambodgienne*** (Extrait des cahier du Pacifique No. 6, Juin 1964).

BLANC, M., 1958. ***Mission Hydrologique et Oceanographique au Cambodge*** (Cahiers du Pacifique No. 1, December, 1958. Published due to financial support of the Singer-Polignac Foundation.

BOURRET Rene. & LE POULIN, F., 1940. ***Les Tortues de l'Indochine***. Publication: Institut oceanographique de l'Indochine.

Bulletin Economique No. 45-September, 1904. ***La Peche au Grand Lac (Cambodge)***. Releve des exportations chapitre "Peche" pendant le cours des trois annees consecutives 1902, 1903 et 1904.

Cacot, P., 1999. Etude du cycle sexuel et maitrise de la reproduction de *Pangasius bocourti* (Sauvage, 1880) et *Pangasionodon hypophthalmus* (Sauvage, 1878) dans le delta du Mekong au Vietnam. These doctoral de l'Institute National Agronomique Paris Grignon.

Charles Darwin, 1859. The Origin of Species.

CHEVEY, P., 1930 (appeared on 25th August, 1930). ***Larves et alevins des Poissons du Mekong et du Tonle-Sap*** (14th Note). Publication: Institut Oceanographique de l'Indochine, Gouvernement General de l'Indochine, Saigon-1929.

CHEVEY, P., 1932. ***Inconographie Itchyologique de l'Indochine: Poissons des Campagnes du "de Lanessan" (1925-1929)*** (4eme Memoire, premiere partie). Publication: Institut Oceanographique de l'Indochine, Gouvernement General de l'Indochine, Saigon - 1932.

CHEVEY, P. and LE POULIN, F., 1940. ***La Peche dans les Douces du Cambodge (5th Memory)***. Publication: L'Institut Oceanographique de l'Indochine (Published under orientation of Armend KREMPF and Pierre CHEVEY).

CHEVEY, P. and LE POULIN, F., 1939. ***Rapport Preliminaire sur la Peche dans les eaux douces Cambodgiennes (Etudes scientifique, technique et economique)***. Extrait du Bulletin Economique de l'Indochine (Fascicules 1 et 2).

CHEVEY, P., 1934. Revision Synonymique de l'Oeuvre Itchyologique de G. Tirant. Publication: Institut Oceanographique de l'Indochine.

CHEVEY, M. P., 1932. ***Biologie: Sur la nature de l'influence exercee par la fort inondee du Grand Lac du cambodge sur la vitesse de croissance des Poissons*** (Note). Extrait du Comptes rendus des Seances de l'Academie des Sciences, t. 195, p. 1108, seance du 5 Decembre, 1932).

Congres des Peches et des Pecheries dans l'Union Francaise d'Outre-mer, October, 1950. Consisting: (1) BRENIER Henri, 1950. ***L'Institut Oceanographique de l'Indochine***; (2) DURAND, J., 1950. ***L'Elevage du Chanos-chanos sur les Cotes d'Annam***; (3) LAFONT, R., 1950. ***L'Industrie du Nuoc-mam au Cambodge***; (4) LAFONT, R., 1950. ***Formes d'Utilisation pour l'Alimentation des Produits de la Peche dans des Eaux Continentales du Cambodge***; (5) LAFONT, R., 1950. ***La Graisses de Poisson du Cambodge***; (6) SERENE, R., 1950. ***Huitres d'Indochine et Ostreiculture dans le Sud-Annam.***

DARBOUX, G.; COTTE, J.; STEPHAN, P. & VAN GAVER, F., 1906. ***Nos Richesse Coloniales 1900-1905: L'Industrie des Peches aux Colonies*** (Tome II). Publication: Marseille, Barlatier, Imprimeur-Editeur.

D'AUBENTON, F. et BLANC, M., 1966. ***Poissons Tetraodontoformes du Cambodge***. Bulletin du Museum National d'Histoire Naturelle (2em Serie - Tome 38 - No. 5, 1966, pp. 554-561)

DURAND Jean, 1938-9. ***Notes sur quelques poissons d'especes nouvelless ou peu connues des eaux douces Cambodgiennes (36th Note)***. Publication: Institut Oceanographique de l'Indochine.

DURAND, J. & LE POULAIN, F., 1949. ***La Peche le long des Cotes Cambodgiennes*** (suite et fin). Publication: l'Association des Amis du Laboratoire des Peches Coloniales (No. 3 - January).

Deap, L., S. Ly and N.P.Zalinge (Eds.), 1998. Catch statistic of the Cambodian freshwater fisheries. MRC/DoF/Danida Project for the Management of Freshwater Capture Fisheries of Cambodia. Mekong River Commission, Phnom Penh, Cambodia.

Fily, M. and d'Aubenton, 1965. Cambodia. Report on fisheries technology in the Great Lake and the Tonle Sap, 1962-63. National Mseum of Natural History, Paris. 509p.

FILY, M. et d'AUBENTON, F., 1963. ***Cambodge: Grand-lac - Tonle Sap, Technologie des Peches 1962-63***. Published under scientific patronage of the Museum d'Histoire Naturelle de paris.

M. Ahmed & T.S. Tana, 1996. Management of Freshwater Capture Fisheries of Cambodia – Issue and Approach

Marguet, E., 1905. La peche au grand lac (Cambodge)

MARCELET Henri, 1939. ***La Graise de Ca Linh banh (Thynnichthys Thynnoides Bleeker): Etude Physico-chimique (37th Note)***. Publication: Institut Oceanographique de l'Indochine.

Ngor, P.B., 1999. Catfish fry collection in the Mekong River of Kandal and Phnom Penh. In: Van Zalinge, N.P., T. Nao and L.Diep, (Eds.) 1999.

PELLEGRIN Jacques et CHEVEY, P., 1927. ***Poissons du Cambodge Receuillis par le Dr. A. KREMPF Description d'un Cyprinide Nouveau***. Seance du 12 Juillet 1925.

PETILLOT Loys, 1911. ***Une Richesse du Cambodge: La Peche et les Poissons***. Publication: Paris Augustin CHALLAMEL. Editeur.

Rainboth, W.J. 1996. Fishes of the Cambodian Mekong. FAO Species Identification Sheets for fishery purposes. Food and Agriculture Organization, Rome. 265p.

Rainboth, W, 1996. Zoogeography

Robert, T. and C. Vidthayanon, 1991. Systematic revision of the Asian Catfish family *Pansiidae*, with biological observations and descriptions of three new species. Proceedings of the academy of Natural Sciences of Philadelphia 143, p.97-144.

STAUCH, A., 1966. ***Description d'une Nouvelle Espece de Cynoglosidae capturee en eau douce au Cambodge: Cynoglossus aubentoni N.SP. (Pisces Teleostei, Heterosomata)***. Bulletin du Museum National d'Histoire Naturelle (2eme Serie - Tome 38 - no.2, 1966, pp. 126-128).

THIOUNN, In, 1950. ***Sur quelques accidents causes par la Manipulation et la Consommation des Poissons au Cambodge***. Publication: Toulouse Imprimerie NAN-MESTRE.

TIRANT, G., 1929. ***Oeuvre Itchyologique de G. Tirant*** (6^{th} Note). Publication: Service Oceanographique des Peches de l'Indochine.

XIVeme Congres National des Peches et Industries Maritimes, 1952. ***Rapport des Peches des Etats Associes d'Indochine***. (Extrait, p. 176)

Tana, T.S., 2000. The critical role of the Mekong and Tonle Sap corridor for Tonle Sap Lake ecology and the important role of the waterway corridor within and between the ecosystems of the inland wetland in Cambodia.

Van Zalinge, N.P., T. Nao, Tana, T.S. and L. Deap, 2000. Where there is water, there is fish? Cambodian Fisheries issues in a Mekong River Basin perspective. Common property in the Mekong: issues for sustainability and subsistence. ICLARM Studies and Reviews 26, p.37-48.

Water Problems and the Livelihoods of People Along the SeSan River

Tek Vannara
Culture and Environment Preservation Association
Tel/Fax: (855-23) 369 179
Phone: (855-12) 793 489
Email: tekvannara@hotmail.com/ tek@cepa-cambodia.org

1. SeSan River Situation:

SeSan is the largest river that brings water into the Mekong River. Its water source comes from central plateau of Viet Nam and the north plateau of Laos. The SeSan River flows across the mountainous area of Viet Nam, Da Lakk, Char Lay, and Kan Tom provinces, before arriving in the plains area of northeast Cambodia.

The SeSan River flows from the north to the west across Ratanakiri and Stung Treng provinces. It joins with another large river in this area, the Sre Pok River and becomes more and more swollen and continues to expand to the east before flowing into the Se Kong River. Further down the Se Kong River meets with the Mekong River less than 10 Km from the town of Stung Treng.

The SeSan reservoir has a ground surface area of 17,100 km2 including 11,000 Km2 in Viet Nam and 6100 Km2 in Cambodia (ADB, 1995)1. About 10.4% of the SeSan River and the Sre Pok River flows into the Mekong river in Stung Treng province (Halcrow, 1999, TERRA, 1999a). About 16.7% of the SeSan, the Sre Pok, and the Se Kong rivers flow into the Mekong River at Kracheh area, which is located in the lower of Stung Treng province (TERRA, 1999a).

In November 1993, the Yali dam was built on the SeSan River in the central Char Lay province of Viet Nam2. The dam is 70 –80 Km from the upper border of Cambodia.

According to estimations, the cost for constructing the Yali dam was about US$1 billion3. The Russian government and the Ukraine government provided much of funding to the Vietnam Government for building this dam. A few other countries, such as Switzerland and Sweden, were also providing financial support for the Yali dam. Japan provided technical support and The Mekong River Committee helped to design the plans4.

In November 2001, the World Bank announced funding to support the construction of a cable power station. It has the capacity of 500 kW of power. It brings power from Yali to the central plateau of Viet Nam5.

In mid 1996, the area of the reservoir was 64.5 km2 with a storage capacity of 1037 million cubic meters of water. By 19986 the water filled the reservoir and caused flooding of rice fields, forests and villages. The villages had a population of 6782 persons including the indigenous peoples of Ru Ngaov and Bana7.

---

[1] Impact from Yalli Fall Power Electric Dam Case Study in Ratanakiri Province.
[2] Vietnam Information 28 July 1998
[3] Quinn and Dapice, 2000
[4] TERRA,1999a
[5] Asia Pulse, 2001
[6] Vietnam Information 28 July 1998
[7] Lang, 1995

In the early July 2000, the first turbine was set and the Yali dam started to work[8].
In December 2001, the Yali dam officially started to work after the last turbine was set.
It was expected that the dam would provide the power distribution system of Viet Nam[9] with about 3.68 thousand million watt per year. The dam has the capacity of 720 MW of power.

Since the Yali dam was built, the flow of water from the reservoir has increased to an amount never experienced. This has caused heavy impacts on the downstream area. The SeSan river flooded the villages along its shores, causing a decrease in water quality and an increase of diseases. The unusual rising of water level along the length of the SeSan river caused impacts to the riverside environment and to the socio-economic situation the Ratanakiri and Stung Treng provinces in the northeast plains of Cambodia.

Up to 2001, the impacts caused by the Yali dam in Stung Treng province were almost unknown and even less understood.

In order to get deeper understanding about the impacts of the Yali dam to the livelihoods of people along the length of SeSan River in Stung Treng province, the researcher group chose 15 villages that are located in 5 communes, one district, in Stung Treng province to conduct a research.

To find out how the impacts from the Yali Dam have affected the livelihoods of the people living along SeSan River in Stung Treng Province, we are identifying 15 villages in 5 communes in two districts of the Stung Treng province, as for studying, these are: Talat Commune, Srekor Commune, Kampon Commune, Ploup Commune and Samkhoy commune in the SeSan district.

Talat commune have five villages are Talat, Rompot,Svayrieng, Kralaphos and Ksattmey villages. Srekor Commune have two villages are Srekor1 and Srekor2 villages. Plouk Commune have two villages are Plouk and BanBong villages. Kampon have 3 villages are Kampon, Banmai and SeSan village. Samkoy have 3 villages are Padim, Samkhoy and Hangavat village.

The total amounts of people living in the five communes are 8337 persons, which equal approximately 1800 families, all of them dependent of the SeSan river in one way or another to sustain their livelihoods. During our studying, we found impacts on the ecosystem and natural resources due to the changes in the SeSan river.

2. Finding Results:

Since 1996, the livelihoods of the Cambodian people in five communes along the length of SeSan River have changed. They have faced many problems because of the changing of the water and flooding problems. Flood always happened at nighttime and it caused material losses and the loss of animals in the five communes. The flooding has drowned un-husked rice every year since the dam was finished. Each year, in the rainy season, there are two or three times of flooding that make people face many difficulties; the wet rice output is never enough for the people. The gardens in which they grow many things like corn, sesame, peanut, banana, cabbage, eggplant, cucumber, water grass, lemon grass, chilies etc were flooded. People worry much about the continuous activities of growing.

---

[8] Information ¯BBC. World wide Monitoring 2000, Deutche Press-Agentur 2000, Xinhua News Agency 2001¦

[9] Xinhau News Agency, 2001

Every year, in the five districts, the water level ranges from 1.50 to 2.00 meter and the water moves very quickly. The duration of each flood lasts from 10 to 20 days and then it goes down slowly. The water level goes down slower than the water level rises up. The floods have made the people take materials and animals such as cattle, buffalo, pigs, chickens, and ducks to the safer hills that are far away from the village. Other materials and animals are being gradually lost because people cannot save them during the flooding. Wild vegetables that grow naturally along the SeSan river are also being lost.

Fishers who live in those five villages have faced difficulties in fishing for their daily consumption because many fish species have disappeared, for example the black shark minnow, tawes, mekongina erythrospila, micronema, mystus filamentus, Trey Bra Kchaov (local name), Giant barb, thick lip barb, and small-scale mud carp.

Animal species that depend on the SeSan river are being lost at an alarming rate such as the turtle, tortoise, bangle monitor, otter, snake, and water bird.

People of the 92 families have abandoned their rice fields and their land along the riverbank and have grabbed new land in the forest. 49 more families have changed occupations to hunt small wildlife such as tortoise, turtle, water monitor and snake.

Some children cannot go to school because of flooding; they stay at the rice fields and in Chamkar (plantation). Women look after the children and do the housework; they suffer from illnesses such as diarrhea and gastric problems because they use the poisonous(?) water from the SeSan River.

The floods have made each indigenous group who live along the SeSan River lose their traditions; the water has cut off the islands where people used to live and they have no place to celebrate ceremonies.

The flooding has made it impossible for the people from one commune to be in contact with the people from another commune because it is too dangerous to cross the river; so they cannot visit or assist each other. The flooding has destroyed the riverbanks and much of the riparian land has been lost to the river, which makes the fishponds become shallow.

Each year in the dry season, during the dam release time, the water level always rises 10-15 separate times and lasts for a few days before it goes down. In the rainy season, the water is very muddy and it causes health problems for both people and animals.

People face many diseases such as diarrhoea, gastric problems, cough and red eyes. The animals also face many diseases such as Ouch Kdam and gastric problems. Almost all of the buffalo, cattle, pigs, chickens, and ducks, are sick and die gradually because they have no treatment.

To sum up, people in the five communes have lost many things such as materials, animals, rice fields and Chamkar land. Specifically they have lost: 88 boats, 914 fishing nets, 218 Ronong of hooks and in one hook there are 150 Chan, 107 tons of rice, 84 buffalos, 101 cattle, 238 pigs, 3876 chickens, 734 ducks, 29,380 ha of rice fields at the plain and the stream and 3380 ha of home garden.

All people in the 15 villages along the length of the SeSan River in Stung Treng province, is very worried about the impacts of the Yali dam both in present time and in the future, they are especially worried about their next generation.

3. Conclusions:

The Yali dam has changed water flows both in dry and rainy seasons. Natural resources and many valuable traditions are being gradually lost. These changes have made people who live along the length of the SeSan river poorer and poorer from day to day. Some people have changed their occupations by cutting down the forest and clearing the land for rice fields, which have impacts on the natural environment.

In the future, people will be facing more and more difficulties if there are new additional dam buildings along the length of the SeSan River and if the Yali dam still continues to work.

4. Suggestions and Recommendations:

The Cambodian government should negotiate with the Viet Nam government on the negative impacts of the Yali dam in order to find a solution that both countries can accept for reducing impacts to Cambodian people that live along the SeSan river;

The Cambodian government should find strategies to stop the building of new dams by the Viet Nam along the SeSan river.

The Cambodian government and NGOs should prepare development plans in order to make the livelihoods of people that suffer from the Yali dam become the same as before or stronger; and

The Viet Nam government and the donor countries that provided fund to construct the Yali dam have the responsibility to compensate the Cambodian people who suffer from the Yali dam's impacts.

Reference:

N° 52, July-August 2002. **Nature and Life Newsletter** of Culture and Environment Preservation Association (CEPA).

N° 53, July-August 2002. **Nature and Life Newsletter** of Culture and Environment Preservation Association (CEPA).

N° 54, July-August 2002. **Nature and Life Newsletter** of Culture and Environment Preservation Association (CEPA).

Northeast Cambodia Community Development, **Ksach Tmey Participatory Rural Appraisal**

Sok Vanthon of RUA Professor, **Soil and Water Management.**

The Fishery officer Ratanakiri Province In Cooperation with The Non Timber Forest Product Project, Ratanakiri Province May 29 2000, **A Study of the Downstream Impacts of the Yali Falls Dam in the SeSan River Basin in Ratanakiri Province, Northeast Cambodia.**

Socialist Republic of Vietnam Ministry of energy March 1990, Investigation and Design Company No1 with the assistance of Nippon Koei Co,Ltd,Tokyo. **Yali hydropower project Feasibility study.**

The Socio-Economic situation in SeSan district and getting an impact from Yalli fall Dam

M Husain Sadar, Environment Impact Assessment.

National Workshop Using and Land Management and Forestry Resource of Indigenous Peoples Community, Northeast Cambodia.

National Workshop 27 November 2002, Prepared by Oxfam Mekong initiative, CEPA, NGO FORUM on Cambodia, NTFP/SeSan Project Ratanakiri. **SeSan Protection Networking River.**

The Ratanakiri Provincial Rural Development committee, Sponsored by CEDSE, CARERE/NTFP, ICC and Health Unlimited, **International Conference Strengthen Partner on Community Resource Management.**

The World Bank, **Dam Firms Pleased**

Economy and Environment Program for Southeast Asia. Camille Bann June 1997, **An Economic Analysis of Tropical Forestry Land uses option.**

Ministry of Rural Development, Ministry of Land Management Urban Planning and Construction, Phnom Penh 22-24 August 2000, **National Conference on Landlessness and Development.**

Water Law, Adaptive and Integrated Water Management

Mr, Nong-keamony
#47 Norodom Blvd, Ministry of Water Resources and Meteorology (MOWRAM)
, Phnom-Penh, Cambodia
Department of Water Resources Management and Conservation (DWRMC)
Tel: (855) 12 675 193
E-mail: kropomdoungchet@yahoo.com

Table of Contents

Abstract |Introduction| Natural and Water Resources Management| Coastal Zone and Marine Resources Management
Table 1: Forest Cover in Cambodia, 1969-1997
Table 2: Selected Estimates of Cambodia's Freshwater Fisheries
Table 3: Current System of Fisheries Management in the Tonle Sab Area
Table 4: Protected Areas Within or Effecting Cambodia's Coastal Zones
Table 5: Institutional Roles in Urban Environmental Management in Cambodia, 1999
Table 6: Structure of Energy Consumption, Cambodia, 1995
Table 7: Consumption of Wood and Charcoal, 1995
Table 8: Household Consumption of Wood Energy, 1995 (Wood Energy equivalents)
Table 9: Potential Hydropower Sites in Cambodia
Challenge| Conclusion

I. Abstract

Water Law, Adaptive and Integrated Water Management

Why and how should international and national water law be concerned with adaptive and integrated water management? International practice reveals an operational gap in the attempted practical application of integrated water resources management (IWRM), which appears entrenched in a uni-sectoral approach to a multi-sectoral problem. Almost without exception water lawyers are not part of the water resources planning team-a situation that further confounds problems when they arise! One of the key challenges to implementing IWRM is operational sing a true inter-disciplinary approach to water resources management. Hydrological, economic, environmental, social and legal issues must be understood across disciplines if we are to find workable solutions to the world's water problems. One unique global initiative created to achieve this task in actual basins around the world is sponsored Hydrology for the Environment, Life and Policy.

Responding to potential water conflicts-of-uses situations across boundaries (international or sub-national) requires inter-disciplinary expertise, including water law. How do States know how much (quantity/quality) water they are entitled /obliged to utilize? How can national water law policies and strategies be formulated for States that share their waters? An innovative and operational approach to these issues is now being developed through the International Water Law Research Institute (IWLRI, Dundee) in their development and testing of Legal Assessment Model (LAM) under the Knowledge and Research programme (DFID). The LAM, based on interdisciplinary expertise (law, economics, Hydrology), is being conceptualized and applied in three separate case studies: China (upstream), Lao PDR, Thailand, Cambodia and Viet Nam (downstream). The aim is to develop a generic tool that will facilitate national water policy planning for trans-boundary watercourse States, including as a particular focus, the policy objective of ensuring access to water by the poor--one of the most difficult challenges any State faces. There are many compelling issues related to wise water resources management. Developing

an innovative response that delivers concrete results on the ground requires a new generation of "water champions"--do we have what it takes?

This paper is to review the Natural resources issues management in Cambodia for 25 year ago which destroyed by war and people without monitoring with access to update the register in order to reflect the quantum change that have taken place over the last 25 years. This paper is also lists all national rivers with their natural resources area, the nation which share each water resources, their respective territorial percentages, and notes on change or disputes in national and international boundaries. Lesson learned from this indigenous guideline for conflict solution which are applicable to modern problems in clued the following 1) allocated time, not water, 2) Prioritize different demands sectors, but each provide a hierarchy of important. This allows for lesson learn important uses to be cut off throughout a valley during low flow regimes, rather than entire downstream villages, and protect investment infrastructure, 3) Protected down-stream and minority rights, 4) alternative dispute resolution (ADR). Each group has sophisticate mechanism of dispute resolution, from which modern international management might benefit. Techniques include recognition of a defined water authority, and shared vision exercises.

Key Words

Water Resources, Water Problem, Water Solution and Management, Natural Resources, National River Basin, Coastal Zone and Marin Resources Management, Geographic Information System (GIS)

.....

II. Introduction

The potential for water conflict over Trans-boundary water is high, especially in time of scarcity. There are more than 300 major river basins, covering about 50 percent of the total land area of Earth. Many of these river basin cross country borders, even more so today due to the break up of Soviet Union and Eastern Europe (Sherk et al, 1998). These basin include the Nile River, with 10 countries sharing the basin, and the Danube Rive, shared by 17 countries. The need for an international law to govern the equitable sharing of water resources between the countries emerged along ago. Efforts on the professional, nongovernmental, governmental, and intergovernmental levels have been exerted to achieve such law. The most important outcome of these efforts is two frameworks given by the 1996 Hensinki Roles and the 1997 United Nation (UN) Convent. This article present a comparison of guideline provide in two frameworks and lay the ground for further development that may be needed to achieve a comprehensive international law for equitable utilization of international water resources.

Riparian state historically shared the resources of the Mekong River Basin, however, subsistence based uses of resources were sustainable from an ecological stand point and let to few conflicts of resources exploitation affecting the welfare of another. Presently, with new technologies and production systems, imperatives of economic growth, have profound social, environmental and economic implication for the sub-region. Although the level of economic development differs among the four countries, members of environmental issues are common to all or some of them. Critical among of these are issues relating to deforestation, loss of biodiversity, degradation of water resources, and coastal resources. The geographical and geopolitical significance of these issues vary from local, national, and sub-regional vantage points. As part of a regional river basin, the countries shared some of the resources concern that, being trans-border in nature, may be geopolitically sensitive.

On the sub-regional scale, utilizing the water resources of the Mekong River could emerge as a dominant issue in the new millennium. The past decade of the Mekong Basin development has been market by the conflicting and disintegrated interests of riparian state. The promise of hydroelectricity expert has prompted the Government of the Lao PDR to set as a goal the

completion of 23 dams by year 2010, to generate over 18,000 megawatts (MW) of hydropower. The Asian Economic crisis has adversely affected Mekong development projects since struggling Asian countries especially Thailand's pivotal role became constrained. Thailand's per capita income is roughly ten time that of the other countries. Further upstream, the People's Republic of China (PRC) has it own plans to construct six large dams along the river and another nine along its tributaries to generate a total of 20, 000MW of electricity for Yunan province. The dam is being built for hydropower rather than irrigation purpose, implying continuous release of water. Thailand also had plans to build dam along the lower reaches of Mekong, although the plans have been stalled by NGO opposition. Meanwhile the four other Lower Basin States are concerned about the reduction of flow these dams could cause during the dry season. Concern has also been expressed that existing and propose water diversion and hydropower dam projects will alter the Mekong Basin's hydrologic cycle permanently. Each of the downstream countries has their on special concerns.

The environmental consequences of the projects are being born not only by local inhabitants but also by those living and farming downstream in the Mekong Delta. Viet Nam is concerned that reduced water flow could lead to saltwater intrusion farther up the Mekong delta during the dry season. Which could threaten its rice production? Cambodia is concerned about increased sedimentation of the TonLe Sab. For the Lao PDR, the Mekong is "navigation backbone" in addition; hydropower earned for this country nearly a quarter of its total foreign exchange revenues through its scale of electricity to Thailand. Given its low potential for export oriented industries because of a lean and generally unskilled labor force, the lack of economies of scale for commercial manufacturing, also the inadequacy of existing communication infrastructure (including the lack of a seaport), hydropower is likely to remain its major sources of export revenue, with the Mekong its life sources.

KEY IWRM

- *Water Resources and Catchments conservation are essential*
- *Water allocation should be between stakeholders within a national framework*
- *Management needs to be taken care of the lowest appreciate levels*
- *Capacity building is a key to sustainability*
- *Involvement of all stakeholders is required*
- *Efficiency of water and natural resources use are essential and often important" in itself"*

III. Natural Resources and Management

The Kingdom of Cambodia is a land rich in natural wonders, including species of animals, birds, fish, flora and fauna which remain undocumented. In recognition of this fact, His Majesty King Norodom Sihanouk issued, in November 1993, a Royal Decree called "The creation and Designating of Protected Areas "which underscored the value of the Kingdom's riches resource: its abundant natural bio-diversity. The decree established a system of 23 protected area covering 3.4 million hectares, including national parks, wildlife sanctuaries, protected cultural landscapes and multiple-use areas. Located in the southern province of Kompong Speu, Kirirom National Parks is the most accessible to tourists. The park includes a visitor's center built on land donated by the King. Emerged in the middle of the Elephant Mountains, the parks is filled with placid vistas, wild animals and waterfalls.

The Tonle Sap and the Mekong River systems form the geographical and environmental lifeline of Cambodia. As well, the Kingdom is blessed with some of the largest remaining virgin rainforests in Southeast Asia which carpet wide swaths of the country in verdant belts of rich tropical foliage. Along coastal areas, inland natural splendors are complemented by pristine beaches with fine sand as white as snow. Deserted tropical isles bask in the sun while gentle waters lap their tranquil

shores and swaying coconut trees rustle serenely in the fresh ocean breeze. For the knowledgeable nature watcher, Cambodia is a spectacle to behold.

Tonle Sap Lake

The extraordinary bi-diversity and hydrology of the Tonle Sap River and Great Lake make it an ecological wonder of the world. The lake itself is the largest freshwater body of water in Southeast Asia. When the rains start in June or July, the water level of the Mekong River begins to rise dramatically. Flood waters pouring out of the Mekong catchments basin from Tibet to Laos eventually force the flow of the Tonle Sap River - which merges with the Mekong at Phnom Penh- to reserve. The Great Lake welcomes the swelling tide and expands ten times in size to an area over 26,000 square kilometers. Come October and the tapering off of the monsoon rains, the waters begin to flow again southwards, through Vietnam and into the South China Sea.The Cyclical ebb and flow each year of the waters in the Tonle Sap have sustained and nourished the Khmer people for centuries. Their lives are inextricably intertwined with the aquatic environment which surrounds them, producing a revering symbiosis deeply woven into the fabric of everyday life. Khmer mythology, Khmer civilization and Khmer history intimately reflect these seasonal rhythms of the mighty Mekong and the Great Lake.

Fisheries & Birds

With the annual replenishment of the waters of the Great Lake by the nutrient-rich waters of the Mekong, fish yields are some of the highest in the world. More than 300 freshwater species have been identified, including carp, giant catfish, morel, climbing perch and georama. Fish are so abundant that entire communities of river-born fisher fork have spent their whole lives on the waters of the great Lake since time immemorial. Moreover, the lake and its surrounding shores serve as the home to a plethora of feathered friends. For the astute birdwatcher, the Kingdom's revering system is a winged wonderland unparalleled in Asia. Flocks with countless numbers of birds unique to the region swoop over the lake, making their homes among the shallow waters and mangrove forests along the shoreline.

Wildlife

Cambodia is home to some of the most significant populations of mammalian wildlife in Asia. Endangered species such as leopards, tigers, battings, gaur, barking deer and the near-extinct Kauprey- the Kingdom's national animal and the world's rarest large mammal- have been sighted off the beaten path. In additional, wild elephants still roam remote pristine forests and monkeys and snakes abound in mountainous areas. While the international market for endangered species poses a great threat to the preservation of the Kingdom's wildlife, conservationists strive to research, document and preserve them. An array of beautiful butterflies can be found in season from the seaside to Siemreap. Swirling blue and turquoise clouds add a touch of magic to the air. Black and orange Monarch butterflies, species of black and indigo, and enormous yellow speckled wings in motion, lend soothing color to the panoply of tropical splendor.

Flora

Cambodia is a tropical land of densely forested hills, emerald-green rice paddies with tall, elegant sugar palm and waterways filled with reeds, water-lilies and lotuses. The beautiful lotus, with fragrant pink and white blossoms exposed in the morning and evening, is scared to Buddhism and used for votive offerings in temples. The northern forests have thick bamboo, vines, rattans and palms nestled with mahogany, semantic and other increasingly rare wood. The south, including Phnom Penh, has jacaranda trees. Urban areas as well as the countryside are resplendent with shady flame trees bearing gracefully their scarlet blooms, towering mango trees, numerous fruit trees including papaya, the red hibiscus, serene rows of tamarinds and near the sea, casuarinas, eucalyptus an pine trees.

Forests

The Kingdom is abundant in lush, tropical forests. In the northern half of the country thick jungle canopy runs from the western border with Thailand all along the Dangrek mountain escarpment to the rugged, mountainous hills which border Vietnam in the east. These ancient stands are rich in hardwoods, including towering Mahogany and Treak trees. The northeastern- most province is aptly named Ratanakiri, which literally means Gemstone Mountain, as the area is resplendent with mineral deposits, including gold, rubies and sapphires. In the southwest lie the Elephant Mountains where the Kingdom's highest peak- Mt. Oral which at 1,771 meters sits majestically overlooking a vast sea of forested terrain.The mountains along the coast of the Gulf of Siam are home to unique stands of Pine trees where, buffeted by the seasonal downpour of Monsoon rains, these hardy species have taken root. In the eastern province of Mondulkiri, where less precipitation is found, large expanses of savanna forest- with scenery reminiscent of Africa- can be found. Many of these areas are practically uninhabited and are the home to herds of wild elephants, banding and gaur.

Forest and their Utilization

By comparison with its neighbor, Cambodia remains well endowed in forest resources. The economic and environmental consequences of massive deforestation else where in Southeast Asia serve to turn the attention of development community to the risk of the same helping in Cambodia as the country set about liberalizing its economy. To this was added the concern with areas leased out for logging to the private sector, and the declining fiscal contribution of forestry that coincided, paradoxically, with an expansion of forest concession holders during 1994-1996.forest revenues that accounted for 14 percent of total government revenues in 1994 generated less than 5 percent by 1996. The apparent mismanagement of the sector and the dissipation of its revenue spurred a review of the entire sector's governance by IMF, World Bank, Food and Agriculture Organization (FAO) and United Nation Development Program (UNDP) in 1995-1996. a subsequent series of measure have created breathing space and genuine prospect of better regulation of the sector, especially its industrial components. However, the cause of deforestation and forest depletion in Cambodia extend well beyond a flawed forest concession policy and it would be ingenuous to expect recent policy changes to be cure- all.

Much has been said about the decline of Cambodia's forest reserve since the beginning of the decade (World Bank 1996, ARD Inc. 1998). Official data and best estimate present the picture in Table 1. policy discussion has been handicapped by the continue absence of reliable data on the extent and composition of standing forest, a reflection of, among other thing, problems of access until recently to areas under conflict without which remotely sensed data (of which there are many) can not be unambiguously interpreted. Equally uncertain are estimates of forestry output. From well below 1 million cubic meters (mm^3) per annum (p.a) in the 1998, industrial log production increased to over 4 mm^3 in 1997, of which over half were exported either as logs swan wood, mainly to Thailand and Viet Nam, much of the exports illegal.

These figures contrast with the annual allowable cut in 1969 of only 0.6 mm^3 p.a. used at the time of forest policy review (FPR). There can be little doubt about the seriousness of over cutting that has been done in the mid-1990s. Behind country wide aggregates, however, lie a more complex reality of spatial differentiation in forest quality and the extent of mismanagement. The production and exports registered a market decline in 1998 and 1999 following a more determined enforcement of the log export ban and number of other development. Total production of fuel wood, sold as such or charcoal, in the mid -1990s was estimated at about 6mm^3 equivalent p.a (World Bank 1996), of which about half was estimated to have come from forest areas, the balance coming from non forest areas and households lots. Fuel wood production has been the main cause of deforestation in some locations, including the environmentally crucial ones such as the inundated forest of Tonle Sab Lake.

Table 1: Forest Cover in Cambodia, 1969-1997		
Year	Estimated Forest Cover (million ha)	Sources
1969	13.4	Institute de la Recherche Forestier, based on forest inventory, quoted in Chanrithy (1997)
1991	12.3	Mekong Secretariat and Ministry of Agriculture, Forestry and Fisheries
1993	11.2	Mekong Secretariat based on Landsatimagery
1997	10.6	ARD Inc. (1998) best estimates
MAFF-Ministry of Agriculture, Forestry and Fisheries		

Deforestation and its Causes

The loss of forest cover in Cambodia is the result of a number of factors, most of which echo the deforestation experience elsewhere in Asia. The causes include the continued practice of shifting cultivation by a growing number of upland dwellers (especially in the northwest of the country), clearing of forest for agriculture, often after opening of forest areas for industrial logging, indiscriminate logging by industrial and small-scale operators, persistently high demand for fuel wood met under a defector open access management regime. The remedies to deforestation are as complex as its causes, a lesson ADB has learn to cover the years, but one that deserves to be restarted.

Policy Developments for Forestry Sector

Government policies governing access to forest resources, especially by industrial operators, have claimed the lion's share of attention because they offer the greatest prospect of short-term effectiveness. By contract, activities directed at a large number of individuals and families whose daily subsistence commercial activities, too, affect the coverall condition of the country's forest, are much less responsive to policy change, especially in the short run. The FPR has been the principle engine of policy change in Cambodia. Its outcome has been a temporary suspension of new forest concession awards, repeal of a number of concession agreements entered into during 1994-1997, formulation of a new policy more transparent of a program of monitoring and illegal log control, and legislative redrafts, all accompanied by sustained dialogue between funding agencies and the Government and near-exemplary coordination among agencies. A full and detailed analysis of these developments is available (e.g., ARD Inc. 1998) and title point would be served by repeating it here.

Among the less fully developed components of the FPR package is the management of forests by communities and corresponding institutional, regulatory, and training prerequisites. Apart from other problems, communities with the traditional right of access (as well as those lacking them) are faced with unclear right under industrial forest concessions. The framework for communities' forestry needs to be created in tandem with reform of industrial forestry on the one hand. Herein lays the main difficulty. The FPR has made recommendation for environmentally more sound management of concession areas but said relatively little about the operating regime suitable for forest areas adjacent to protected areas.

On the institutional side, some progress has been made in clarifying the protection mandate of the Department of Forestry and Wildlife (DF&W) and the Ministry of Environment. With the creation of the protected areas systems 1993, a seemingly simple solution was to make MOE responsible while retaining DF&W's responsibility over other forest areas. However, in the poorly supervised field condition of Cambodia, loggings as well as wildlife poaching often cross the boundary between the two jurisdictions. Further more, of the branches of government; DF&W has greater access to funding and stronger field presence. As a result, enforcement of environmental provision in protected areas often relies on the goodwill (and staff) of DF&W. the complex nature of the

inter-independence between the two branches is recognized and promising start has been made recently in creating joint DF&W and MOE task force to deal with control of illegal logging (RGC 1999). Despite recent progress, much more clarity is needed.

Strategy for the Forest Sector

Forestry is taken mainly as a component of broad-based rural development. Active dialogue needs to be maintained with the DF&W of WAFF, especially the National Secretariat for Forestry Policy reform (FPR). More active participation is required in implementing the FPR, which is based on World Bank –funded review and technical assessment of the Cambodian forestry situation. Support should go to activities that dovetail the FPR framework, extend it principle themes, and favor implementation of its main recommendations. Efforts should be made to further develop the framework and the support structure for community forestry in Cambodia. Favor interventions include: the integration of suitable forest and tree-growing components into future rural development initiatives; and identification and development of mechanisms that would allow rural communities to share more equitably in the benefits of forest utilization in their own or nearly localities. Some aspects may be undertaken as components of broader programs. Thus, inundated forest management may be made a components of broader –based on rural development support in the TonleSap area, and especial forms of forest management (e.g., as buffer zones) may be supported as part of wider support to protected area management.

Strategy for Biodiversity Management

Biodiversity conservation in Cambodia is strong correlated with the sustainable management of the country's forest, fisheries, and coastal habitats. Supporting the latter, therefore, also mean supporting the protection of the country's biological heritages. Conservation and development can be integrated in several locations in Cambodia. Integration could start during resources planning in an areas, and it could be enhanced by the integrated provision of infrastructure that link conservation areas with the adjoining locations. The ability to plan conservation and development activities jointly requires good regional (or cluser-based) planning capacity appraisal and participatory rural appraisal. On the regulatory side, guidelines must be provided regarding protected area planning procedures, the management of the area and the buffer zones, and possible adjustment of the boundary delineation, especially the "socialization" of the boundaries, is a long and complex process that requires long-term commitment and sustained funding.

Biodiversity and Protected Areas

As well (1997) has described Cambodia's biological heritage elegantly:

- Cambodia possesses many feather of international significance. It retains of the highest proportion of land as natural habitats (forest and wet-lands) in the world, and one of the least disturbed coastline in continental Asia. Currently, over 45 habitat types have been characterized and mapped for the country.

- The landscape of Cambodia has provided the Cambodian people with a wealth of natural resources for many centuries. The maintenance of these landscapes has ensured the stability of Cambodia society and culture through the protection of soil, the regulation of hydrological regimes, and the provision of a vast range of natural products. These resources remain of fundamental importance to the subsistence of Cambodia's predominantly rural population, and to the future development of the nation.

- The extent of dependence on upon plant resources is on illustration of the 2,300 species in Cambodia; approximately 40 percent have a traditional use, primarily as food and medicine. Over 220 of species are major components of the 45 habitats of the century. They provide opportunities for sustained income through community participation in natural resources management, especially in protected areas and buffer zone management.

In addition, the country is believed to have over 130 mammal and more than 500 birds species. A substantial number of these are of international conservation significance. Some 300 species of fresh water fish have been identified, of which 215 are in the Tonle Sab. This biological heritage, however, is threatened by the loss of habitats through commercial and community uses. Deforestation, as always, is the most common threat. Wildlife capture is common in most part of Cambodia, regardless of the management status of the area involved. Wildlife traded with Thailand and Viet Nam has been a major concern for years. In several instances, especially in the southwest of the country, the loss of biodiversity is exacerbated by immigration from densely populated eastern province.

Protected Areas System

From the ecological view point, Cambodia can be divided into seven relatively homogenous biodiversity regions, namely (i) southwestern coastal ranges and marine water (ii) northern lowlands, (iii) northern forests, (iv) Kompong Cham province, (v) Mekong Delta region, (vi) Tonle Sab flood plaints, and (vii) northwestern region. Of these, region (i), (iii), and (vi) are considered of higher priority for conservation action plan than the rest. Protection of habitats is not new in Cambodia. Prior to 1957, about one bird of the country has been subjected to some form of inventory and classified into 173 forest reserve and six wildlife reserves. Many sites recently declared protected areas were well known to Cambodian society as place of creation and nature conservation early in the century. A 10,800 hectares area around Ankor Wat temple was declared a national park in 1925, the first in Southeast Asia. 1993, King Nrorodom Sihanouk decreed a new National Protected Areas System, giving the Ministry of Environment authority to supervise, develop, and manage area of 3,327, 200 hectares in cooperation with the Ministry of Agriculture. The new system designates seven national parks, nine wildlife sanctuaries, the protected landscape, and three multiple –use management areas (World Bank, 1997). The 1993 royal Decree 126 on "the Creation and Designation of Protected Areas" designates 23 areas of fragile and critical habitats constituting a total of 19 percent of the country. Four management categories were distinguished, namely (i) national parks, (ii) wildlife sanctuary, (iii) protected landscapes, and (iv) multiple-use management areas. This framework is the basis for developing a national system in Cambodia.

Constraints to Biodiversity Protection

The promulgation was major achievement. It has ensured, for instance, that no logging concession has been issued in protected areas although it could not prevent illegal logging from the taking place there. Not unexpectedly, a number of problems remain. These are briefly described below:

- The selection and delineation of protected areas embodies in the decree was based on information available in the early 1990s. That information was incomplete and certain. As a result, adjustments of boundaries or addition are now necessary that would be better represent the existing natural habitats.

- The system of protected areas that emerged in 1993 was largely administrative; the ability of state to effectively manage these areas emerging much more slowly. The first national park to be inaugurated was Ream, in1995. the preparation of management plans and formal adoption of national parks for management continue to be dependent on foreign funding and to date, only about 20 percent of the total area designated as protected is under some form active management.

- The State's inability so far to manage protected areas has not been countered (with the exception of the Angkor eco-cultural site) by innovative ways of financing the protected area system. The potential for making protected areas an engine for economic development in buffer zones is yet to be realized even if much preliminary thinking along this line has taken place. The

concept requires that the protected area of interest be made a part of a wider zone and a wider complex of resources to be managed. This often allow the benefits of conservation activities to be captured by linked activities and partly "recycled" for instance, where protecting a classified watershed safeguards the hydroelectric potential of nearby facility, an opportunity is created for some of the electricity revenue to be recovered to favoring development of cluster (either clusters of protected areas or cluster of protected and non-protected areas). However, it is also demands considerable planning and coordination capacity at the local level that, for now, missing.

Strategy for Supporting Sound Management of the Tonle Sap Area

The strategy for the management of Tonle Sab area and surrounding floodplains rest on four building blocks:

1. A policy of gradually improving the system of fisheries management on fisheries production and revenue generation is needed. The fisheries sector has just not been closely scrutinized, but the revenue losses from Tonle Sab fishing are substantial in magnitude. The challenge is how to optimize (rather than simply maximize) income from this renewable resources.

2. Consideration of the inter-independence of activities in the inundated zone and those further a field. The absence of income-earning opportunities in the hinter-land causes the people there to migrate towards the lake, threatening its ecological balance and productivities. Broads-based rural development and improved market access in this areas could then deliver a double dividend, i.e, improved economic status and quality of life in the hinterland, and reduced pressure on the Tonle Sab ecosystem.

3. Recognition of the multiplication of project assisted by funding agencies around the Tonle Sab area, and the extent to which synergy can be generated among the various initiatives around the lake.

4. Greater institutional coherence in the management of the Tonle Sab area. The environmental integrity of the Tonle Sab area require coordinate management of its entire watershed (comprising no less than six province). Efforts to create a single multidisciplinary management authority for the Tonle Sab area must therefore be considered seriously while building on planning efforts already undertaken (such as the Food and Agriculture Organization's Participatory Natural Resources Management Plan, the Mekong River Commission's Development Plan for the Tonle Sab, and the Chactomouk and the National Wetland Action Plan).

Strategy for Agriculture Chemical in Cambodia

The discriminate use of agriculture chemical is serious threat to the future of Cambodia agriculture and the health of the Cambodians. Training components can be incorporated in rural development projects to generate an understanding of the effects, limitations and risks of pesticide, and agricultural chemicals use among the target populations. Among the more specific priority is in formation dissemination to the farmers and generate public on the inherence dangers presented by toxic pesticides, etc.

IV. Water Resources

Tonle Sab and Fisheries

Water and its use define Cambodia: the Mekong River, the Tonle Sab River, and Tonle Sab Lake support agriculture, fisheries, and transportation. Beside being the largest permanent freshwater lake in Southeast Asia, the Great lake (or Beung Tonle Sab in Khmer) play crucial economic and environmental roles in Cambodia and beyond. In a unique fashion, the lake is connected to the

Mekong River and the ecosystem of the Mekong basin. The Tonle Sab river, about 120 km long, provide the physical link. Through it, the lake receives water during the Mekong's high flow and, conversely, retune water into the Mekong once its. Fish immigrations from the Tonle Sab into the Mekong river help restock fisheries as far upstream as Yunan province in the PRC and many tributary rivers along the way (Dennis and Woodsworth 1992). During the rainy season, the Mekong is estimated to supply approximately two thirds of the lake's total volume, the balance being supplied by other rivers that flow into the lake from a total drainage area of about 67, 000sq km. because of the fate photography of the are, fluctuation in the volume of the water stored in the lake result in large variation of the flooded surface area (from about 2,600sq km during the dry season). The area, temporarily flooded, and its management are at the heart of attempts to safeguards the lake and its productivity as explained below.

Although estimates the Tonle Sab fish catch are surprisingly inaccurate and conflicting –varying from less than 40,000 tons per annum to figure twice as large, the difference account for mainly by undeclared catch by small fishermen –it is widely believe that the lake provides about two thirds of fish consumed in Cambodia (see table 2). About a million people (15 percent of Cambodian's population), are depend on the lake's fisheries for their livelihood (Savath and Chanrithy 1999). The lake provides much more than fish; it is a reservoir of biological diversity that includes-beside the fish species –birds and number of wild animals. Many migratory species move back and forth within the Mekong –Tonle Sab an issues of regional as well as national importance. The lake has the status of an international biosphere reserve.

The areas periodically flooded place a key role in maintaining and renewing the lake's productivity. Traditionally under forest, inundated during the rainy season, and expose during the rest of the year, these areas are the breeding and feeding habitat for fish and other form of life. The productivity of the lake is among the highest in the world due to a combination of high water temperature, annual flooding, and the supporting role of the inundated forest in stimulating the development of micro-organism and phyto-and zooplankton. A significant to the lake's productivity.

Table 2: Selected Estimates of Cambodia's Freshwater Fisheries

Year Register Tonle Sab Catch (Tons)	Total Inland Catch (Tons)	Source	
1940	120,000	Chevey and Le Poulin (1949)	n.a.
1957	130,000	Bardech (1959)	n.a
1960	138,000	Department of Fisheries	n.a
1970	100,000	Department of Fisheries	n.a
1982	66,000	Department of Fisheries	40.070
1991	75,000	Department of Fisheries	41,200
1994	65.000	Department of Fisheries	38,550
1998	111,000 200,000	Van Zaling (1997) FAO/MRC informal estimates	n.a

Source: Savath and Chanrithy (1999), NEAP (1998), FAO/MRC (1998)

Fishing in the lake and the management of the entire inundated area are regulated by Department of Fisheries (DOF) under Ministry of Agriculture, Forestry and Fisheries (MAFF).since Royal

Decree 126 in 1993, the whole of the Tonle Sab has been designed as a marine protected area. Fishing in the lake is seasonal (from October to May) and regulated in Table 3 show the three management's categories.

Review of main management and policies issues

The inundated forest has come under increasing seasonal pressure in recent years for at least three different reasons. First, the demand for fuel wood for house holds and artisan production, especially bricks, has continued to grow. Second, the riparian communities traditionally depend on fishing; have been increasingly marginalized as area of open access has diminished at the expense of fishing lot operations. Third, the absence of income –earning opportunities in areas away from the lake has been at the root of increasing seasonal migration towards the lake and conversion of inundated forest to farming. Apart from the loss of forest cover, so vital to maintaining the productivity of Tonle Sab, the spread of farming in the inundated forest zone has brought with it serious risk of fertilizer and pesticide runoff that could devastate the lake's fishing potential.

By contrast, the sedimentation of the lake, often at the forefront of public discussion, is largely the result of seasonal flows of the Mekong and therefore outside the control of Cambodian authorities. There is seven continued uncertainly about the rate of sedimentation and its changes. Despite occasional calls for dredging of portion of the lake or Tonle Sab River, most technicians agree that an approach would not be effective, let alone efficient. While sub-regional dialogue addressing the much bigger issues of basin –wide rate of soil erosion must continue, the answers to the Tonle sab management challenge lie in domestic and local policies.

A number of initiatives have been under taken to coordinate and integrate approaches to the management of the Tonle Sab Coordination Unit with the Ministry of Environment (MOE) and the formulation of the National Wetlands Action Plan by the Ministry of Agriculture, Forestry and Fisheries (MAFF) and (MOE). Several initiatives assisted by funding agencies, notably by the Food and Agriculture Organization (FAO), have aimed at safeguarding the inundated forest zone by combination of measure that include forest regeneration, controlled farming, and a more secure access of lake shore communities to fishing. Institutional conflict, mainly involving MAFF and MOE, remain, however. Absence of a decision –making body pursuing a consistent approach the management of the lake's resources is among the chief drawback. Notably missing from the policy and investment initiatives around TonleSab has been the fisheries' regulatory framework and practices. Although the policy of extending areas under commercial management has much to recommending it in efficiency terms, there are doubts about how truly competitive the auction process, used to allocate fishing lots, has been. With the annual value of the fisheries output placed at "between" $100-$200 million, potential losses of revenue for the government could be very large. Information is insufficient on several important aspects of revenue collection by the fisheries Department. Also, limited official attention has been given to the wider ramification of an emphasis on revenue generation; in particular on the link between reduce access around the lake. Finally, there is evidence that harmful fishing practices are increasingly both large and small operator (RGC 1996b).

Table 3: Current System of Fisheries Management in the Tonle Sab Area

Category of Fishing Operator	Area Where Fishing Allowed	Condition of Access
Large Scale (industrial)	With designated fishing concession	License required Two year permits allocated via auction
Medium Scale (artisanal)	Mainly in open access areas, also in demarcated areas	License required Certain administratively determined taxes payable
Small Scale	In open access areas only	Unregulated

Demands on Water

Water used for irrigation purposes account for approximately 94% of the total water resources in Cambodia. In 1997 about 82 % of the total cultivated areas was rain fed. Rainfall can be uneven and the production of crops is often threatened by drought, especially in dry season. In some areas the high population density requires 2 or 3 crops per year which means irrigation is particularly important (Short, Medium and long Term Strategic Plan on Water Resources and Meteorology Sector Development).Irrigated rice areas account for 18% of total cultivated areas (which was 2,253,000 ha in 1997). 8% is supplementary irrigation in the wet season and 10% is supplementary irrigation in the dry season. The total irrigation potential is estimated at 1,667,300ha.

Water Resources	**Irrigation Potential (in ha)**
Mekong Main Stream	734,00
Mekong Tributaries	253,000
Mekong Flooded Areas	179,000
Tonle Sap Tributaries	358,900
Outside Mekong Basin	142,400
Total	1,667,300

Source: Irrigation potential for water resources (Short, Medium, and long Term Strategy Plans on Water Resources and Meteorology Section Development)

Due to lack of infrastructure (e.g. diversion structures, dams, dykes etc) to store wet season water for dry season irrigation, large amounts of water are lost to the sea. About 65% of the population of Phnom Penh and 15% of Sihanouk Ville have access to piped water supply, while out of the 9 million people (85% of the total) living in rural areas, only 500,000 have access to safe drinking water. The remaining population draws water from domestic wells (two thirds) or from ponds, Streams and lake (one third). There are about 25,400 water supply wells in the whole country (MRC Working Paper).At present, electricity is generated by diesel engines throughout the country, and is very expensive because of high fuel cost. There is an existing hydropower plant in Ratanakirri that generates 1 mega watt of electricity during the wet season. A hydropower project for 63 GWh/a of electricity production is planned for Kirirom in Kompong Speu. Construction will start at the beginning of 2001 by a Chinese company who will execute the project under a build, operate, and transfer arrangement. The Sambour Project, which would generate about 1.000 MW of electricity, is also being considered by the Cambodia National Mekong Committee for the domestic utilization, irrigated agriculture, telecommunication and eco-tourism in the region. The overall hydropower potential of the country is estimated at 15.000 MW (Short, Medium, long Term Strategic plans on Water Resources and Meteorology sector development).

Water Allocation and Use

Cambodia has an overall available water resource of 500 km^3. Water is used for domestic supply (cooking, drinking water, sanitation etc.); special needs for animals and wildlife; crops and forests; fisheries; industry; navigation; and hydropower.

Usage	**Km^3 / year**
Domestic water	0.136
Livestock	0.100
Crops	0.455
Industrial	0.030
Miscellaneous	0.079
Total	**0. 750**

Source: Usage statistics (Develop National water vision and Framework for Action).

Looking for the future, the water requirement in say 10 years might be:

Usage	Km^3 / year
With a population 30% higher and domestic water use double	0. 35
Livestock increased by 50%	0.15
Irrigation increased by 100%	1.00
Industry used increased by 200%	0.10
Miscellaneous increased by 200%	0.16
Total	1. 76

Source: Extrapolated usage statistics (Develop National water vision and Framework for Action).

Present Water Use

At the present water use from surface, from ground, and from rainy water we include together as follow:

- Water for domestic use, drinking water, sanitation etc for people
- Drinking water for domestic animals and wildlife
- Special needs for animals and wildlife
- Crops and forests
- Fisheries
- Industry, commercial, institutional
- Navigation
- Hydro- power

Many of these requirements do not result in water being 'lost', e.g. to the atmosphere or to Vietnam, but rather that it is returned to rivers, water bodies or aquifers. Cambodian data on many of the above requirements are spare, as is indicated in the NWSP. A first cut estimate of each is given below:

	Km^3/year
• Domestic water	0.136
• Livestock	0.100
• Crop etc	0.455
• Industry	0.030
• Miscellaneous	0.079
Total	**0.0750**

Water Management

Water Law

The general purpose of the Water Law (11-January,1999) is to foster the effective management of the water resources to attain socio-economic development and welfare of the people. The Law includes:

- Water resources management law
- Irrigation management law
- Groundwater exploitation law
- River law
- Water supply law, and
- Sub-decree on water user groups and water license

Future development will be

- Formulate sub-decree on watershed management, groundwater use, irrigation, and river and riverbank management.
- Formulate the regulation for privatization on water supply for some areas.
- Prepare guidelines on wastewater and sludge recycling from the cities and provincial towns
- Broadcast water law and guideline to Ministries, institutions, provincial departments, local organization, international organizations, companies, public enterprises, and public, and
- Enforce law on water management legislation and regulations that are related to water resources.

Water Policy

At present, Cambodia faces a variety of water resources problem include water shortage for domestic, agriculture, industrial consumption, annual flood and environmental impact which damage communities and cultivate areas and lastly problems of poor water quality. In order to effectively solve this various problems.

- The objective of the policy on water resources is to ensure management, exploitation, uses and development of water and water resources is sustainable, equitable and support the goal of socio –economic development end environmental protection of Cambodia.
- This policy specially emphasizes cross – sectors issue, the policy does not discuss issue specific to single water sub – sector and it is recommended that these issue be covered in sub-sector water policy. however, this policy is to be the basis for any policies developed to the water and water sub – sector .

Cambodia lacks the facilities to fully utilize its water resources. For example there are not enough canals, pumping stations, reservoirs, and irrigation systems, which lead to problems such as poor urban water quality and low crop return. The objective of the water resource policy is to ensure appropriate management, exploitation, use, and development of water and water resources that is sustainable, equitable, and will support the goal of socio-economic development end environmental protection of Cambodia. A comprehensive of water resources and environmental quality management policy has been formulated that consist of a number of separate policies:

- Water resources development policy;
- Water resources conservation policy;
- Polluted resources allocation and utilization policy; and
- Flood mitigation policy.
- Water supply management policy
- Water demand management policy
- Water quality monitoring policy
- Wastewater treatment policy
- Water Strategy

➢ ***Strategy of Water Management Plan***

To implement the policy, Ministry of Water Resources and Meteorology set up the strategies as follow:

a) Water management plan
b) Water demand management plan
c) Water resources development plan
d) Flood mitigation plan
e) Natural resources and environmental management plan
f) Organization plan

a) Water management plan

- Formulate the water allocation criteria and setting operation rule for reservoir

- Formulate the policy and water priority
- Establishing a plan for project level, water allocation for any pilot projects
- Establishing a joint water allocation plan for basin project level

b) Water demand management plan

- Cropping system improvement Plantation management,
- Improvement of project efficiency in Great Lake or Main River (Upper Mekong and Tonle Sab)
- Establish water fee and water free for poor farmers, and
- Determining values of water use for various purpose and future demand,

c) Water resources development plan

- Development plan for large scale projects
  - Mekong River Basin
  - Tonle Sab Lake
  - Stream, Reservoir, Watershed Areas, and area for protection, and
- Development of water diversion and mitigation project
- Master plan for water resources development and management projects in the Mekong River Basin and other water resources throughout the country, and

d) Flood mitigation plan

- Master plan for flood mitigation project and establish prioritization for development
- Feasibility study and detail design on flood duration and monitoring systems, and

e) Natural resources and environmental management plan

(1) Water resources organization improvement plan

- Establishing good understanding of water uses among group's member and other stakeholders, and
- Capacity building for communities members and ministries line agencies, and private sectors, and
- Promoting registration of water user's cooperative and management,

(2) Establishing the committee for main tributary basin and any river basins

f) Organization plan

- Conscience and awareness creation plan for solving problems
- Surveillance and protection plans
- Treatment and rehabilitation plan

Expected Activities

- To train villagers in the operation and maintenance of irrigation structures in provinces across the country and government's officer, who closely concern with water management and development to accelerate the knowledge and skill for operating, and
- To train irrigation personnel
- To monitor progress and effectiveness of local programmes
- To rehabilitate large systems where more substantial investment organizational effort are needed
- To implement flood control dikes and dam
- To dredge important rivers and streams
- To implement the multi-purpose projects
- To improve and conduct hydrological station
- To establish monitoring station for water quality and yield

- To improve meteorology stations
- To encourage water user's groups for more effective allocation and use of water
- To establish water user's association and promulgate rule for water use under the water resources laws to be passed by the National Assembly

Hydrology

The government of Cambodia and Japan, through the MRC, has assisted Cambodia to improve the hydrological network through a programme from 1996 to 1999. This project has been rehabilitating and reconstructing 28 hydrological stations and providing some principle hydrological equipment, training, data collection, management, analysis, and document compilation. Hydrological development plans include:

- To continue to improve, operate, maintain, and construct hydrological stations along rivers, streams, minor rivers, and lakes;
- To expand water quality monitoring stations in order to record water quality in rivers, streams, and lakes;
- To educate hydrological staff in management and analysis (preferably to postgraduate level);
- To strengthen the collaboration with all concerned line agencies and international organizations; and
- To increase the capacity of measuring, transmitting, and managing of the data in computer systems.

Rivers

The Mekong River meets the Tonle Sap River near Phnom Penh and receives a considerable discharge from the Tonle Sap Lake (Great Lake) during the dry season from November to March. The Mekong river total drainage covers about 86% of the land area of the country and floods of about 475,000 million m^3 annually. The Mekong carries between 300 to 600 g of silt per m^3 that plays an important role in the maintenance of soil fertility for rice and other crops. The Mekong water is rich in lime and potash; its neutrality (pH 6.3-7.4) helps in reducing the acidity of soil. The mean annual discharge entering Cambodia exceeds 300 billion m^3 and it is estimated that with the contribution of downstream tributaries, some 500 billion m^3 are discharged into the sea annually.

At Kratie in northern Cambodia, the peak discharge occurs during the August - October monsoon and may reach 70,000 m^3 / sec (Short , Medium , long Term Strategic plans on Water Resources and Meteorology sector development).Large areas of Cambodia around the Tonle Sap, Tonle Bassac, and Mekong River flood during the rainy season. Thus, the Great Lake region functions as a large natural retaining reservoir for storing flood water. The rich natural resources of Mekong River and its tributaries contribute not only to Cambodia, but also to the neighbouring riparian countries, playing an important role in regional socio-economic development.

River management objectives include:

- To study floods, soil erosion, and lost water resources;
- To measure movement of rivers, streams, and minor rivers;
- To carry out technical staff training on management of rivers and upgrade the level of education;
- To make an inventory and map of rivers, streams, and minor rivers;
- To formulate the project planning for riverbank protection in urban areas;
- To rehabilitate and start riverbed dredging in waterways;
- To monitor the exploitation of gravel, sand, and dredging of rivers;
- To formulate the project planning for rivers, streams, and bank protection in important economic areas; and

- To improve infrastructure to carry excess floodwater to reduce erosion and water loss

Rural Water Supply and Sanitation

The majority of Cambodians will continue to live in rural area well into the next century, but their water supply and sanitation needs have attracted only modest funding by developing agencies, including ADB. Important work has been undertaken by international NGOs. It is estimated that 32% of Cambodians have access to safe drinking water, 67 % of which are in urban areas, and 26 % of the rural population. This is a significant problem since the majority of Cambodians live in rural provinces. A project for the rehabilitation of water supply and distribution systems in Phnom Penh is being undertaken with assistance from JICA. Bilateral financial aid from France and the Asian Development Bank has started to contribute to improving the water supply sector. Aims are:

- To increase the capacity of safe water supply and to rehabilitate the wastewater drainage systems in provincial towns and cities such as : Siem Reap, Battambang, Kampong Tom, Pursat, Prey Veng, Svay Rieng, Stung Treng, Kandal, Ratanakiri, Kompong Cham, and Sihanouk Ville;
- To make an inventory of water supply infrastructure and wastewater drainage systems throughout the country;
- To formulate a plan of human resources training on the management of water supply and the wastewater drainage;
- To increase the capacity of safe water supply and rehabilitate the fresh water supply system in some provinces and towns, especially for Phnom Penh;
- To increase the capacity of safe water supply and reduce wastewater drainage for the provincial towns;To seek technical and financial assistance for projects from towns and cities to be come public enterprise; and
- To train the technical staff.

Hydro-Power

Hydropower is a sector that the Cambodian Government and donor communities are concentrating on for assisting and developing the socio-economic situation in Cambodia.The strategic development plans for hydropower are:

- To conduct the feasibility studies in Kirirom, Prek Tnot , Kam –Chay , Battambang and Pursat rivers;
- To rehabilitate and construct the proposed projects in the Prek Tnot and Kirirom Rivers;
- To conduct feasibility studies of micro and mini- hydropower in populated rural areas;
- To strengthen and extend technical and medium large-scale water resources development;
- To implement the multi purpose projects Battambang, Kamchay, and Pursat rivers; NTo train the hydropower staff up to post-graduate levels;
- To strengthen and extend technical and financial collaboration with international organizations, agencies, and the donor countries;
- To conduct feasibility studies of large scale multi purposes areas of Senn, Sekong and Season rivers; and
- To implement the multi purpose projects in the Atay, Sekong, Sesann, and Pinput rivers.

Irrigation Systems

The irrigation system in Cambodia can be considered fewer than four categories and it is common for scheme other then the fixed pump station to comprise combination of the categories depending on systems design and command available. Fixed pumping station (permanent pump house and intake including. Fixed floating pump with capacity 0.3 m^3/s capacity) Mobil pumping station (usually) farmer level with typically 10 –30 L/s capacity) Traditional lifting (pedal pump, oscillating flume, tripods water shovel these methods are time consuming and have only a very

small capacity. According to the circular of irrigation systems that is prepared by Ministry of Water Resources and Meteorology (MOWRAM) in Cambodia, the classification of irrigation scheme are divided into three categories:

1. Small scale –less than 200 ha to 500 ha .net area
2. Medium scale –from 200ha to 500ha. Net area
3. Large scale –greater than 500ha. Net area

Irrigation Work

- Rehabilitating the exiting irrigation systems and pumping station
- Rehabilitating the exiting flood protection dikes sea protection polders
- Study and construct the irrigation systems, flood protection dikes and sea protection polder on where there is the water potential.
- Formulation the farmer user communities for self - management on the irrigation systems, flood protection dikes and sea protection polders.

Irrigation and Catchments Management

The country's history is intimately related to the development of irrigation and remains a central concern to this day. While water resources planning and utilization is of major national concern, more recently, water use in Cambodia has required a sub-regional dimension as certain water utilization schemes, having-basin wide repercussions, require unanimous approval of the member countries of the MRC. The sector, especially its rural component (both irrigation and non-irrigation), has seen major involvement by NGOs in the 1990s complementing, and in many cases pointing to the direction for activities of development agencies. ADB has been involved in Cambodia's water resources, right from the resumption of lending in 1992. Among the things, a Special Rehabilitation Assistance Loan addressed the most pressing among irrigation sub-sector rehabilitation needs. A water sector and irrigation review was undertaken as part of the 1993 Technical Assistance Review of Agricultural Development Options. In the same year an assessment was undertaken of water supply and sanitation needs. Since then, investment projects in urban environmental improvement (heavily focused on water), communities' irrigation rehabilitation, and water resources development have been formulated under the project preparatory technical assistance (TA). An advisory TA is under preparation for institutional support for water resources management. Taken together, these initiatives add to a substantial sectoral portfolio that requires certain unifying themes and review of broader water resources utilization issues and rural aspect of water use.

There is a critical need for water resource development plan that would set the framework for the optimal use of water resources and reconcile possible conflict of interest. With the creation of the Ministry of Water Resources and meteorology (MOWRAM) in 1998, a single agency now exist that is expected to be come responsible for the preparation of national long-term water resources development plan. Apart from its planning and resource allocation value, the availability of such a document would strengthen the position of the Cambodian National Mekong Committee vis-a –vis those of the other riparian countries in discussion over basin-wide development priorities.

The technical and supervisory capacity of the Ministry of Agriculture, Forestry and Fisheries (MAFF) to manage the implement irrigation development projects is weak, a weakness magnified by the nonexistence, until now, of cost recovery in irrigation. That situation is set to change with expected adoption in 1999 of an irrigation policy sub-decree. Implementing the sub-decree will be the greatest short-term challenge facing the new MOWRAM. This is institutionally complex to implement, with the involvement of several Ministries, most notably the Ministry of Industry, Mines and Energy (MIME) in water supply provision and sanitation, the Ministry of Rural Development (MRD) in rural water supply, and the MOE, the latter particularly concerned by an increase in water pollution from non-point agricultural resources and its monitoring. Coordination

among funding agencies in the sector has been adequate. Cambodia has remained unable to profit from potential synergies between the work of MRC and development agencies, as well as see the best lesson of NGO experience incorporated into routine programs of development agencies.

Groundwater

Groundwater is an important for domestic consumption, livestock, and local industry. There has been no detailed of groundwater sources in Cambodia, however, there have been two studies under the auspices of the US Geological Survey. The first (Cushman, 1958) was a reconnaissance of the lowland areas to determine the availability of groundwater for dry season irrigation. The second was a general description of groundwater availability based on test drilling data and well records obtained in the course of a USAIDs rural well development program between 1960 and 1993. This program drilled 1,100 wells, of which 72% were productive. OXFAM and later UNICEF were involved in extension programs to install wells for domestic water from the mid 1980. 15,000 wells of various types have been installed but the use of ground water for irrigation has been limited.

On the basis of limited investigations, it has been estimated to fund a project to supply clean water to the Phnom-Penh municipality and rural areas by using groundwater resources. About 30% of this groundwater was obtained around Phnom-Penh, the best wells yielding 200L/minute, and the average of seven products wells was 80L/minute. This project is due for completion in water supply by using groundwater for consumptions in Phnom-Penh and other rural areas. Management strategies include:

- To control, revise, and enter groundwater data into computer data bases
- To extend study and research on new groundwater sources
- To collect documents and data as a basis to formulate groundwater mapping
- To increase the number of water quality and quantity controlling stations throughout the country, and
- Groundwater mapping for the country

Lakes

The Tonle Sab Lake is fed direct runoff from its own catchments area, the TonLe Sab River, and by overspill from the river Mekong River. The level in the Lake various over a 10m range in response to seasonal runoff and its area from 2,500 to 15, 000 km^2. Water quality data based on sampling at 11 stations are available for various periods. MOWRAM are working with MRC to upgrade the monitoring network. Sediments loads are also being measured.

The important role of lake used for:

- Local people consumption
- Livestock
- Irrigation
- Transportation and navigation as possible
- Hydro-power dam (mini, big, small dam)
- Reservoir for diversion the flood
- Tourism (Entertainment)
- Sources for biodiversity and animals lives
- Handicraft

V. Coastal Zone and Marine Resources Management

- *Current Situation*

The environmental coastal zone areas id the result of a complex interplay of activities in the hinterland effecting coastal rivers, and those along the shore, be they mangrove forests, or beaches, including coral reefs, or sea-grass beds. Cambodian's coastal resources and their management have attracted substantial foreign funding, including that by ADB (RET As 552 and 5712). Apart from above 435km of shoreline, 52 offshore islands can be funded in Cambodian waters, most of them uninhabited, some fringed by coral reefs and considered potential tourist or eco-tourism destinations. Cambodia also has remarkable mangrove forest covering nearly 60,000ha. Despite heavy and indiscriminate logging in the Cardamom Mountains and other adjacent inland arrest throughout the 1990s, Cambodia is a sole place in mainland in Southeast Asia where tropical forest still reaches all the way to the seashore (as it does in vicinity of Koh Kong). Coastal wildlife is believed to be still abundant but, despite several technical assistant, still poorly documents. Over one million ha of land within and close to the coast have some degree of protection status (table 3). The international union for the conservation of nature (IUCN) is assisting the government in developing a management plan for the Ream National Park. The Australian People for Health, Education and Development Abroad (APHEDA) is funding mangrove replanting in select village.

Among the principle environmental problems encounter are increased river and coastal sedimentation linked to logging in hinterland areas (including the Boutom Sakor, Ream, and Bokor National Park), and persistence pressure on coastal mangrove as a sources of charcoal, or poorly regulated sites for shrimp aquaculture or salt farming. Significant beach pollution occurs in the vicinity of Sihanouk Ville and Kep, both important tourist destinations. The condition of coastal reefs and sea-grass beds are only partly known. Dynamite fishing is practiced on an undetermined scale. There are, for now, few industries for industrial pollution to be of major concerned, but this situation could rapidly change (RGC, 1998). Even more than in the case of Tonle Sab inland fisheries, the statistics of output are perfunctory. All available estimates are based on crude extrapolations poverty in coastal areas is believed to be widespread (Nelson 1999. what may be good for environmental status, namely, the absence of a good coastal road, contributes to the economic stagnation of the coastal areas.

Table 4: Protected Areas Within or Affecting Cambodia's Coastal Zones

Type of Protected Area	Location ha	Province	Area
National Park	Kirirom	Koh Kong	35,000
	Boutom Sakor	Koh Kong	171, 250
	Phnom Bokor	Kom Pot	140,000
	Kep	Kom Pot	5,000
	Ream	Kom Pot	150,000W
Wildlife Sanctuary	Phnom Arul	Koh Kong	253,750
	Peam Krasaop	Koh Kong	23,750
	Phnom Samkos	Koh Kong	333,700
	Multiple use Areas	Dong Peng	
		Koh Kong	27, 700

Source: Adapted from RGC (1998b)

The Policy of Aspects of Coastal Zones Management

If problems of jurisdiction and allocation of responsibility between some line ministries (e.g, AMFF and MOE) is complex, the institutional complexity is seven greater in the case of coastal zone management where no overall management framework yet exists. All main ministries

have some role to play. However coordinating mechanism and information exchange are being developed with some success. Several foreign-funded projects in the coastal area have relied on provincial working group consisting of director and deputy director of the provincial department of MOE, Ministry of Public Works and Transport (MPWT), MAFF (specially the Fisheries Office), MRD, Ministry of Tourism, Ministry of Industry, Mines and Energy (MIME) and Ministry of Water Resources and Meteorology (MOWRAM).these working group have proved cooperation and coordination in coastal zone management are possible. Three central-level coordinating bodies now exist. They have:

1) The National Committee for Land Management Urbanization and Construction, created in 1997 to regulate construction activity based on a zoning plan, and
2) The National Steering Committee for Coastal Zone Management under MOE. Set up in 199, the committee comprise line ministry representative, provincial staffs, and NGOs actives in the coastal zone to deliberate on various management issues requiring coordinated response, and
3) The Coastal Zone Coordinating Unit within MOE, one of several such units created to deal with a distinct environmental problem. Most day to day management in the coastal zone is performed by MAFF, especially the Department of Fisheries. The jurisdictional overlap between MOE and MAFF, mention in the context of forestry, is present also in coastal area management.

Urban and Industrial Pollution

For over 30 years, very little investment has been poured into maintaining, let alone improving Cambodia's urban environment, once among the best in mainland Southeast Asia. Since the country political life more or less stabilize private investment in home improvement and construction has easily outstripped investment in public infrastructure. Cambodia continue to live off inherited urban assets that are quickly deteriorating (if some of these are not already disintegrated), putting a risk both the health of people in the urban areas and discouraging foreign investment from a lack of support infrastructure. The Land Law promoted by UNTAC in 1992 created legal basis for ownership and transfer of land and urban development. To facilitate urban planning, the Law on management, Urbanization and Construction (CNATUC Law) was enacted in 1994, seeking to balance often competing demand of urban and rural development and to provide legal basis for construction activities.The Law also seeks to promote tourism while protecting the natural environment. A series of hierarchical urban master structure are provided in each province under the Law, with oversight provide at the Central Government level. Despite development in legislation, however a number of weaknesses persist. With small experiences, there is no comprehensive or equitable system of land registration in the urban or semi-urban areas and as a result, a potentially valuable enabling tool for urban financing is not available in Cambodia.

Table 5: Institutional Roles in urban Environmental Management in Cambodia, 1999

Investment Areas/Policy Concern	Institutional Responsibility
Sanitation/Drainage	Department of the Ministry of Public Works and Transport (Drainage and Sewerage Division) in Each province, Municipality of Phnom-Penh
Solid Waste	Department of the Ministry of Public Works and Transport (Waste Management Division) in each province, Municipalities of Phnom-Penh and Sihanouk Ville
	Unit of potable Water Supply with the Ministry of Industry, Mines and Energy in selected town

Investment Areas/Policy Concern	Institutional Responsibility
Urban Water Supply	other than Phnom-Penh (Battambang, Kompong Cham, Kompong Thom, Sihanoul Ville, Takeo) Phnom-Penh Water Supply Authority under the Ministry of Interior Urban Planning, Comite National de l'Amanagement du Territoire, d'Urbanisme et du Construction Bureau des Affaires Urbaines
Urban Development	Municipality of Phnom-Penh and Sihanouk Ville (Department of Urbanizations and Construction) Provincial Department
Urban Environmental Monitoring	Ministry of Environment (MOE)
Environmental Awareness	Ministry of Education, Youth and Sport, Ministry of Environment (MOE)

Source: (Chanrithy 1997) Ministry of Environment

Solid Waste Management

The situation in Cambodia resembles that in a number of other developing countries. With the exception of Phnom-Penh, Sihanouk Ville and Battambang, Solid waste collection is extremely patchy in all urban area in Cambodia and usually only limited to public market areas. Waste disposal is far from comprehensive and adequately organized. Dumpsite is chosen opportunistically with little regard for their management. Solid waste services have been privatized in Phnom-Penh and Battambang, with mixed success in Phnom-Penh. The sub-decree on solid waste management have just been is requiring amendments and operating guidelines to allow it to be applied by Cambodian municipalities.

Hazardous Waste Management

The widely publicized case of hazardous waste dumping by foreign company on Cambodian territory in 1997 is indicative of the virtual absence then of regulatory provision and enforcement capability to deal with the problem of hazardous waste. Possible stockpiling the toxic materials, for example, pesticide is probably a more serious problem at present than generation of hazardous waste which are now largely limited to metallic sludge from electro planting, certain dyestuffs, oil residues, and bacteria.

Industrial and Mobile Source Emission

Limited industrial pollution abatement has taken place in Cambodia. Since there are few industries, the situation is not as urgent with the exception of how to deal with hazardous wastes. The situation is beginning to change, even if municipal discharges continue to dwarf industries in term of pollution load. A sub-decree on water pollution control was issued in April 1999. Among new development has been the growing problem of air pollution in Phnom-Penh, linked mainly to the rapidly increasing volume of traffic. The Pollution Control Department of the Ministry of Energy is weak and inadequate to deal with this problem which, in addition, requires effective coordination among several government agencies.

No inventory of pollution discharges is currently available, making it difficult to calibrate regulatory priorities. On the surface, the relatively small number of establishments classified as industrial (108, as 1997) make it easier to gain headway through direct regulation. However, if the experience of other countries is to serve as some sort of basis, the combine pollution yet a more difficult one to manage by direct monitoring and enforcement.

Mining

The field condition, let alone of environmental repercussion of gem-mining operation around Paillin, have not been assessed technically even if much anecdotal evidence suggest serious environmental impacts caused by sediment transport into the Tonle Sab. With the re-establishment of government control over the area, the environmental dimension of mining operations-patterns of impact, scope for modification of existing practices, rehabilitation of responsibilities, among others-ought to be assessed in addition to revenue and employment these mining activities generate. Environmental provision of the Mineral Resources Law need to be strengthened and the respective roles of the Ministry of Environment (MOE) and Industry, Mines and Energy (MIME) in regulating and supervising the mining industry will have to be more fully elaborated.

Energy

Cambodia relies on two primary energy source: biomass for about 85 percent of its total energy requirement, and problem products for 14 percent. The balance is accounted for by single small hydropower station (see table 5). In the mid-1990s annual consumption of biomass was placed by the Ministry of industry, Mines and Energy (MIME) at about 5,9 million tons of which fuel-wood account for about 5.5 million tons and charcoal and other biomass account for the rest. About two thirds of petroleum products were consumed by transport, 26 by electricity generation, and the balance was consumed by households (for lighting mainly in the countryside, and cooking in urban areas). The number of stove using liquefied petroleum gas in believed to be increasing rapidly in Phnom-Penh. Cambodia's fuel utilization efficiency for all fuels is comparatively low by international standards. Technical losses in electricity generation and distribution are 50 percent higher than in the more developed countries of Asia.

Wood combustion efficiency is low and few biomass waste-utilization technologies are available. No significant effort has been exerted to reduce energy consumption despite economic losses and the some what less obvious environmental repercussions. The high and no declining consumption of wood based energy has been an important contributor to localized deforestation and to environmental problems often associated with it. In the case of petroleum –based products and electricity, the primary environmental concerns are greenhouse gas emission and the threat of worsening air pollution in Cambodia's urban areas.

Table 6: Structure of Energy Consumption, Cambodia, 1995

Energy Source	'000 TOE Equipment	Percentage of Total
Wood	1,850	82.2
Charcoal	26	1.2
Other Biomass and Dung	39	1.7
Petroleum Products	317	14.1
Fuel Oil	2	0.1
Diesel Oil	129	5.7
Kerosene	26	1.2
Jet Fuel	11	0.5
Gasoline	145	6.4
Liquefied	4	0.2
Electricity	20	0.9
Total	2,252	100.0

Source: Ministry of Industry, Mines and Energy, 1995

A National Energy Conservation (NEC) being formulated under the World Bank's initiative to be implemented by MIME with broad participation (MOE, MAFF, EdC, MRD, and Ministry of Women's Affairs) is the first of its kind in Cambodia. Its broad objective is to achieve a significant improvement in energy use practices over a five years period (1999-2003). Among the more

specific objective are the establishment of national energy conservation and efficiency office (as an NGOs) and improvement of the effectiveness of EdC's Energy Efficiency Office.

Table 7: Consumption of Wood and Charcoal, 1995		
Area	**Wood (million tons)**	**Charcoal ('000 tons)**
Rural	5.0	8
Phnom-Penh	0.1	34
Other urban	0.4	11
Total	5.5	53

Note: this table does not include "other biomass" sources (agricultural residues, etc)
Source: MIME

Wood –based and biomass energy

The annual consumption of wood and charcoal for 1995 is given in table 6. households consumption accounts for almost all (97 percent) of wood –based energy. The pattern of households consumption is summarized in Table 7. household dominate wood-based energy consumption in Cambodia. The environmental impact of fuel wood and charcoal consumption is believed to be uneven and greater in area more densely inhabited (broadly, the southeast) as well as those that supply charcoal to Phnom-Penh.

Table 8: Household Consumption of Wood Energy 1995 (wood energy equivalents)			
Area	**Wood (%)**	**Charcoal (%)**	**Total (%)**
Rural	84.5	1.1	85.6
Phnom Penh	1.7	3.5	5.2
Other	7.2	1.0	8.2
Total	93.4	5.6	100.0

Source: MIME

The case of modern energy sources, demand management could be an attractive option in wood energy use, i.e.., it could be cheaper to improve the stove or charcoal kilns than expending capacity (here, establishing and maintaining tree plantations). The question of charcoal production acquires a special environmental significance where it take place in, or is close to protected and other vulnerable areas such as the mangrove forest along Cambodia's shore.

Table 9: Potential Hydropower Sites in Cambodia			
Sites Considered by MIME to have Potential for Short- to Medium Term Development	**Maximum Installed Capacity (MW)**	**Sites Considered by MIME to have Potential for Long Term Development**	**Maximum Installed Capacity (MW)**
Kiri Rom I	11.0	Sam Bor	465
Prek Tnot	18.0	Lower Sesan 1	900
Kam chay	127.5	Lower Sesan 2	480
Bokor Plateau	28.0	Lower Sesan 3	375
SteungBattambang II	36.0	Steung Metoeuk	180
Western Kirirom	13.0	Lower Russey Chrom	125
Steung Piphot	25.0	Cheay Areng	269
Steung Atay	110.0		

Source: MIME

Challenges

A history of poor environmental practices such as pollution and deforestation, remain one of Cambodia's primary challenges in the preservation and utilization if its water resources. The Tonle Sap Lake is one of the greatest sources of fish in Cambodia, and is filling with sediment at rates of about 0.5mm per year (Ashwell 1997). This rate is increasing as deforestation continues to occur and may lead to a devastating effect – the filling up and drying out of the Tonle Sap Great Lake. Other primary challenges facing the protection of water resources are:

- Pollution in rivers can be transported to other areas – such as litter from Phnom Penh entering the Tonle Sap Lake when the Tonle Sap River reverses direction. This can kill many of the flora and fauna upstream and in the lake.
- Unregulated construction causing the destruction of riverbanks. This causes increased erosion and increases sedimentation and runoff entering the rivers – often carrying pesticides from crops.
- Deforestation that increases erosion, depletes watershed quality, and increases water absorption (thus raising the water table level and potentially producing Stalinisation and acid-sulphate soils).
- Gaining active involvement of communities in the protection of watersheds.
- Mining industries that destroy water resources (such as sand mining on the beds and banks of water bodies) and pump polluted discharge into waterways.
- Lack of cross sector consultation in development activities. Often initiatives are carried out in other sectors that have negative impacts on water resources.
- Cooperation and exchange of information with Mekong basin countries in order to prevent the harmful effects of floods, watershed degradation, erosion, sedimentation and drought that might originate from activities carried out in these countries. For example the proposed dams in China will have a massive impact on the flow of water through the Mekong and into Cambodia. The sudden release of dam water causes severe flooding in Laos, Cambodia and Vietnam – causing deaths, erosion, and crop destruction.
- Increased disease in fish due to pollution, sedimentation, and pesticides in the waterways.
- Rural development - especially roads through sensitive ecosystems that increase pollution, trigger land grabbing and deforestation. The recent road linking Koh Kong and Phnom Penh has caused waterways to be filled with the rubble from road building materials. This creates stagnant water pools and prevents waterways from feeding plants and animals downstream.
- Dams for irrigation and hydropower that may leave less water available downstream.

CONCLUSION

Water is a critical resource at an international level, with 261 international rivers covering almost one half of the total and surface of the global. It is linked to variety of socio-economic factors, and has become prominent in literature on environment and international conflict. This paper present and approach to parallel analysis of variable related to water –related conflict on global, regional, and basin scales, with the hope of finding combination of attributes, indicator that provide an indication of potential water problem. It is important not only these indicators have an empirical or theoretical link with conflict or issues, but there is also a mean for testing their usefulness and accuracy. A possibility for testing indicators exists in studying historical evidence surrounding past water conflict and problems, particularly those that were resolved through treaties. Such information and indicators, even when tested against historical evidence, should be viewed with some skepticism, since it is quite difficult to establish causal relationship between variables and water problem related to conflict. It is also potentially errant to assume that by studying historical evidence, one can accurately predict what future events will take place. Previously un-experience pressures, such as increased resources scarcity and rapidly increasing

population, particularly in areas that are already faced with water and natural tresses, are difficult to account for because there is a lack of comparable historic situation.

This skepticism, however, dose not suggests that water and natural resources related indicator of conflict and problem are without value. Our believe that trough research, access to potentially useful information, effective spatial representation and analysis of that information, and contact with various regional experts, reasonable indicator can be developed. It simply is important to note that an indicator or set of indicators, no matter how well throughout and planned, can not predict potential conflict with completely reliability. With the proper approach, however, effective analytical framework, and access to appropriate data sources, we fell that there is a great potential for establishing water and natural related to conflict and problem. A strong base of information and research has been gathered, and can now be built upon to create a series of water and natural related indicator that will be available in the 21st Century.

Bibliography

ADB Country Assistant Plan 2000-2002, August 1999a.

Cambodia, Water Resources and Irrigation of the Agricultural Development Option Review, 1993

Ashwell, D. 'Cambodia: a National Biodiversity Prospectus', *IUCN consultancy report to UNDP and Ministry of Environment*, Phnom-Penh, 1997

Associates for Rural Development Inc. (ARD), *A Vision for Forest Sector Development, 1997*

Ministry of Water Resources and Meteorology, Water Resources Management and Development framework for Action, 1997-1999, *National Water Profiles and Draft law on Water Resources Management and Conservation*, 2000

Nelson, V. 'the Coastal Zone of Cambodia: Current Status and Threats', *Consultant's report for the Ministry of Environment and DANIDA* 1999

Pollution Control Department (PCD), *Final report, Solid Waste Management Sector Plan, 1998a.*

Royal Government of Cambodia, 'Report on the Tonle Sab Lake Forum on Provincial Level Planning, Technical Coordination Unit for the Tonle Sab', *Ministry of Environment and UNESCO*, 1999.

"Forest Crime monitoring and reporting" *A joint MAFF and MOE proposal for effective coordination of activities in the forest sector*, Phnom Penh, 1999

Royal Government of Cambodia, "Management of Fisheries, Coastal Resources and Coastal Environment in Cambodia: Institutional, Legal and Policy Perspectives", *Synthesis report by Cambodia Working Group in cooperation with Wetland International*, Phnom Penh, 1998b.

Ruzika I.., *"Taxation and Policy Reform in Cambodia Forestry", Technical report No 5, Consultant's report to MAFF under Forest Policy Reform Project, ARD Inc..*, Phnom Penh and Burlinsgton, Vernont, 1998

The transition of local resource use systems: A comparison of rural communities in Thailand and Laos

Clemens M. Grünbühel*

ABSTRACT

The presentation compares the use of resources and social implications of two rice-farming communities, one in the Kingdom of Thailand, the other in the Lao People's Democratic Republic. Although both socio-economic systems rely on a mix of providing subsistence and generating income through cultivation, extraction of forest products, and off-farm work, resource use strategies and socio-ecological conditions differ. The study compares various sets of indicators, such as energetic throughput, land use intensity, seasonality of economic activities, and external factors as drivers of transition processes. Despite the variations, both communities increasingly experience – and to a certain degree embrace – changes of their resource use systems and social organization. Although under differing socio-political and ecological conditions the strategies that intend to minimize risk, ensure subsistence and gain monetary income can be compared and lessons for rural development policies drawn from the results.

The two cases are set in Ubon Ratchathani Province and Vientiane Province, both bordering the Mekong river. The communities are both fairly distant to economic hubs, yet their location is not remote. The study attempts to elucidate the processes involved in the transition of local, subsistent systems towards integration into modern nation-state systems, production processes and trade. The point is to show that subsistent farming systems do not give up subsistence in favor of market-oriented production. Rather, the pattern is to stretch subsistence to a degree that it can incorporate surplus production for the market. In this process, cultural knowledge is used to ensure local livelihood and adapt to external necessities.

* For a copy of the full paper, contact Clemens M. Grünbühel, Researcher and Lecturer, Institute of Social Ecology, Klagenfurt University, Vienna, Austria, <Clemens.Grunbuhel@uni-klu.ac.at>

Market, State, Livelihood and Land Use Transitions in the Montane Mainland Southeast Asia: transecting Xishuangbanna, northern Laos and northern Thailand

(Draft version)

Yayoi Fujita
CBNRM Capacity Building Project
National University of Laos
yayoi@laopdr.com

I. MMSEA and changing human-ecological landscape

What is MMSEA, and where is MMSEA? What is happening to its landscape today that makes it interesting at all as a topic of the current presentation on transboundary issues in the Greater Mekong Subregion?

MMSEA is an acronym for Montane Mainland Southeast Asia, a phrase that emerged among groups of scholars and practitioners working on upland resource problems in mainland Southeast Asia (Thomas 2003). It generally refers to areas between 300 and 3,000 metres above sea level in six countries of the mainland Southeast Asia including Yunnan Province of China (Figure 1). These countries are also referred to as the GMS or the Greater Mekong Sub-region, where international organisations are building foundations to facilitate greater economic linkage among the six countries through development of transportation networks, and institutional frameworks for regional trade. While, international attention on the regional development in the montane mainland Southeast Asia tend to primary focuses around the Mekong river which runs through all six countries, MMSEA is more than just the Mekong, but layers of river basin and sub-basins (ibid, p27). It is also not just about development of the waterways, but of comprehensive development that affect flow of people and resources throughout the region.

Figure 1 MMSEA

Key concerns raised by scholars and practitioners working in this MMSEA region over the last decades includes whether increased population, and market activities induce environmental degradation in MMSEA (Rekarsem and Rekarsem 1995), which is known for its ecological diversity and wealth of natural resources. While there has always been inflow and outflow of people and commodities across MMSEA and beyond (Reid 1988, Donnovan 2003), the rate of resource extraction has increased in parallel with the economic growth of China, Vietnam and Thailand particularly during the 1990s, as the socialist countries transformed their economic basis from centrally planned to market economy. Political stability in the region has also allowed increased flow of goods and people throughout MMSEA, also contributing to the increased extraction of natural resources, and transformation of agoecological landscape in MMSEA.

Studies on land use change in MMSEA countries' have been conducted for well over a decade by regional and international groups of researchers; however, there have been limited opportunities among scholars to conduct collaborative researches across MMSEA, addressing cross scale issues on land use change. Especially the kind of study that focuses on drivers of land use change across the region, and the impact of land use changes on local livelihoods and natural resources. The very concern had prompted a group of concerned scholars to organise a collective learning experience, transecting the MMSEA - the MMSEA Mobile Workshop, which was organised in January 2005 (CBIK and ICIMOD 2005).

The aim of the current paper is to briefly explain the MMSEA Mobile Workshop, and lessons that we learnt from the mobile learning experience. In the following section, I will begin by explaining the background of the Mobile Workshop, and summarise the emerging regional issues that were addressed during the Workshop. For those people that are interested in the details of the workshop can refer the workshop summary report (CBIK and ICIMOD 2005).

The Workshop was not simply an end, but an innovative initiative jointly undertaken by community of scholars and practitioners working in MMSEA. The opportunity allowed participants to exchange their experiences, which could span four decades of history in the region. Mixture of junior and senior scholars and practitioners, as well as from varying field of discipline allowed the participants to develop a collective knowledge of what has been and is happening beyond the national boundaries in MMSEA within a relatively short period of time. The Workshop also generated a regional perspective on land use change, and allowed its participants to think about cross scale issues of land and resource use change in MMSEA, as well as the importance of developing innovative methods to approach the problem.

II. MMSEA Mobile Workshop, an engine of learning

In this section, I will briefly explain the background of the Mobile Workshop. The idea of the roving workshop that transect MMSEA originated in Lijiang in August 2003, as participants to the third MMSEA conference discussed about the possibility of organising a roving workshop that cut across MMSEA countries, to develop understanding of changing human-ecological landscape and its challenges (CBIK 2003). The idea was developed into a work plan, as scholars involved in land use change studies in southern Yunnan province of China (Centre for Biodiversity and Indigenous Knowledge and Kunming Institute of Botany), northern Thailand (Chiang Mai University and ICRAF) and northern Laos (National University of Laos, National Agriculture and Forestry Research Institute) gathered to discuss the possibilities of jointly organising a mobile workshop.

After two years of planning and discussion, the Mobile Workshop was implemented during 15-27 January 2005, involving more than 40 participants from 10 countries (CBIK and ICIMOD 2005). The key objective of the mobile workshop was to bring together senior and junior scholars and practitioners working in the region, particularly focusing on issues of land use and livelihood changes. It was not only aimed as an occasion to exchange research experiences, but an occasion to develop a better understanding of conditions and drivers of land use and livelihood changes across the MMSEA by focusing on the effect of road development that were now not only symbolically but physically linking the three countries. The workshop was also designed to facilitate learning of participants by using a common framework (Figure 2), and dividing participants into three thematic groups (e.g. land use, market and livelihood, governance) that were led by theme coordinators and senior scholars.

Figure 2 Overarching framework

Throughout the 12 days, the mobile workshop organised mini-workshops in three countries including Xishuangbanna, Luangprabang and Chiang Mai. Field visits were organised in each country, as participants learnt about conditions of land use changes and local responses. Observations from the fields were discussed during the mini-workshops organised in three major MMSEA cities. It also allowed participants to learn from local resource persons that provided regional overview of development and government policies on resource management. Junior scholars that applied to participate in the workshop also contributed their experience and knowledge by presenting their case studies during the workshop that ranged from issues of land use and livelihoods changes, to resource tenure (Table 1).

Table 1 Case studies in MMSEA

Area	Approach	Issues
China Baoshan (northwestern Yunnan), Mensong (southern Yunnan),	1) Land use change analysis 2) NTFP commodity chain analysis 3) Livelihood and farming system analysis	Dramatic land use change was induced by the government's afforestation policy. This decreased household's access to farmland, and also affected their livelihoods basis
Laos Oudomxay, Luang Namtha, Luangprabang (northwestern Laos), Vientiane (central Laos)	1) Comparative study on farming system and livelihoods 2) Land use change and agricultural production analysis	Changes of livelihood portfolio. Different household strategies to diversify risks. Impact of government policy on upland land use. Forest degradation, and increased cash crop production.
Thailand Lamphun (northern Thailand)	1) Political economy	Changes in state policies affecting local resource tenure, and social stratification.

The workshop offered a unique learning experience not only for junior scholars and professionals, but for all participants. While senior scholars and professionals provided mentoring for younger colleagues, participants were able to draw together a collective picture of what has been, and is happening in MMSEA. Iterative discussion process throughout the workshop especially facilitated this collective learning throughout the workshop. Discussions in three thematic groups and synthesis at the end of the workshop also allowed the participants to draw a general image of MMSEA. The final synthesis also allowed the participants to develop a milestone for future activities.

III. Emerging issues

There were several aspects that were highlighted at the end of the Workshop. I will briefly summarise key observations from the Workshop. In general, it allowed all participants to realize the cross scale impact of market economy and trade on natural resources throughout MMSEA. Increased growth of regional economies and trade not only affected household livelihoods and farming system, but bore an impact on how natural resources are used and managed in each of three countries that were visited. For instance, growing demand for rubber has been and is changing the landscape of Xishuangbanna and northern Laos (Xu u.d.). Uplands in northern Chiang Mai had also gone through a significant change over the last two decades, as more farmers became integrated to the regional and global market to produce commercial crops. However, all countries indicated transformation of upland landscape was not without its drawbacks. New sets of resource conflicts emerged as local people lost their customary claims to access and use land and natural resources.

It was also clear that state had different roles in each country facilitating or restricting local people's resource access and use. While state in all three countries implemented policies regulating local people's resource access, such as logging ban and shifting cultivation eradication, the extent to which it was exercised by the state differed. Institutionalisation of resource tenure at private and community level was also a new government policy that was being implemented in three countries

that were visited during the Workshop. This too, affected how upland people used and managed resources. It also triggered new sets of resource conflicts. The Workshop also highlighted that localised resource use and management problems were not only a domestic issue, but intricately linked to regional and global market economy. This had led all participants to consider beyond their local case studies, but in linkage with works conducted by their regional colleagues.

We also learnt of the different conditions of land use and resource management in three countries. For instance, in Xishuangbanna, state had a strong impact on natural resource management. Introduction of rubber drastically changed local landscape and people's livelihoods. The state also exercised impact on upland land use in northern Laos as we observed how the government policy restricting upland shifting cultivation limited local people's access to swidden field and reduced their rice yields. At the same time, we also observed how local people adapted their resource management practices by organising a village collective to sell non-timber forest products generating cash income for households (Ketphanh 1998). Meanwhile, in Thailand, agricultural land use and resource management practices were driven primarily by private investment. Export policies, and agricultural services (i.e. credit and extension) provided by the government significantly affected what crops were produced by farmers in the uplands. Farmers also organised themselves to form cooperatives to sell their commodities in the global market.

While road is part of the infrastructure development that is linking MMSEA countries, trade liberalisation and increased efforts to facilitate the flow of goods and people in the region today is rapidly transforming the regional landscape and people's livelihoods. The opening of the mountainous MMSEA to the regional and global market is bringing new opportunities for local villages and households, but also exposing them to more risks. For instance, we have seen upland farmers have completely transformed their subsistence farming to commercial farming, and are now competing for land use and resources with neighbouring villages. Local communities must adapt their customary practices and negotiate with state authorities to cope with changing community needs.

IV. Ways forwards

The workshop came to an end in Chiang Mai as we synthesized our learning and discussed about future activities. Participants agreed that the workshop was merely a starting point that generated set of new research questions based on existing works. Table 2 illustrates sets of research questions raised by each thematic group at the end of the Workshop.

Table 2 Research questions

Thematic groups	Research questions
Land use change	1) What is the comparative advantage of rubber/teak? 2) What is the comparative advantage of rubber vs. permanent agriculture in the upland environments? 3) What is the effect of external forces on land use? 4) What is the effect of changes in land use spatial patterns on ecological functions and environmental services with feedback to human behaviour? 5) Which methods and tools for studying land use change require further development?
Livelihoods and market	1) How are upland livelihoods being influenced by state interventions (i.e. land use policies, markets)? 2) What are the role(s) of roads, markets (trade), and investment on livelihoods?

Thematic groups	Research questions
	3) What are impacts of the above on natural resources and implications on sustainable development?
Resource governance	1) What conditions enable collective action? 2) What governance mechanisms –community, government, and civil society – can help balance market forces for better livelihood/environmental outcomes? 3) What forms of civil society organizations are useful in addressing NRM issues and when/how can they link with government organizations? 4) How does the initial rationale for intervention in upland agriculture affect the long-term trajectory of land use change?

At the end of the workshop, it also became clear that regional collaboration and networking was essential in tackling some of the research questions raised by thematic groups. As there are already substantial collections of studies conducted on land use change in MMSEA, it was essential that information and experiences were shared among the regional colleagues. Furthermore, participants suggested development of stronger partnership among regional institutes, through joint efforts of developing methods to analyse the changing socio-environmental relations across MMSEA.

The Workshop also highlighted the importance of developing an iterative learning process throughout MMSEA. This was not only an important task for scholars and development workers in MMSEA, but also in developing an interactive policy dialogue with regional policy makers in MMSEA.

References

Centre for Biodiversity and Indigenous Knowledge (2003). Landscapes of Diversities. Landscapes of Diversities, III MMSEA, Lijiang, Yunnan Province, Yunnan Science and Technology Press.

Centre for Biodiversity and Indigenous Knowledge and International Centre for Integrated Mountain Development (2005). Mobile Workshop on Land Use History in MMSEA: Reports of Highlights and Outcomes.

Donnovan, D. G. (2003). Trading in the Forest: Lessons from Lao History. The Political Ecology of Tropical Forests in Southeast Asia: Historical Perspective. T. P. Lye, Wil de Jong and Abe Kenichi. Kyoto and Melbourne, Kyoto University Press and Transpacific Press: 72-106.

Ketphanh, S. (1998). Lessons Learnt from Forest and Land Allocation in the NTFP Project. Pakse, Lao PDR, Department of Forestry, MAF.

Reid, A. (1988). Southeast Asia in the Age of Commerce:1450-1680. Bangkok, Silkworm Books.

Rerkasem, K. and B. Rekasem (1995). "Montane Mainland South-East Asia: Agroecosystem in Transition." Global Environmental Change 5(4): 313-322.

Thomas, D. (2002). Montane Mainland Southeast Asia-A Brief Spatial Overview. Landscapes of Diversities, III MMSEA, Lijiang, Yunnan Province, Yunnan Science and Technology Press.

Xu, Jianchu (u.d.). Scale of Power and Power of Scale: Political Ecology of Rubber in Xishuangbanna, China.

Comparison of irrigation management systems using simulation model in different areas in Thailand and Lao PDR

Katsuhiro Higuchi[1] Osamu Toda[2] Koshi Yoshida[3]
Hiroaki Somura[4] Hajime Tanji[1]

1) National Institute for Rural Engineering
2-1-6 Kan-nondai, Tsukuba, Ibaraki, Japan, 305-8609, khiguchi@nkk.affrc.go.jp
2) Graduate School of Agricultural and Life Sciences, University of Tokyo
1-1-1 Yayoi, Bunkyo, Tokyo, Japan, 113-8657
3) Japan Science and Technology Agency
2-1-6 Kan-nondai, Tsukuba, Ibaraki, Japan, 305-8609
4) Dept. of Regional Development, Faculty of Life and Environmental Science, Shimane University 1060 Nishikawatsu, Matsue,, Shimane, Japan, 690-8504

ABSTRACT

Water management with appropriate gate operation is needed for irrigation areas where there are water shortages. In this study, the irrigation water distributions of four irrigation projects in Thailand and Laos were analyzed and the efficiencies of water use were simulated. The efficiency of water use management was calculated by using a new hydraulic model with a human factor, and verified by measured data.

Hydraulic structures such as a constant head orifice, spillway, and check gate were included in the hydraulic model by using one-dimensional dynamic wave equations and continuity equations. The parameters of models were estimated from the measured data, which could be classified into three factors: 1) facility factors such as reservoir capacities, kinds of canal lining and benefit area , 2) Topological and Climate conditions, and 3) human factors such as the frequency of gate operations by officers or water users' organizations and the number of farmers.

The efficiencies of water distribution were estimated from a number of measurements taken on fine days. Using this simulation model combined with human factors, the details of water distribution became clear.

INTRODUCTION

Asian monsoon countries, particularly where reservoir facilities to store water for irrigation are minimal, are greatly influenced by climate change, and precipitation in the region is considered likely to fluctuate greatly in the near future. Growing populations and concentration of populations in urban areas will exert increasing pressures on water availability and water quality (IPCC, 2001). Furthermore, the ratio of agricultural production to gross national product varies depending on policies. As a result, in drought years there are severe difficulties in allocating sufficient water for food supply.

In the Mekong river basin, rice is one of the major crops in the region and needs plenty of water. In the dry season, water must be acquired from irrigation facilities. However, it is difficult to start new irrigation projects in view of cost effectiveness. Therefore, to secure food supply in the region, it is necessary to improve irrigation management, and such management depends on not only facilities but also human factors. Officers and farmers should cooperate with each other for efficient water management.

In irrigation projects in Thailand, the main facilities, e.g. water transmission facilities (off-farm facilities) are maintained by officers, and the facilities around paddies (on-farm facilities) are maintained by farmers in cooperation with officers. Until recently, officers have been responsible for the operation of main and sub diversion gates. However, in the Participatory Irrigation Management (PIM) project sub gate operation will be handed over to the farmers by 2009. In the survey area, gate operations were conducted through cooperation with officers and farmers in 2004. In 2005, farmers will handle the gate operations. Water distribution simulation models are needed to support the operations of aid farmers and the decision making for each irrigation project,.

Many irrigation projects in Thailand have adopted the Water Allocation Scheduling And Monitoring (WASAM) system (Vududhivanich, 2000) or North-East Water Management And Systems Improvement Project (NEWMASIP) program (Duncan, 1996). In those systems, the period of monitoring is a week and there are no human factors involved, such as gate operations. In this water distribution model, the diurnal change is taken into consideration for estimating the effect of gate operations. In an irrigation period, conditions of gate operation can be classified in two kinds: regular operation on fine days; and irregular operation on days of heavy rain. In this study, the effect of regular operation is considered.

To analyze the irrigation management, first the present state of water management was described, including organizations for water management and the activities of gate operators. Next, to estimate the water distribution and evaluate the effect of gate operations, a new water distribution model was developed. Then, taking the schedules of the gate operation and the density of operators into consideration, the differences of the water distribution were compared with the equality inside the observed area and the equality between upstream and downstream areas.

STUDY AREAS

Four irrigation projects were selected. One was the Huay Luang project in Udon Thani province and the other was the Nong Wai project in Khon Kaen province, both in Thailand. In Laos PDR, two projects were selected; project in Vientiane (KM6) and the project in KM35 project in Savannakhet (**Fig. 1**). The details of each project are shown in **Table 1**. The Huay Luang irrigation project has a benefit area of 16,100 ha from a reservoir of 118 million cubic meters with a total canal length of 81.1 km and maximum discharge of 12.4 $m^3 s^{-1}$. The organizations are structured as follows: water master, assistant water master, and zoneman (**Fig. 2**); and 484 water users groups in an on-farm system (**Table 2**). In the Nong Wai irrigation project, the benefit area is

41,500 ha with a total canal length of 130.3 km and maximum discharge of 53.0 $m^3 s^{-1}$. The irrigation water is taken from the weir, which is located on the Nam Pong River with a multi-purpose reservoir of 2,260 million cubic meters capacity. The organizations are structured the same as in the Huay Luang project, with 890 water users groups in an on-farm system.

METHODOLOGY

Measurement

Surveys in the study area were carried out in July and October in the rainy season, and in February in the dry season. The main measurement items were water level, discharge, gate opening height, gate operation time, and percolation in the paddy fields. The measurement sections were one main canal of about 10 km length from the intake in the Huay Luang project, which covered an area of 17.0 km^2, and one lateral canal of 10 km length from the branch point of the main canal in the Nong Wai project, which covered 15.6 km^2.

Simulation model

To simulate the gate operation on main and lateral canals, a one-dimensional hydraulic model was constructed (**Fig. 3**).

The governing equations of this model were given by Yoshino[1991]:

$$\frac{1}{g}\frac{\partial v}{\partial t}+\frac{1}{2g}\frac{\partial v^2}{\partial x}+\frac{\partial h}{\partial x}+S+\frac{n^2 v|v|}{R^{4/3}}=0 \qquad (1)$$

$$\frac{\partial A}{\partial t}+\frac{\partial Q}{\partial x}=q, \qquad (2)$$

where, g: gravitational acceleration ($m^2 s^{-1}$), v: velocity ($m s^{-1}$), S: bed slope, h: water depth (m), n: Manning's coefficient, x: distance (m), t: time (s), A: cross-sectional area (m^2), Q: discharge ($m^3 s^{-1}$), and q: lateral inflow ($m^3 s^{-1}$).

In this calculation, the centre difference method was used for the grid model as **Fig. 4**.

For modelling the hydraulic structures, the following equation was used for gate calculations:

$$q_{gate} = N \cdot C_N \cdot C_{gate} \cdot A\sqrt{2g\Delta H} \quad (3)$$

where, C_{gate}: gate coefficient (0.7), A: area (m^2), ΔH: difference in water level (m), N: number of gates, C_N: coefficient of contraction (C_N=1 when N=1, C_N=0.7 when N=2).

For the spillway, the following equation was used:

$$q_{spill} = C_{spill} \cdot Bh_i\sqrt{2gh_i} \qquad (4)$$

where, C_{spill}: constant (0.35), B: width of spill (m), h_i: water level at the point i (m).
The parameters C_{gate} and C_N were calibrated compared with measured data, and the parameter C_{spill} was taken from the design data of the Royal Irrigation Department (RID) (1988).

The density of gate operators was taken into account in developing a new water distribution model with a human factor. It is assumed here that the punctuality of gate operation is improved by increasing the density of gate operators.

The differences of the gate operation between the two projects are shown in **Fig.5**. Huay Luang project was focused on main canal operation, and Nong Wai project was focused on lateral canal operation. In each project, gate operators operated from a main canal to a lateral canal. If there are enough operators, each gate is operated on time. But, actually there is a time lag in the gate operation.

The gate operation time at each gate was estimated from this equation:

$$T_i = T_{im} + \frac{1}{N_{ope}}\left(\frac{L}{N_G}\frac{1}{v} + T_{ope}\right)(i-1) + T_{delay} \qquad (5)$$

where T_i: operating time at gate i (min), T_{im}: operation start time (min), N_{ope}: number of operators on targeted canal, L: targeted canal length (m), N_G: number of gates on targeted canal, v: moving velocity (m min^{-1}), T_{ope}: operation time at each gate (min) . T_{delay} (min) was the delay time caused by gate position; from A to B in Huay Luang (**Fig. 5 (a)**), and from A to D in Nong Wai (**Fig. 5 (b-1), Fig. 5 (b-2)**).

RESULTS AND DISCUSSIONS

Measurement

From the measurements of canals, the water distribution and water losses from canals and paddy fields were calculated. The water distribution was described by Higuchi (2004). The seepages from canals were 0.045 m^3 s^{-1} km^{-1} on average in the Huay Luang project and 0.016 m^3 s^{-1} km^{-1} in the Nong Wai project. The conveyance efficiencies were calculated as 0.87 in the Huay Luang project and 0.96 in the Nong Wai project. Compared with the design seepage from canals, which ranges from 0.04 to 0.06 m^3 s^{-1} km^{-1}, the measured data was very close to the planned value. Meanwhile, the percolation from paddy fields was 6.7 mm day^{-1} on average in the Huay Luang project and 4.9 mm day^{-1} in the Nong Wai project in the rainy season (**Table 3**). These percolations were higher than the planned value (2.5 mm day^{-1} in the Huay Luang project (Huay Luang O&M project, 2004), 3.0 mm day^{-1} in the Nong Wai project (Miyazaki, 2002)).

The main and lateral canals, which are officially maintained by each project officer, were kept in good condition. However, the percolations in the paddy fields were higher than the normal criteria of RID, 8-16 km^2 person^{-1}. As mentioned by OED (1996), these results meant that off-farm facilities were better managed than on-farm facilities in the current circumstances in each project. So, on-farm facilities such as paddy fields need land reclamation to the proper level of percolation in order to improve the efficiency in these projects.

The density of gate operators varies according to time and place. In this survey duration, the gate operators were zonemen, whose density was higher than the designed value in each project. However, in order to keep the gate operating schedule on RID (1988), more gate operators are needed. From **Table 2**, the density of zonemen in the Huay Luang project was 7.2 km^2 person^{-1} as that in the Nong Wai project was 1 4.8 km^2 person^{-1}. The density of zonemen in the Huay Luang project was higher than that in the Nong Wai project. In the near future, gate operations will be transferred partially to farmers, so the number of operators will increase. In the Huay Luang project, the total of officers and Integrated Water Users Group (IWUG) leaders are 38 persons, so the density of operators will be 4.2 km^2 person^{-1}.

Model simulation

To estimate the simulation time, the parameters in **Eq. 5** were used with the following values. N_{ope}:1, L: 10000 m, N_G:3, v: 300 m min^{-1} by motorcycle, T_{ope}:10 min. The Huay Luang project had twice as many staff as the Nong Wai project. There were two operators in Huay Luang, so the gate operation on the main canal was isolated from the operation on the lateral canal. On the other hand, there was a sole operator in Nong Wai, who was responsible for both canals.

For evaluating water distribution, four model cases were considered (**Table 4**).

Case 1 was assumed to be ideal management, in which there was a sufficient number of gate operators. This case assumed a situation where operators would increase due to the operation transferring to farmers. Case 2 was the actual situation in Huay Luang project. T_{im} was 30 min and

T_{delay} was 0 min. Seen from a different viewpoint, case 2 means there are enough persons to operate each canal separately in Nong Wai. Case 3 was a moderate operation in Huay Luang (T_{im} = 60 min, T_{delay} = 0 min) or an actual operation in Nong Wai (T_{im} = 0 min, T_{delay} = 60 min) in the case of **Fig. 5 (b-1)**. Case 4 was a more moderate operation in Huay Luang (T_{im} = 120 min, T_{delay} = 0 min) or an actual operation in Nong Wai (T_{im} = 0 min, T_{delay} = 120 min) in the case of **Fig . 5 (b-2)**.

To estimate the value of the distribution water at each gate, the other parameters were given as follows. The time and space steps were set at 30 s and 160 m for these calculations. The value of the upstream boundary condition was changed from 3.9 $m^3 s^{-1}$ to 3.2 $m^3 s^{-1}$, with a maximum flow rate of 6.3 $m^3 s^{-1}$. The value of the downstream boundary condition was kept constant as 1.5 m. The gate opening heights of 1R-L (ϕ =80 cm) and 2R-L (ϕ =80 cm) were changed from 12 cm to 60 cm, and from 35 cm to 0 cm.
The calculation results are shown in **Table 5**. To compare with the equalities of water allocation, two kinds of errors were discussed, which are defined as:

$$\varepsilon_a = \frac{\sum_i |Qc_i - Qd_i|}{\sum_i Qd_i}, \qquad (5)$$

$$\varepsilon_b = \frac{\sum_i (Qc_i - Qd_i)}{\sum_i Qd_i}, \qquad (6)$$

where Qc_i: calculated discharge from gate number i, Qd_i :designed discharge from gate number i.

ε_a is the ratio between the summation of the absolute value of the difference between the design value and the calculated value in each gate, and the total of the design value in each gate. This value means the equality of water allocation within the target area. Meanwhile, ε_b is the ratio between the summation of the signed error value and the total of the design value in each gate. It means the equality of water allocation between upstream and downstream areas.

Absolute error of each gate in the target area, ε_a, was increased by the delay of gate operations. In case 4, the value of ε_a was 6.2 %.

The deviation of total volume upstream from the design volume and ε_b was minimized in case 3, meaning that the operation in case 3 was appropriate for both upstream and downstream farmers in this situation.

If the density of zonemen in Nong Wai is equal to that in Huay Luang, the lateral canal in Nong Wai can be operated the same as in case 2 and the accuracy of allocation ε_a is improved about 2 – 5 %.
On fine days, the error of gate operations was under 6.2% in the target area, and under 1.0% in the downstream areas. So, a delay of gate operations of within 2 hours was allowed in a regular operation. In other words, considering that 1) the target area is located in an upstream area 2) this error accumulates toward the lower reaches and 3) the delay of the operation was over 2 hours, water distribution errors cannot be ruled out.

CONCLUSIONS

This study revealed the following three points:

First, measurements showed that the main and lateral canals which are officially maintained by each project are kept in good condition. Percolations in the paddy fields are higher than the

designed values. This means that off-farm facilities were better managed than on-farm facilities in the current circumstances in each project.

Second, the density of gate operators varies according to time and place. In this survey duration, the gate operators were zonemen. The density of zonemen in the Huay Luang project was twice that in the Nong Wai project. In the near future, gate operations will be transferred partially to farmers, and the density of gate operators will be doubled.

Third, from the estimation of water distribution with operation factor using a new simulation model, it was revealed that 1) a high density of operators causes fewer absolute errors, 2) other appropriate operations favourable for both upper and lower farmers sometimes exist. Using this simulation model combined with human factors clarified the details of water distribution.

These results show that regular gate operation delays on sunny days are not a critical factor for water distribution in this case (under about 6% when an operation delay time is within two hours). However, considering that 1) the target area is located in an upstream area 2) this error accumulates toward the lower reaches and 3) the delay of the operation was over 2 hours, water distribution errors cannot be ruled out.

In the future, this water distribution simulation should be used to estimate the effects of appropriate gate operations in rainy weather. To increase the storage volume for irrigation in the dry season, it is important to consider the effect of gate operations in heavy rains at the end of the rainy season.

ACKNOWLEDGMENTS

This research project was supported by three sources of grant-in-aid: 'Evaluation of effects of global water cycle changes on food production and countermeasures' from the Agriculture, Forestry and Fisheries Research Council, Ministry of Japan; 'Water use and management system of the Mekong River' by CREST through the Japan Science and Technology Agency; and 'Model development for prediction of changes in water resources due to natural variations and human modification in the Asian monsoon region' of Revolutionary Research 2002 of the Ministry of Education, Science, Sports and Culture.

The authors also thank the Royal Irrigation Department staff and the officers of the Huay Luang and Nong Wai projects for their support and cooperation.

REFERENCES

Bos M. G. and Nugteren J. (1990) : On irrigation efficiencies, ILRI.

Duncan, B. (1996) : The EC-MOAC Rural Development Projects: Adapting to social and economic changes. Khon Kaen: NEWMASIP.

Higuchi K., Somura H., Yoshida K., Toda O. and Tanji H. (2004) : Irrigation water distribution in Northeast Thailand, Proceedings of International Conference on Advances in Integrated Mekong River Management 25–27 October, 2004 Vientiane, Lao PDR, 110–114.

Huay Luang O&M project RID Region 5 (2004) : Water planning in the rainy season in 2004 (in Thai).

IPCC (Intergovernmental Panel on Climate Change) (2001): Climate change 2001: impacts, adaptation and vulnerability, technical summary, in Manning, M and C Nobre (eds), Report of Working Group II of the IPCC, 13–16 February 2001, IPCC, Geneva, 28-32.

Miyazaki Y. (2002) : Completion Report Appendices for JICA-Senior Overseas Volunteer Service Work.

Operations Evaluation Department (1996) : Irrigation O&M and System Performance in Southeast Asia: An OED Impact Study Report, the World Bank.

Royal Irrigation Department (1988) : MANUAL ON OPERATION, Operation and maintenance division

U.S. Census Bureau (2004) : International Programs Center, International Data Base.

Vudhivanich, V. (2000) : Development of Water Allocation Strategy to Increase Water Use Efficiency of Irrigation Project, Kasetsart J. (Nat. Sci.) 34, 145 - 158

Yoshino H., et al. (1991) : Study on the Effects of Operating Method for Offtake Regulators Considering Flow-Arrival Time in Huay Luang Project in Thailand, JSIDRE, Vol. 59, No. 4, 11–19.

หน้าว่าง

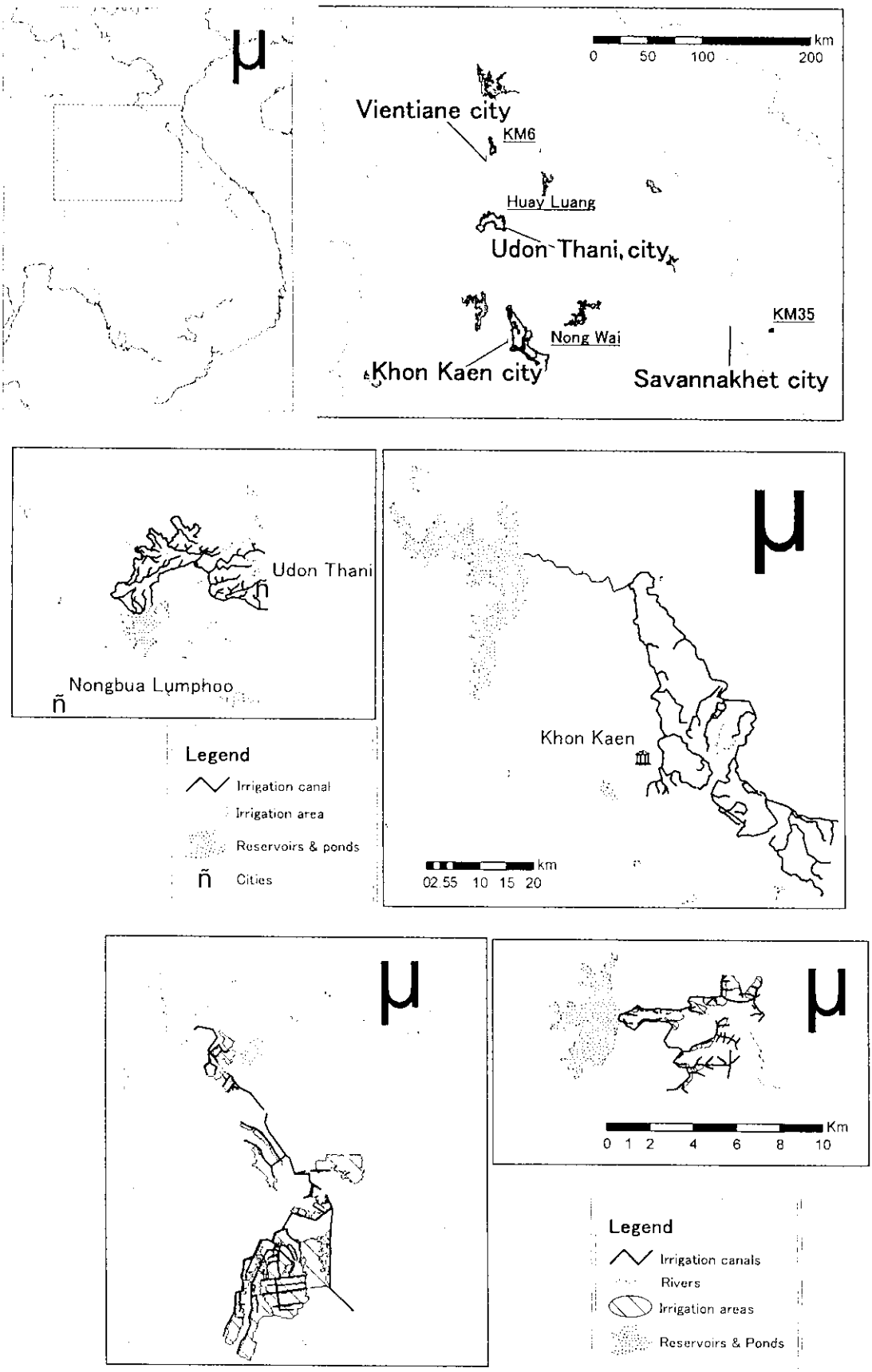


Fig. 1 Study areas

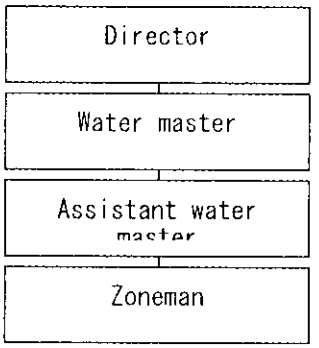


Fig. 2 Official organization chart on water management

Fig. 3 Explanation of mModeling aArea in the Huay Luang project

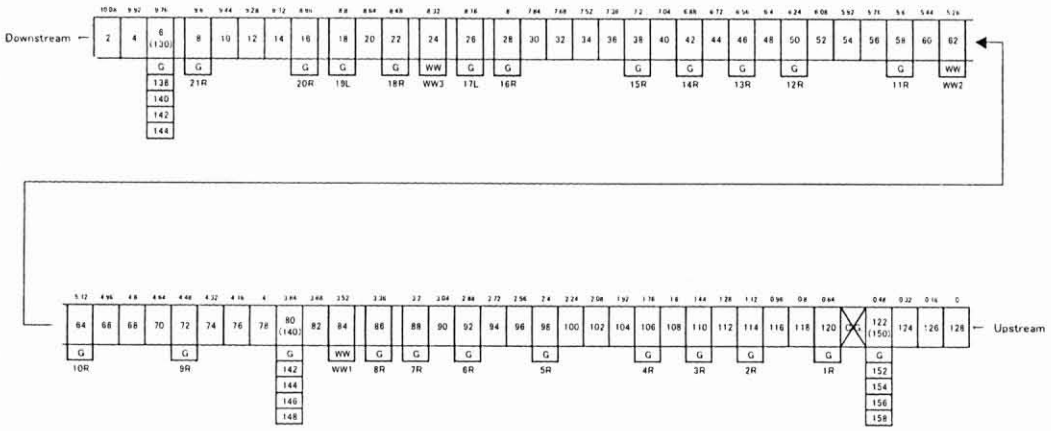
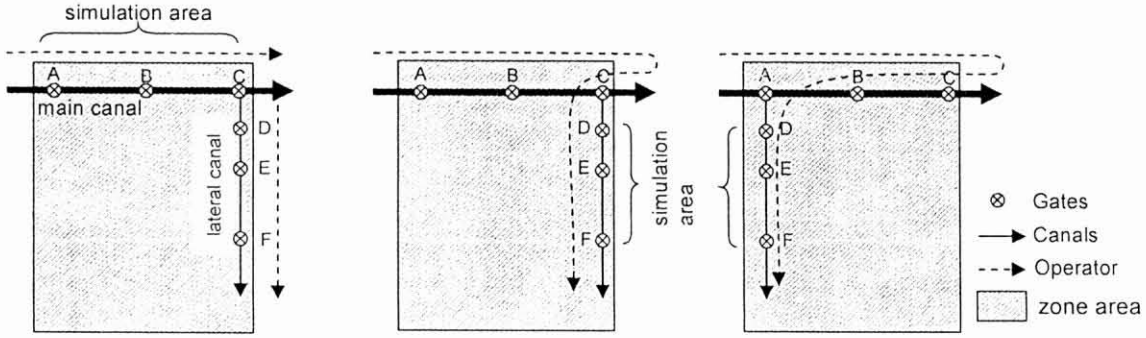


Fig. 4 Grid of simulation model
(WW: spillway, G: gate, R: gate name)



(a) Huay Luang
- two operators

(b-1) Nong Wai
- lateral canal branched from gate C
- one operator

(b-2) Nong Wai
- lateral canal branched from gate A
- one operator

Table 1 Descriptions of study area

		Thailand		Laos	
		Huay Luang	Nong Wai	KM6	KM35
Topology	Location	17.3N, 102.0E	16.7N, 102.8E	18.5N, 102.4 E	16.5N, 105.5E
	Max level (m)	211	196	198	167
	Min level (m)	169	125	163	146
	Average level (m)	184	153	168	157
	Unduration (%)	0.51	0.54	0.74	0.92
Climate	Rainfall (mm/year)	1,308	1,230	1,635	1,384
	Potential Evapotranspiration (mm/year)	1,651	1,697	1,681	1,447
Facilities	Irrigation area (ha)	16,095	41,504	1,200	950
	Effective storage (MCM)	136	2263*	212*	8.9
	Basin area (sq. km)	666	14,000	8,460	31
	Max intake by head work (cms)	12.4	53.0	3.1	1.9
	Total main (km)	81	130	17	10
	Total sub-main (km)	136	380		15

Fig. 5 Differences of gate operations between two irrigation projects

Table 2 Number of organizations in each project

		Huay Luang	Nong Wai
Off-farm	**zonemen** (persons)	21	28
	density (km^2 $person^{-1}$)	7.188	14.823
On-farm	**IWUG** (org)	17	-
	density (km^2 org^{-1})	8.879	-
	WUG (org)	484	890
	Farmers (persons)	6,607	22,939

Table 3 Percolation of each project in rainy and dry seasons

	Huay Luang project				Nong Wai project			
Season	Distance from branch (km)	Percolation (mm day^{-1})	SD	Number	Distance from branch (km)	Percolation (mm day^{-1})	SD	Number
Rainy	0.0 -1.0	14.8	3.57	4	0.0 -1.0	7.9	1.90	5
	5.0 -6.0	3.5	1.47	6	5.0 -6.0	4.1	2.49	6
	9.0 -10.0	1.7	0.71	3	9.0 -10.0	2.8	2.44	4
	Average	6.7			Average	4.9		
Dry					0.0 -1.0	2.4	0.87	6
					5.0 -6.0	5.0	0.36	4
					9.0 -10.0	4.2	1.26	9
					Average	3.9		

Table 4 Gate operation time schedule in each case

		Case1	Case2	Case3	Case4
	Gate operation	Strict Management	Actual Management	Moderate	More moderate
Intake	60% → 50%	9:00	9:00	9:00	9:00
Gate1	15% → 75%	9:00	9:00	10:00	11:00
Gate2	40% → 0%	9:00	9:30	10:30	11:30
Gate3	40% → 40%	9:00	10:00	11:00	12:00

Table 5 Result of water distribution simulation

Diversion ($cu.m\ day^{-1}$)	Designed supply ($cu.m\ day^{-1}$)	Case1 Strict Management	Case2 Actual Management	Case3 Moderate	Case4 More moderate
Gate1	72347	72883 (536)*1	72870 (523)	70127 (-2220)	67486 (-4861)
Gate2	0	118 (118)*1	793 (793)	2100 (2100)	3359 (3359)
Gate3	64112	64383 (271)*1	64379 (267)	64386 (274)	64392 (280)
Total in target area	136464	137385	138043	136613	135237
Absolute error of each gate (ε_a)		925*2 (0.7%)*3	1583 (1.2%)	4594 (3.4%)	8500 (6.2%)
Excess diversion in measurement area (ε_b)		925*4 (0.7%)*3	1583 (1.2%)	154 (0.1%)	-1222 (-0.9%)

Dam it! How National and Transnational Civil Society Actors Influence Domestic Environmental Policy-Making in China: A Case Study of Damming the Nu River in Yunnan Province

Erik Nielsen (nielsen1@mit.edu)[10]
Massachusetts Institute of Technology
Department of Urban Studies and Planning, Environmental Policy Group

I. Introduction: Dams and People

Millions of people worldwide are facing serious threats to their livelihoods and cultures due to the construction of large dams. Intended to boost development, these projects have often led instead to further impoverishment, degraded environments and human rights violations. An estimated 40-80 million people have been forcibly evicted from their lands to make way for dams. Evidence shows that these people have often been left economically, culturally and psychologically devastated (Dore & Yu, 2004; International Rivers Network, 2004a; World Commission on Dams, 2000).

In November 2000, the World Commission on Dams (WCD) released a highly critical report showing that dams have generated less power, irrigated less land and supplied less drinking water

*1 Difference between design value calculated value
*2 Summation of the absolute value of the difference in each gate
*3 Ratio between the amount of error and the amount of supply
*4 Summation of the value of the difference in each gate

than projected (World Commission on Dams, 2000). Significant social and cultural impacts are associated with dam construction and operation that overlap the resettlement planning and environment impact assessment activities. For example, established communities that must be resettled are disrupted; communities which must host those being resettled are strained; or competition for land and natural resources is increased in resettlement areas. Furthermore, resettled communities often must change their means of livelihood and resettled communities suffer material hardship particularly if they are poor (Fuggle & Smith, 2000).

China is a case where dam construction has been pursued with particular vigor. Today there are more than 20,000 large dams (higher than 15 meters) in China, more than any other country in the world. In most cases the dams have had destructive social consequences including the forced resettlement of over 10 million people (International Rivers Network, 2004a). The Three Gorges Dam is perhaps the most infamous of dam construction projects in the world, the subject of intense and bitter international debate. Upon completion it will be the world's largest hydroelectric project with its main walls reaching 185 meters tall and stretching almost two kilometers across, creating a 600 kilometer long reservoir (Qing, 1998).

One of the most recent and contentious cases of dam building in China is on the Nu River, known as the Nu Jiang in Mandarin, located in a remote part of Yunnan Province. The Huadian Corporation, in collaboration with the Nu Jiang Prefecture government, submitted and received initial approval to construct 13 dams throughout the Nu (Dore & Yu, 2004). Although the Nu

[10] The author would like to thank Larry Susskind for his comments on previous drafts of this paper.

project is well known to different constituents in Yunnan and China, it gained international attention when *The New York Times* published a front page article highlighting how the proposed dams will threaten one of China's most sensitive environmental areas, protected as a UNESCO World Heritage Site, and displace as many as 80,000 people, mostly ethnic minorities (Yardley, 2004b). Until publication of this article the situation of the Nu River had barely been noticed outside of China's borders. Following extensive debate among multiple stakeholders, including numerous domestic and regional non-governmental environmental organizations, on April 1, 2004, China's Premier, Wen Jiabao, ordered a temporary halt to the proposed Nu River dam project (Yardley, 2004a). Wen demanded an environmental impact assessment of the hydropower project be undertaken before any construction could begin. The Premier stated that environmental considerations and objections must be reviewed and fully assessed before the project could commence (Yardley, 2004b). The most unique aspect that affected the Premier's decision-making process to halt the proposed dams was the extensive role domestic and international environmental civil society played.

In the case of the Nu River project, there are multiple stakeholder groups with substantially different interests over how the river should be managed. Some of the key stakeholders include the private company that will construct the hydropower dams; local ethnic communities who would be subjected to resettlement; the Nu Jiang Prefecture and Yunnan Provincial Governments that argue the project should move ahead on the grounds that the tax revenue will provide jobs and raise incomes in one of China's poorest regions; SEPA, the national government authority responsible for environmental oversight in China; UNESCO, the United Nations agency that declared the area a World Heritage Site in 2003; and local Yunnan research agencies and universities.

The underlying premise of this paper argues that in order to effectively develop local or national environmental policies, Chinese policy and decision-makers must recognize and include a greater constituency of stakeholders more meaningfully in decision and policy-making processes over the management and use of natural resources. Each stakeholder group has a particular social, cultural, economic and/or political interest related to the use, access and management of the Nu River and in most instances these are considered to be incompatible. The proposed construction of the Nu hydropower dams did not consider the diverse interests of the range of stakeholders involved, and it was the intense public debate among these groups that contributed to the temporary construction halt ordered by Premier Wen.

The focus of this paper is not about how to best protect the natural environment, the social welfare of marginalized groups, or whether hydropower development in China should be abandoned for alternative forms of energy generation. Through an analysis of the Nu River case, this paper will specifically examine the failure of Chinese government decision and policy-makers to appropriately anticipate and subsequently address the role and influence of domestic, regional and even international civil society actors. This paper analyzes a unique, but increasingly common, situation in which national policy-makers must recognize that the 'public' is no longer defined solely by domestic interests, priorities and political boundaries. Hydropower development is particularly sensitive in the Greater Mekong Sub-Region (GMS)[11], with many projects responsible for historic and ongoing political tension in the region.

Given the permeable nature of environmental and ecological 'borders' a profound need to alter sovereign policy and decision-making models to incorporate a more robust and integrated definition of 'public' has emerged. In the Nu River case, the local 'public', initially ignored by

[11] Countries in the GMS include Cambodia, Thailand, Lao PDR, Burma, Viet Nam and Yunnan Province in China.

Chinese policy-makers, now extends to include the citizenry throughout Yunnan Province and the broader Chinese public at large, but also includes the downstream 'publics' of Burma and Thailand.

This paper presents the case of the hydropower dam development on the Nu River and the growing diversity of stakeholders involved with the project; an analysis of how the Chinese policy-making process evolved as greater constituents or 'publics' became engaged in the decision-making process; and how this policy-making process failed to effectively adapt so government decisions could be sustained and ultimately implemented. This case is emblematic of China's ongoing challenge to balance economic growth with environmental protection, the blurring of roles in public-private partnerships, the state's decision-making, approvals and compliance processes; and developing a modern system for environmental governance.

II. Case Study: Damming the Nu River

In late 2003 a small group of stakeholders composed of different levels of the Chinese government and a private construction company proposed to build 13 hydroelectric dams on the Nu River located in China's Southwest Yunnan Province (Dore & Yu, 2004). Initially the case was unknown even within China, but with the actions of Chinese environmental non-state actors and the media, the case has emerged as a source of significant opposition against the Chinese governments' development strategy. The key drivers for dam construction are China's increasing demand for energy, political concerns related to domestic energy security, and China's 'Go West' strategy.

Phase I: Hydroelectric Dams Proposed – Setting the Context

Energy demands of China's rapidly industrializing economy have soared in recent years, outstripping available supply making China's leaders nervous about how to satisfy future energy needs (Dore & Yu, 2004; Three Gorges Probe, 2004). The *China Daily* quoted Zhang Guobao, vice-minister of the National Development and Reform Commission, stating that "China will require a power supply of 11,000 billion kilowatt hours by 2020, needing generating units with a total capacity of 2,400,000 megawatts (China Daily, October 19, 2004). As China, and Yunnan in particular, further integrates into the economic and social 'corridor' of the GMS, and beyond into Southeast Asia, there will be increasing pressure to develop and exploit the natural resource base in Yunnan to provide impetus to the regional economy. Aggressive hydropower expansion is a part of China's national development plan and energy strategy (Dore & Yu, 2004).

The Nu River is mainland Southeast Asia's longest undammed river, travelling from the Tibetan Plateau through Yunnan Province, the Shan and Kayah states of Burma, along the Burma-Thai[12] border and eventually flows into the Indian Ocean. The Nu is known as China's 'Lost Eden' because of the pristine environmental conditions found in one of the world's deepest canyons. Given the regions unique ecological and biological qualities, the site was declared a Natural World Heritage Site by UNESCO in July 2003 (UNESCO, 2003). In the Nu's mid and lower reaches, the total drop is 1,578 meters over a distance of 742 kilometers, which makes the river an ideal location for hydropower plant development (China Daily, April 29, 2004; www.nujiang.ngo.cn, 2004).

The Huadian Corporation, in collaboration with the Nu Jiang Prefecture government, submitted and received initial approval in mid 2003[13] to construct 13 hydroelectric dams throughout the Nu (Dore & Yu, 2004). The projects primary goal is to generate additional electricity to satisfy China's rapidly growing energy demands. The proposed dams would have a total generating

[12] The Nu River is known as the Salween after it flows out of Yunnan Province into Burma and Thailand.

[13] The exact date when approval was granted is not known. Reports in various newspapers indicate it was sometime in mid 2003.

capacity of 21 million kilowatts according to state media reports (China Daily, April 29, 2004; International Rivers Network, 2004b; Shanghai Daily, 2004). This figure represents 30 percent more generating capacity than the massive Three Gorges Dam (InterPress Service, October 12, 2004).

The dams would be a joint venture between the Yunnan Provincial government and the Huadian Corporation, a subsidiary of the power giant China Huaneng Group, the country's largest independent power producer (InterPress Service, October 12, 2004). Furthermore, China Huaneng Group is managed by Li Xiaopeng, the son of former Prime Minister Li Peng, who oversaw the massacre at Tiananmen Square and was the driving force behind the development of the Three Gorges Dam (InterPress Service, October 12, 2004).

The Nujiang prefecture government is eager to build the dams, believing it is the only way to lead the region to economic prosperity. Over 10 million people from at least 13 different ethnic groups including the Nu, Lisu, Shan, Wa, Kayah and Arakan rely on the Nu River to support their livelihoods (SEARIN, 2004). The region, with mountains covering almost the entire area, is one of China's poorest regions, with the majority of the people in the prefecture area eking out subsistence lives[14]. In the Nujiang prefecture, 92 percent of the population is composed of ethnic minorities.

The director of the Nu River Power Bureau, Li Yunfei, was quoted in Hong Kong's *Ta Kung Pao* newspaper on April 9, 2004 stating "Our government, together with the 490,000 Lisu minority people living in the canyon, are looking forward to a chance to becoming well-off, just like the rest of the country" (International Rivers Network, 2004b). However, in order to construct the proposed cascade of 13 hydroelectric dams, estimates range that approximately 50,000 (Shanghai Daily, 2004; Yardley, 2004b) to 80,000 (InterPress Service, October 12, 2004) local ethnic minority inhabitants will have to be relocated.

Phase II: Chinese Environmental Non-State Actors Engage

In order to further contextualize the development of the proposed hydroelectric dams on the Nu River it is necessary to provide a brief background to China's non-state sector, and specifically, the growth of the environmental non-state sector in Yunnan Province where the Nu River flows. Although China maintains relatively extensive controls over the registration and organization of non-state organizations, the state has provided environmental groups with greater flexibility and opportunity to operate.

China's Non-State Sector

The current context for non-state organizations in China is extraordinarily complex (Qiusha, 2002; Ru & Ortolano, 2004). The attitude of the state in many ways determines the 'political space' for non-state organizations to exist and operate and is still limited, while the 'economic space' (based on the need to reallocate resources) has opened wide for these same groups to flourish. Even though the growth of the non-state sector has surged in the last few years (China Development Brief, 2001; Economy, 2004; Ho, 2001; Yang, 2005), the state remains the most important and decisive factor in the development of the non-state sector. The state has so far appeared unwilling to release fully independent, bottom-up social forces. However, this will likely evolve as China continues to open its economic, social and political borders.

[14] The annual per capita income averages only 925 yuan (US$113), far below the 2002 national average of 2,253 yuan (US$ 272) for rural inhabitants (Shanghai Daily, 2004), compared to 14 864 yuan for Kunming residents (Statistical Bureau of Yunnan Province, 2003).

However, the environmental sector has witnessed a significant boost in its relevance and importance over the past decade (Adams, 2005; Ho, 2001; Shapiro, 2001). Some of the most visible non-state organizations today specialize in environmental issues. Some scholars argue that they have appeared due to current environmental conditions and increased levels of 'environmentalism' in China (Yang, 2004a, 2004b). Others argue they have arisen due to China's environmental history and the lack of respect Chinese people developed toward the environment (Shapiro, 2001), and still others argue the environmental non-state sector has evolved, even flourished by some accounts, because the state does not view their activities as socially threatening and the government appears fully aware of the need to educate the 'masses' (China Development Brief, 2001; Ho, 2001). The fact remains that they exist and they are striving to improve China's environmental conditions.

The Environmental Non-State Sector in Yunnan Province

The group of non-state actors that tackle environmental issues in Yunnan Province represent the most vibrant sector in China's 'civil society' arena (Cooper, 2003). The environmental non-state sector in Yunnan enjoys considerable breadth of political freedom compared to other non-state groups operating in the country, with discernable scope for engagement in the areas of social outreach, networking, and the crafting of policy recommendations (Cooper, 2003).

The non-state sector in Yunnan is perusing an agenda to improve the environmental governance of the province's natural resource base, often serving as a bridge between local resource dependent people and government management authorities. Therefore in order to influence public policy over the management of natural resources, the environmental non-state sector in Yunnan employs two major and distinct strategic advocacy approaches: a *research oriented* advocacy strategy and an *action oriented* advocacy strategy (Nielsen, 2005 (forthcoming).

The proponents of the action oriented strategy believe alternative less assertive advocacy approaches will yield limited results given the historical and contemporary domination of the one-party state. Moreover, the action oriented strategy asserts that the project based orientation utilized by the research oriented approach will likely not translate into improved livelihoods for local communities. The 'activist' sector argues that in order to offer local people real opportunities to participate in natural resource decision-making processes and provide them with the space necessary to voice their own opinions, direct action is the only strategic option to engage the state.

Although considered to be one of best developed regions in China for non-state actors to operate, it is critical to highlight that the non-state sector in Yunnan is still in the process of maturing. The sector has been the recipient of significant international donor attention that led to its robust development through the introduction of new methodologies such as participatory rural assessment, ongoing institutional capacity building, and foreign educational training. Despite this engagement, it has taken almost a decade for the fruits of donor's interventions to take root. Nonetheless, this has created a climate for growth and is responsible for the vibrant action of the numerous non-state organizations working in the province today.

Environmental Non-State Actors and the Nu River Dams

As the Nu hydropower project proposal became clearer in the early months of 2004, the development planning process entered into the public domain – beyond the narrow collection of officials and business operatives that had been engaged. Given the growth in environmental non-state actors in Yunnan Province over the last decade, particularly the increased visibility of an 'activist' sector, employing more direct and assertive tactics of engagement, "civil society" quickly engaged in the Nu River hydroelectric controversy. Yunnan's activist environmental non-state sector quickly acted to raise awareness not only throughout Yunnan, but across China, to inform the

general public of the proposed hydroelectric dams, but also the potential environmental and social consequences the construction project would have on the region and its residents.

Environmental organizations based in Yunnan and Sichuan Provinces, as well as in Beijing, were instrumental in campaigning against the Nu River dam project by convening public seminars, speaking on radio and TV talk shows and petitioning Chinese government leaders and the National People's Congress, the country's top legislature. These groups, including Green Earth Volunteers and Friends of Nature based in Beijing; Green Watershed in Yunnan, and Green Kangba and Green Rivers Environment Promotion Society in Sichuan; engaged the Chinese public to educate them about the negative consequences of the proposed hydroelectric development.

These environmental organizations were particularly effective in mobilizing Chinese media to take up and promote their cause. In recent years the media has been able to publicly discuss environmental degradation and pollution issues and even criticize the government with increasing freedom (Economy, 2004; Nielsen, 2004b; Yang, 2005). Ms. Wang Yongchen, a leading senior environmental reporter with China National Radio, with over 500 million listeners, argued that although the legal system may not be able to effectively address environmental problems, the media is now in a position to create public awareness to mobilize action (Nielsen, 2004b). In the case of the Nu River project, Wang reported widely on the issue including the specific actions that Chinese environmental organizations were taking. Furthermore, in early March 2004, Central China Television (CCTV) prepared a 45 minute television documentary that highlighted the Nu debate; the program was shown nationally three times during prime time (Dore & Yu, 2004).

Green Watershed, a local environmental non-state organization based in Kunming, the capital of Yunnan Province, was instrumental in raising public awareness of the Nu project. In November 2003 Green Watershed used its regular environmental networking forum to share information about the Nu project, raise public awareness, and stimulate debate (Dore & Yu, 2004; Nielsen, 2004a). The forum itself is a unique process to engage local citizens and promote a forum for public participation. In particular, the activism of Green Watershed was specifically featured in the nationally televised CCTV documentary program.

In addition, on May 24, 2004, Green Watershed facilitated a unique exchange process where residents from the Nu valley area were brought together with residents from the area where the Manwan dam was constructed on the Lancang River. Construction began on the Manwan dam in 1986 with the promise to improve the livelihoods of local residents. Although it brought significant economic benefit to the Yunnan power company and government coffers at the central, provincial and local level, none of these gains were ever realized by local residents. The purpose of the meeting was for local Nu valley residents to hear personal accounts by other dam affected people in China of how they were negatively impacted. Residents from the Manwan dam area recounted their personal experiences of how they were displaced after the dam was built, left with no land to farm and how their per capita income dropped significantly. After spending two days listening to the Manwan migrants, the Nu valley residents had a clearer appreciation of how the Nu dams could negatively impact them and their future. The forum was an opportunity for 'horizontal' learning, sharing and exchanging.

On June 30, 2004 a group of 43 representatives from 23 environmental non-state organizations and research organizations from across China participated in a symposium on dam

development and biodiversity conservation. Afterwards, the participants drafted a letter[15] to the 28th Session of the World Heritage Committee[16], which was being held the same weekend in Suzhou city located in Jiangsu Province, to call on the Committee to act over the proposed dam developments on the Nu River. The signatories argued that dams will destroy the authenticity of the World Heritage Site and called upon UNESCO to take decisive action. In addition, the letter included lessons learned from the construction of dams on the Mekong and Jinsha Rivers, emphasizing that the large dam projects on these rivers created serious environmental and social impacts. The work of the Chinese non-state community continues to this day.

Phase III: Role of Transnational Civil Society

Governments and businesses no longer hold a monopoly on environmental decision-making. Civil society has emerged as a 'third force' and the growing influence of these non-governmental groups is one of the most dynamic changes in environmental governance today (Tamiotti & Finger, 2001; UNDP, UNEP, The World Bank, & WRI, 2003; Wapner, 1995, 1996). This sector has the ability to shape public opinion, provide new information, and mobilize political action. However, in the case of China, civil society remains under the watchful eye of the state, and their actions can quickly be curtailed, even repressed.

The world has become more 'global' and inter-connected in recent years, where networking among different actors has become increasingly common (Brown, 2002; Kaldor, 2003; Mathews, 1997). Domestic and international non-governmental actors are critical components of this process. Transnational advocacy networks are the most influential configuration of non-state actors (Khagram, 2004; Khagram, Riker, & Sikkink, 2002). Networks are sets of actors linked across country boundaries, bound by shared values, dense exchanges of information, and common discourses (Keck & Sikkink, 1998). International and domestic NGOs play a prominent role in these networks (Kaldor, 2003; Keck & Sikkink, 1998). Major actors can include 1) international and domestic nongovernmental research and advocacy; 2) local social movements; 3) foundations; 4) the media; 5) churches, trade unions, consumer organizations, and intellectuals; 6) parts of regional and international intergovernmental organizations; and 7) parts of the executive and/or parliamentary branches of government. Keck and Sikkink argue it is international and domestic NGOs that "play a central role in all advocacy networks, usually initiating actions and pressuring more powerful actors to take local positions. NGOs introduce new ideas, provide information, and lobby for policy changes" (Keck & Sikkink, 1998). In the case of the Nu River hydroelectric project, numerous NGOs and international organizations based outside of China became actively engaged.

Advocacy organizations engaged in the Nu River case can easily be described as members of transnational civil society. Some of the transnational organizations involved include the International Rivers Network (IRN), Oxfam America, Greenpeace International, Conservation International, River Watch East and Southeast Asia (RWESA), and the Southeast Asia Rivers Network (SEARIN). Each of these organizations have contributed by directly supporting domestic Chinese non-state actors, networking with other China or GMS based organizations, coordinating international petitions or raising international awareness via the media in different countries. It is unrealistic to assume civil society in authoritarian states, at least in the short-term, can bring about a watershed change. However, transnational advocacy organizations, working with local Chinese non-

[15] Refer to http://www.mekonginformationcenter.org/yinwenxiaoye/egmainpage/egjingqihuodong/aletter.htm for a more detailed description of the letter.

[16] Refer to http://www.china.org.cn/english/features/world_heritage/98948.htm for additional background information on the 28th World Heritage Committee.

state constituents, were able to impact the Nu River process and the following accounts provide evidence of this.

On December16, 2003, the Southeast Asia Rivers Network (SEARIN), an environmental NGO based in Chiang Mai Thailand, sent a petition[17] signed by 83 organizations from Thailand and Burma to China's ambassador to Thailand, copied to Thailand's Minister of Natural Resources and Environment. The petition specifically requested the Chinese government to suspend the project immediately and "before making decisions on the dam projects, there should be consensus among the riparian countries on the terms of environmental and social impact assessments, ... and reparation or compensation for negative downstream impacts. Environmental and social impact assessments should be comprehensive, including meaningful public participation, and should be carried out according to international standards[18]."

On January 28, 2004, the International Rivers Network (IRN), a California based nonprofit organization of activists that supports local communities working to protect their rivers and watersheds, sent a letter to Francesco Bandarin, Director of UNESCO's World Heritage Centre, expressing serious concern over the proposed Nu hydroelectric project, noting that nine of the 13 proposed dams fall within the World Heritage Site. On 17 February, 2004, Bandarin responded to IRN, with copies sent to the Chinese Permanent Delegation to UNESCO and the Chinese National Commission for UNESCO, stating they would take the matter up directly with the Chinese authorities[19].

On March 4, 2004, IRN sent a petition to the President of China, Mr. Hu Jintao, to express their serious concerns to develop the hydroelectric dams on the Nu River[20]. IRN requested that the Chinese government suspend the project plans immediately in the UNESCO World Heritage area. In addition, IRN requested that if the "Chinese government wants to construct dams on the Nu River outside of the World Heritage Area, that comprehensive environmental and social impact studies are completed before construction and implementation, to determine if the projects are economically, socially and environmentally acceptable" (International Rivers Network, 2004c). The particular unique aspect of this letter was not only did it originate from a non-Asian based NGO, it included signatures from 76 organizations representing 33 different countries from six continents. The Nu River hydroelectric development project was clearly no longer a domestic policy issue for China. The petition specifically stated the signatories were deeply concerned that the decision to proceed "is being made without consultation with downstream riparian residents" (International Rivers Network, 2004c).

Outcome:

Based on the active engagement of domestic environmental non-state organizations based in Yunnan and China, NGOs in Thailand, civil society and international groups from around the globe, as well as international media coverage particularly from the influential *The New York Times* and the *British Broadcasting Corporation*, on April 1, 2004 Wen Jiabao, China's Premier, ordered a temporary suspension to the 13 proposed Nu River hydroelectric dams. The Premiers intervention

[17] Refer to http://www.searin.org/Th/SWD/SWDletl2.htm for a copy of the petition.

[18] Letter written by Mr. Chainarong Sretthachau, Southeast Asia Rivers Network, Chiang Mai, Thailand on 16 December 2003 to China's Ambassador to Thailand entitled "Petition to China for 83 Organizations from Thailand/Myanmar on Upper Salween Dam".

[19] Refer to http://www.nujiang.ngo.cn/Chinese/Docs/Cat08/017.doc for a copy of the letter sent by Director Bandarin to IRN.

[20] Refer to http://www.irn.org/programs/nujiang/nu_hujintao_letter.pdf for a copy of the letter sent from IRN to President Hu Jintao.

signaled a rare response from a non-democratic government that historically had little interest in the environmental impacts of large infrastructure projects or the actions of non-state organizations. Wen ordered a major review of the proposed hydropower project. He was widely quoted calling for balanced development that minimizes environmental and social damage, and that the large dam plan should be reviewed and decided scientifically (Watts, 2004; Yardley, 2004a). The Premier stated that the hydroelectric projects such as the proposed Nu River dams have aroused a high level of concern in society, and with which the environmental protection side disagrees (Yardley, 2004a).

Environmental groups from around China and throughout the world quickly praised the Premier's decision stating that his action demonstrated a positive shift in how China can balance economic development with environmental and social concerns. For example, Greenpeace International submitted a letter[21] to Mr. Wen expressing gratitude for suspending the controversial project on the Nu River and argued that more integrated approaches of development must be pursued in order to benefit local communities. The letter was likely intended to signal to the Chinese leadership that Greenpeace was aware of the dam proposal and would be willing to further address the matter if necessary.

Despite the Premier's action, it is still far from certain how long this delay will last and ultimately, whether the construction project will go forward, particularly since the Nujiang Prefecture government continues to actively promote the hydroelectric proposal[22].

III. The Policy Making Process: Implementing Reform

The central focus of this paper provides an analysis of the Chinese governments' decision and policy-making process and how, in the case of transboundary environmental matters, it must shift course to better address and accommodate an increasing array of influential stakeholders, located inside and outside of China's political boundaries. The next section therefore overviews an interactive policy-making model in relation to China's bureaucratic decision and policy-making process.

An Interactive Policy-Making Model:

Agenda setting and decision-making are the first stages of any policy-making process. What activities and programs will the government focus on, how issues are prioritized, how will decisions be sustained and carried forward are important areas of the policy-making process. However, the process of implementing and sustaining a particular decision can often be the most complex and difficult components of the policy-making process (Grindle & Thomas, 1991). Therefore, in order to assist policy-makers to better and more effectively implement new policies, Grindle and Thomas developed a model of policy implementation that anticipates reactions to change, considers prospects for sustaining a reform through implementation, and assesses whether the resources to implement it exist or need to be redressed (Grindle & Thomas, 1991).

Grindle and Thomas state that the implementation phase is the most critical, and frequently the most overlooked, phase of the policy process. They argue that the policy-making process is significantly shaped by the actions of individuals and organizations in strategic locations to influence a particularly policy income. Thus it is critical to consider the feasibility of policy implementation "in terms of support and opposition to change, what stakes they and the government they serve have

[21] Refer to http://www.greenpeace.org.hk/eng/document/Gerdletter_Wen_Nujiang_04_04_15.pdf for a copy of the letter written by Dr. Gerd Leipold, Executive Director, Greenpeace International.

[22] A follow-up news articled published by *The New York Times* on 03 January 2005 by Jim Yardley stated that officials in Yunnan Province are continuing with plans to examine the feasibility of constructing the Nu River dams.

in the pursuit of reform, and the political and bureaucratic resources need to sustain such initiatives" (Grindle & Thomas, 1991). Based on these assertions, Grindle and Thomas developed an interactive model[23] that acts as a decision-making tool for policy-makers to determine how to move forward and best implement a specific policy agenda.

In general there has been a separation between the policy agenda setting phase and the implementation phase by decision-makers to move a new policy forward. The model presented suggests that decision-makers need to anticipate the reactions and responses, whether positive or negative, from different stakeholders and to develop appropriate responses. The policy-makers response will take place either in the bureaucratic or public arena, depending on the specific characteristics of the policy proposal. The confluence of different arrangements and characteristics tends to generate a reaction in one of the two arenas.

Five categories were identified that shaped either a public or bureaucratic response. In situations where the *dispersion of costs* directly impact the public or important groups in society, opposition will likely emerge; whereas in situations where the costs are concentrated to affect the government budget or government institutions, any resistance will likely develop in the bureaucracy. If the *concentration of benefits* is concentrated with the government, the benefits are not likely to be directly felt or appreciated by the public. For example, if a government ministry is reformed, the long-term benefits will (hopefully) eventually accrue with the public, but in the short-term the bureaucracy must manage the reorganization process. Third, the *administrative and technical content* of the policy will also determine whether the response is concentrated in the public or bureaucratic arena. If a policy change is technically complex, the public is unlikely to be immediately affected by its implementation since it will require the coordination of government officials. Likewise, if the policy does not require highly technical skills or administrative infrastructure to sustain it, any reaction will be quickly forthcoming from the public. Fourth, if *public participation* or involvement is required to carry out the policy initiative, it will increase overall visibility, and a reaction in the public arena is more likely. If public participation is not required or is limited, the policy response will be concentrated within the bureaucratic arena. And fifth, the *duration* of the policy process is relevant in determining a reaction. If the impact of the policy is immediately visible the response will be more public. If the policy will be implemented over a longer period of time, then it is more likely the response will be determined by government officials.

In addition, to build support and legitimacy for a policy, participation of an array of stakeholders is critical, including both those who support a proposed policy initiative and those that oppose it. Participation is an essential ingredient in effective policy-making processes, but also a vital feature of democracy itself (Brinkerhoff & Crosby, 2002). Throughout the world, citizens representing a multitude of stakeholder interests have organized to expand their influence on the policy-making process. Those groups that support a policy initiative must be brought on board to strengthen the process and those groups that oppose the initiative must be accommodated in some manner to sustain any policy decision and eventually implement it. The support of these groups often can be crucial, and without it, policy implementation can become divisive (Moore, 1995). Effective participation of stakeholders, even in non-democratic countries such as China, is required otherwise there can be loss of an agenda, ability to sustain a decision, and subsequently implement it (Brinkerhoff & Crosby, 2002).

[23] Refer to Public Choices and Policy Change: The Political Economy of Reform in Developing Countries, by Merilee S. Grindle and John W. Thomas, The Johns Hopkins University Press, 1991, page 127, for a complete schematic of the interactive model of policy implementation.

Chinese government agenda-setters and policy-makers did not anticipate and subsequently address the domestic opposition to the Nu River hydroelectric project led by non-state organizations, nor did they recognize the importance of external non-governmental and other international groups and their ability to influence a domestic policy agenda. Based on these failures, the Chinese government was forced, at least temporarily, to halt the Nu River hydroelectric project.

The next section will specifically analyze how the decision and policy-making process evolved over the three development phases of the Nu River hydroelectric project and highlight how the Chinese government failed to effectively adapt its decision-making process.

Phase I:

During the first phase of project development the decision to construct 13 hydroelectric dams was designed by a relatively narrow group of stakeholders. The primary stakeholders included the Nujiang Prefecture government, the Yunnan Provincial government (including the Yunnan Development Planning Commission), the central Chinese government (including the National Development and Reform Commission), and the Huadian Corporation. Except for the private company that would build the dams, all of the projects proponents present at this initial stage were representatives from various bureaucratic agencies.

They collectively argued the key determinants of the agenda setting phase consisted of China's growing domestic need for energy (preferably non air polluting sources such as hydropower), the private sector's profit-making motives, the Nujiang local governments claim that the project is the only way to lead the region to economic prosperity, and the central governments plan to 'Develop the West'. Together this limited group of stakeholders set the agenda to construct the dams and address, in part, China's looming energy crisis.

After the initial stage of identifying the key issues and setting a policy agenda the decision was made to proceed with the construction of 13 hydroelectric dams. At this stage, the policy characteristics of the decision dictated that the policy-making process focus within the bureaucratic arena. The concentration of project costs would be born by various government agencies and the Huadian Corporation, with no costs to be directly or immediately felt by the Chinese public. Dispersion of benefits was broad and will only be visible to the public in the long-term, with all administrative and technical content managed by the bureaucracy and private sector. No public discussion of the proposed project took place, and given China's top-down policy-making process it was not deemed necessary to seek public agreement or input at any level. Given the presence of these policy characteristics at this stage, any further discussion or refinement of the proposed hydroelectric project remained firmly rooted within the bureaucratic decision-making arena.

Phase II:

At this stage the issues had been prioritized, a policy agenda had been set, support had been secured from key government agencies, and the decision was made to build 13 dams on the Nu River. However, the stakeholders present during phase I did not effectively anticipate the full complement of possible (and probable) new stakeholder arrangements. As the projected progressed cracks began to emerge in the policy making process.

The key stakeholders during phase II of the project's broaden to include the State Environmental Protection Agency (SEPA), academics from various research institutions and universities around China, including the elite Chinese Academy of Sciences; numerous

environmental non-state organizations based in Beijing and Yunnan, dam affected local communities in the Nu valley and the broader Chinese public.

During phase II of project development, a growing array of vocal domestic stakeholders emerged and become involved in opposing the project. Although each group presented different views of why the project should be stopped all together, or at least that the government should demonstrate it was environmental and socially sustainable, there was consensus that the project had been fashioned in a top-down, non-participatory manner. It quickly became clear that as a wider diversity of stakeholders emerged, discontent became a serious problem for government decision-makers to contend with. By examining the five categories proposed by Grindle and Thomas that shape a policy response it becomes evident that the decision-making process to sustain the policy decision was shifting from the bureaucratic to the public arena. The dispersion of cost was now seen as being shared unfairly by poor residents in the Nu valley region. Up to 80,000 local residents would to have to be relocated to accommodate dam construction; this was deemed by local non-state actors and residents as an inappropriate and unreasonable cost and served to fuel opposition. The concentration of benefits was now seen by the new collection of stakeholders as being disproportionately horded by government and private sector interests. How would local residents benefit? How would the natural environment benefit? It was not clear to them how the long-term benefit of addressing China's energy crisis, which was less apparent in Yunnan province than China's industrialized energy consuming eastern regions, would benefit local residents. Closely linked to this was the continued lack of stakeholder participation. Although common in Chinese decision and policy-making processes, the government could not demonstrate that it had even consulted additional groups beyond the usual collection of officials.

Given that the decision and policy-making process had now shifted from the bureaucratic into the public arena, there was a growing need for government decision-makers to demonstrate that the proposed project was legitimate. Sources demanding policy change had emerged and therefore there was increased pressure on the dam proponents to demonstrate that the project should be considered valid and desirable; however, this was never addressed. Since the proposed policy was considered highly contentious by the new stakeholders, it became extremely important for the initial group of stakeholders to equivocally demonstrate the feasibility of the project, including an evaluation of the environmental and social impacts of the dams. They were unable or unwilling to do so.

This is coupled with the failure of the stakeholders present in phase I to attempt to build some sort of relationship with the growing constituency of stakeholders in phase II. Although China is a one party quasi-authoritarian state, with no need to engage in multi-stakeholder dialogue processes, none-the-less it severely miscalculated the role and influence of non-state organizations, particularly in collaboration with the media, to mount such effective opposition to the Nu river dam project. China is a powerful regime with a weak civil society, yet the government did not anticipate the shift in the environmental advocacy actions of the non-state sector.

Phase III:

By this point in the process, the policy debate had now broadened even further and become significantly more complex. 'Public' had become enlarged to not only incorporate the Chinese domestic public, but downstream 'publics' in Thailand and Burma, and the even larger 'public' that is composed of the readers of *The New York Times* and the international advocacy partners of International Rivers Network, Greenpeace and Oxfam America.

The key stakeholders of the hydroelectric project increased during this phase to include all of the stakeholders active in phase I and II, UNESCO, various downstream NGOs, the general public in Thailand, international non-governmental organizations outside of Asia and their respective audiences. The expanding role of non-state actors, including NGOs and International NGOs, have become highly influential over state policy-making processes (Florini, 2000; Keck & Sikkink, 1998; Wapner, 1996, 1997) The additional external opposition and advocacy groups that emerged were able to exert additional influence of the domestic policy-making process and were, in collaboration with domestic non-state actors, able to force the Chinese government to rethink its position, at least in the short-term, on hydropower development in the Nu River valley. Given the intense public and media pressure exerted on the Chinese government, the bureaucratic system was not able to sustain their initial decision and implementation was pushed off the political agenda altogether[24].

IV. Conclusion

Two main policy-related conclusions emerge from the analysis of the Nu River case. The first is the failure of the domestic policy-making process in China. The narrow group of stakeholders present in phase I of the Nu River project over-emphasized the agenda setting and decision-making components of the policy-making process and believed the sustaining and implementation phases would simply be a case of government bureaucrats and the private sector executing the plan. However, the stakeholders at this stage did not properly anticipate the range of domestic organizations and coalitions that emerged during Phase II. This lack of planning and foresight led to a sharp slow-down in the policy implementation process and an immediate loss of the governments' ability to sustain the existing model. Over a timeframe of less than six months Chinese environmental non-state organizations were able to effectively mobilize a media and local information awareness raising campaign against the government and the private company's development plans. Their dexterity and assertive tactics served them well. During phase III the situation became even more complex with the involvement of stakeholders based in locations beyond China's political boundaries. At this stage the decision to construct hydroelectric dams could not be sustained, let alone implemented. Although China is an authoritarian state it was none-the-less subjected to the forces of an increasingly networked world.

The emergence of domestic civil society and transnational civil society is not new. What is new is the ability of these groups to help formulate and implement domestic policy processes – particularly in a country such as China. NGOs and INGOs, working with their constituency base, are increasingly able to exert pressure on a variety on traditional sources of decision-making authority. In the case of the Nu River project, these non-state actors demanded accountability for the actions of the bureaucracy, and when the state was unable to coherently respond they found themselves subjected to significantly increased scrutiny in the 'public' arena.

The second failure is broader and more complex – how policy-making works across nation-state boundaries. The world in which we live today has become increasingly inter-connected and inter-dependent, a process commonly referred to as globalization. The concept of 'governance' has emerged; where governance is not synonymous with 'government'. This premise is based on the assumption that key components of a governance framework are rooted in a new 'globalized' society that incorporates not only a changed and reformed state, but also a new understanding of sovereignty

[24] Although beyond the scope of this paper, transnational advocacy and linkage can be seen as a potential force to promote democracy, or at least more participatory decision-making, in China. Transnational advocacy is still a new process to China and its effects remain to be fully understood, however, in the case of the Nu River the benefits appear to be real.

models, the influence of private interests, and the growing importance of civil society. The shift from 'government' and sovereign conceptualizations of state toward a more fully integrated global construct of governance has become a growing and powerful discourse, particularly during the last decade (Slaughter, 2004). Within this new process the state is not disappearing; it is disaggregating. Slaughter argues that the state's component pieces are reaching out beyond national borders and have become internationalized. These component pieces are create new networks to "govern relations, instituting regular meetings, and even creating their own trans-governmental organizations" (Slaughter, 2004).

Policy models today do not fully or properly recognize this evolving form of governance and how the process of policy-making has changed. Policy-makers do not appreciate this phenomenon because they appear to be handicapped by the "conceptual lenses of the unitary state" (Slaughter, 2004). Policy-making is not a mechanical or linear process of reform; it must be an iterative process that constantly absorbs and anticipates new information and knowledge – and this new information and knowledge frequently comes from a new globalized world. The policy-making process is rarely, if ever, a linear, coherent process. Policy implementation can "often be multi-directional, fragmented, frequently interrupted, unpredictable, and very long-term" (Brinkerhoff & Crosby, 2002). As new stakeholders, particularly international non-state actors, enter into the governance process, policy-makers must adapt accordingly. Policy-makers are accustomed to thinking of domestic developments and associated actions to articulate plans and policies for the state. The role that transnational civil society played in the Nu River case is therefore pivotal. 'Local' civil society actors within China formed transnational networks with groups outside the political boundaries of the state and these new linkages were able, in this case, to derail a domestic policy-making process. In effect, the transnational advocacy linkages were an effort to globalize from below. Recent research suggests that international NGOs or NGO alliances are helping to formulate (or reformulate) and implement many international decisions and policies (Keck & Sikkink, 1998; Khagram et al., 2002).

The specific failure therefore is China's decision and policy-makers have not recognized the complexity of the policy-making process – perhaps because they have not (or are unwilling to) relinquished the sovereignty model, or perhaps because they do not have an appropriate policy-making model. While the Chinese leadership has demonstrated how adept it can be adapting to economic change, it has not displayed the same necessary skill to address the social and political consequences from this change (Saich, 2000). To 'compete' effectively in a globalized world the Chinese state will be forced to cede sovereignty on certain issues upward by empowering transnational institutions, relinquish business decisions to external transnational corporations, and be more accountable to a growing civil society sector. Simultaneously, the state will be forced to cede sovereignty not only downward, to local administrations, but also outward to new social actors that are crucial to national success in a global world (Saich, 2000).

There has been, in some regards, a remarkable shift in how the Chinese government approaches hydroelectric development and the relations the state maintains with society. During the planning and construction of the Three Gorges dam up until the early 1990's, the Chinese authorities utilized repressive tactics and prevented domestic dam opponents from accessing domestic decision-making process and forging linkages with transnationally allied non-governmental advocacy organizations (Khagram, 2004). Chinese authorities today, however, are tackling environmental problems with greater action and responsibility. Perhaps they are altering their decision-making processes due to the amplified visibility, position and role of increasingly powerful actors present both within and outside of the States political boundaries.

China must recognize that as it strives to modernize it needs to provide an opportunity for all of its constituents to participate in its development. This means all stakeholders should be afforded the opportunity to share their concerns and participate in debate over decision-making that impacts the natural environment. Informed and meaningful public participation, facilitated in part by the burgeoning non-state environmental sector, can result in outcomes that are more effective and environmentally sustainable than those that do not. Ultimately through a less centralized and formalized single state management system, one reflective and responsive to the needs of a broad citizenry, specifically supporting the disadvantaged, will offer greater access to transparent decision-making and yield benefits for all parts of society – both inside and outside of 'the' state.

References

Adams, P. (2005). Environmental NGOs in China: Encouraging Action and Addressing Public Grievances, *Congressional-Executive Commission on China*. Washington D.C.

Brinkerhoff, D. W., & Crosby, B. L. (2002). *Managing Policy Reform: Concepts and Tools for Decision-Makers in Developing and Transitioning Countries*. Bloomfield: Kumarian Press.

Brown, L. D. (2002). Globalization, NGOs, and Multisectoral Relations. In J. S. Nye & J. D. Donahue (Eds.), *Governance in a Globalizing World* (pp. 271-296). Cambridge: Visions of Governance for the 21st Century.

China Daily. (April 29, 2004). *Killing Nujiang Hydro Project the Right Move*. Retrieved October 22, 2004, from http://www.chinadaily.com.cn/english/doc/2004-04/29/content_327159.htm

China Daily. (October 19, 2004). *Official Calls for More Power Stations*. Retrieved October 22, 2004, from http://www.chinadaily.com.cn/english/doc/2004-10/19/content_383600.htm

China Development Brief. (2001). *Civil Society in the Making: 250 Chinese NGOs* (First ed.): China Development Brief.

Cooper, C. (2003). *This is Our Way In. The Environmental NGO in Southwestern China: Prospects and Limitations for Affecting Policy Change and Contributing to Chinese Civil Society*. Unpublished masters, Harvard University, Cambridge.

Dore, J., & Yu, X. (2004). *Yunnan Hydropower Expansion: Update on China's Energy Industry Reforms and the Nu, Lancang and Jinsha Hydropower Dams* (Working Paper). Chiang Mai: Chiang Mai University Unit for Social and Environmental Research.

Economy, E. (2004). *The River Runs Black: The Environmental Challenge to China's Future*. Ithaca: Cornell University Press.

Florini, A. M. (Ed.). (2000). *The Third Force: The Rise of Transnational Civil Society*. Washington D.C.: Carnegie Endowment for International Peace.

Fuggle, R., & Smith, W. T. (2000). *Experience with Dams in Water and Energy Resource Development in the The People's Republic of China*. Cape Town, South Africa: World Commission on Dams.

Grindle, M. S., & Thomas, J. W. (1991). *Public Choices and Policy Change: The Political Economy of Reform in Developing Countries*. Baltimore: The Johns Hopkins University Press.

Ho, P. (2001). Greening With Conflict? Environmentalism, NGOs and Civil Society in China. *Development and Change, 32*, 893-921.

International Rivers Network. (2004a). *International Rivers Network*. Retrieved May 7, 2004, from www.irn.org

International Rivers Network. (2004b). *Nujiang dam plan to continue, say local officials*. Retrieved October 22, 2004, from www.irn.org

International Rivers Network. (2004c). *Nujiang Salween River*. Retrieved October 22, 2004, from www.irn.org/programs/nujiang

InterPress Service. (October 12, 2004). *Tiger Leaping Gorge Draws Strength from Nu River Activists*. Retrieved October 22, 2004, from http://www.ipsnews.net/africa/interna.asp?idnews=25820

Kaldor, M. (2003). The Idea of a Global Civil Society. *International Affairs, 79*(3), 583-593.
Keck, M. E., & Sikkink, K. (1998). *Activists Beyond Borders*. Ithaca: Cornell University Press.
Khagram, S. (2004). *Dams and Development: Transnational Struggles for Water and Power*. Ithaca: Cornell University Press.
Khagram, S., Riker, J. V., & Sikkink, K. (Eds.). (2002). *Restructuring World Politics: Transnational Social Movements, Networks, and Norms*. Minneapolis: University of Minnesota Press.
Mathews, J. (1997). Power Shift. *Foreign Affairs, 76*(1), 50-66.
Moore, M. H. (1995). *Creating Public Value: Strategic Management in Government*. Cambridge: Harvard University Press.
Nielsen, E. (2004a). Interview with Dr. Yu Xiaogang, Director, Green Watershed, Kunming, Yunnan Province. January 5, 2004. Kunming.
Nielsen, E. (2004b). Interview with Ms. Wang Yongchen, Senior Reporter for China National Radio, August 7, 2004.
Nielsen, E. (2005 (forthcoming)). *The Emerging Role of Non-State Actors in Environmental Policy-Making in Yunnan Province, China*. MIT, Cambridge.
Qing, D. (1998). *The River Dragon Has Come! The Three Gorges Dam and the Fate of China's Yangtze River and Its People*. Armonk, New York: Probe International and International Rivers Network.
Qiusha, M. (2002). The Governance of NGOs in China Since 1978: How Much Autonomy? *Nonprofit and Voluntary Sector Quarterly, 31*(3), 305-328.
Ru, J., & Ortolano, L. (2004). *State Control of Environmental Non-Governmental Organizations in China*. Paper presented at the Environmental NGO's and Public Participation in China's Transition, Beijing, China.
Saich, T. (2000). Globalization, Governance, and the Authoritarian State: China. In J. S. Nye & J. D. Donahue (Eds.), *Governance in a Globalizing World*. Cambridge: Visions of Governance for the 21st Century.
SEARIN. (2004). www.searin.org. Retrieved October 22, 204
Shanghai Daily. (2004). *The Battle of the Dambusters - Saving China's Virgin Rivers (http://english.eastday.com/epublish/gb/paper1/1256/class000100006/hwz193248.htm)*. Retrieved October 22, 2004
Shapiro, J. (2001). *Mao's War Against Nature*. Cambridge: Cambridge University Press.
Slaughter, A.-M. (2004). *A New World Order*. New Jersey: Princeton University Press.
Statistical Bureau of Yunnan Province. (2003). *Yunnan Statistical Yearbook*. Kunming: China Statistics Press.
Tamiotti, L., & Finger, M. (2001). Environmental Organizations: Changing Roles and Functions in Global Politics. *Global Environmental Politics, 1*(1), 56-76.
Three Gorges Probe. (2004). *Tiger Leaping Gorge Draws Strength from Nu River Activists*. Retrieved October 22, 2004, from www.threegorgesprobe.org
UNDP, UNEP, The World Bank, & WRI. (2003). *World Resources 2002 - 2004: Decisions for the Earth*. Washington DC: World Resources Institute.
UNESCO. (2003). *27th Session of the Committee (*http://whc.unesco.org/pg.cfm?cid=31&id_site=1083*)*
Wapner, P. (1995). Politics Beyond the State: Environmental Activism and World Civic Politics. *World Politics, 47*(3), 311-340.
Wapner, P. (1996). *Environmental Activism and World Civil Politics*. Albany: State University of New York Press.
Wapner, P. (1997, November 14-15, 1997). *The Transnational Politics of Environmental NGOs*. Paper presented at the United Nations University Symposium on The United Nations and the Global Environment, New York City.

Watts, J. (2004, April 10, 2004). Chinese premier reprieves Grand Canyon of the Orient: Dam project on pristine river halted. *The Guardian Unlimited,* pp. http://www.guardian.co.uk/china/story/0,7369,1189384,1189300.html.

World Commission on Dams. (2000). *Dams and Development: A New Framework for Decision-Making*. London: World Commission on Dams.

www.nujiang.ngo.cn. (2004). Retrieved October 22, 2004

Yang, G. (2004a). *Global Environmentalism Hits China: International and Domestic Groups Join Forces to Combat Environmental Woes*. Retrieved January 12, 2005, from http://yaleglobal.yale.edu/

Yang, G. (2004b). *Is There and Environmental Movement in China? Beware of the "River of Anger"*. Washington D.C.: Woodrow Wilson International Center for Scholars.

Yang, G. (2005). Environmental NGOs and Institutional Dynamics in China. *The China Quarterly, 181*(March).

Yardley, J. (2004a, April 9, 2004). China's Premier Orders Halt to a Dam Project Threatening a Lost Eden. *The New York Times,* p. A6.

Yardley, J. (2004b, March 10, 2004). Dam Building Threatens China's 'Grand Canyon'. *The New York Times,* pp. A1, A8.

Opportunities for Transboundary Environmental *Democracy* in Burma: Connecting Civil Society to Environmental Justice

Kevin Woods
woodskem@yahoo.com

Introduction

Transboundary environmental governance must work within the confines of international donors, regional institutions, national governments, and civil society. The Asian Development Bank (ADB)-initiated and funded Greater Mekong Subregion (GMS) and the Association of Southeast Asian Nations (ASEAN) attempt to coordinate the cooperation over environmental regulation among these different stakeholders. Burma is members to both GMS and ASEAN, and therefore qualifies for their respective aid packages.[25] Promoting transboundary environmental governance with Burma could present many opportunities and even more obstacles for mitigating regional environmental problems. The paper will begin by examining the general difficulties in creating the foundation for transboundary environmental governance within Mainland Southeast Asia (MSEA), with particular focus on transparency, accountability, and civil society participation in regional environmental management. The close friendship between China and Burma, evident in increasing trade relations, especially of valuable natural resources from northern Burma, presents a unique challenge to attacking environmental problems. Then the paper will specifically address environmentalism in Burma by briefly describing the potential dangers of eco-military construction.[26] This will include examining how international environmental organizations and regional governance institutions cooperate with the junta, and what the resulting environmental protection regime appears like. In other words, how a military "sees" environment and creates military landscapes of conservation. The military state gains control of indigenous natural resources, thereby constructing militarized, national natural resources. The Burmese military dictatorship, a severely limited functioning civil society, on-going battles between the junta and ethnic insurgencies along Burma's frontier, and close ties between China and Burma hinder construction of a transboundary environmental governance apparatus.

Transboundary Environmental Governance in MSEA

Increasing economic development, and its corollary, competition for diminishing natural resources, creates new opportunities for transnational cooperation through enhanced cross-border linkages. Andrew Walker in his book *The Legend of the Golden Boat,* which outlines economic integration of the upper Mekong River Basin, argues that "as trading and transport conditions become more liberalized, opportunities and incentives for regulation flourish" (1999:5). But it remains to be proven whether regional economic liberalization will lead to enhanced regional environmental regulation.

---

[25] The current regime in power (the State Peace and Development Council, or SPDC) changed the country's official name to Myanmar in June 1989. Although this name is recognized by the UN, ethnic minority groups and Burma-activists refuse to accept this name; therefore, for this paper I will refer to the country as Burma.

[26] I use the term "environmentalism" to describe the discourse of environment/conservation. I am particularly interested in how various ethnic and national political groups in Burma appropriate this discourse. For more literature on environmentalism, please refer to Guha 2000.

Environmental governance must move beyond just focusing on protecting the environment by exposing the structures of power which underlie the decision-making processes that affect the environment. This includes the manner in which the debate is held, decisions are made and authority exercised over the environment (Ribot 1999; Seymour & Faraday 2000). Transboundary environmental governance involves the interaction of many actors at both the various levels of (inter) government administration and local communities. However, this regional approach must appreciate and work within the confines of geo-political and economic realities. With varying political systems in the different GMS countries, it remains difficult to operate on a governance system guided by democratic principles. For example, both China and Burma have limited civil societies with poor human rights records, but are both in need of addressing the environmental destruction that link their borders. Burma is trapped in the most repressive political system in the region, which will necessarily impact the type of transboundary environmental projects that can be implemented, and more importantly, *how* they will be executed.

Three environmental governance principles articulated in the Rio Declaration—transparency and access to information, accountability in environmental issues and participation in decision-making—assert that fundamental changes are needed in the process of decision-making in order to effectively address social and environmental problems. But these democratic ideals formulated within the nation-state are based on governments representing their citizens. By moving beyond national borders, no mechanism for people's opposition, representation and accountability exists. Citizens of the nation-state must become citizens of the region or globe in order to participate in regional/global environmental decision-making. But the Burmese can't even participate in their own national affairs let alone participating in regional environmental issues.

Securing rights and access to information about the environment is considered a meaningful step towards public participation. Obtaining information on projects to be implemented and their potential negative impacts for communities may empower people to participate in dialogue concerning the environment. In addition, information about the official decision-making process itself would help people to better understand their roles and rights, which would facilitate their ability to articulate their interests in the decision-making process. But again for the case of Burma, only limited government information is available for the public, fax machines and computers must be registered with the government, many internet sites are blacklisted, the regime's decision-making process is shrouded in secrecy and mostly confined to a few elite generals, and it is considered threatening and therefore punishable for anyone in Burma to question government policy.

Accountability mechanisms determine the degree to which institutions and governments remain subjected to public involvement. Intergovernmental institutions, which comprise of representatives from national governments, should in theory be accountable to those governments, which, in turn, are accountable to its citizens. But the Burmese junta clearly does not represent its national citizens by denying them democratic rule. Accountability is especially difficult for Burma given its diverse ethnic and political divisions: Burmans (the national majority), the multiple ethnic minorities, the different ethnic political groups, and the main political opposition group – the National League of Democracy (NLD) – all have diverging, and at times converging, viewpoints.[27] These disparities must be incorporated into the decision-making process by ensuring that as many people from as many different socio-economic, ethnic and political backgrounds and marginalized groups are heard. In this way, the most appropriate form of governance is one that best accounts for

[27] There are many ethnicities represented in Burma, such as the Kachin, Karenni, Shan, Karen, Chin, etc., which represent the minority populations. The majority population, however, is known as the "Burmans." "Burmese" refers to nationality, the national language, or an adjective. So, ethnic minorities in Burma can be "Burmese" but not "Burman."

the diversity of stakeholders. Moreover, the most appropriate management decisions reflecting diverse interests stem from authority generated from a multiplicity of actors. Although this aim is admirable and necessary for effective environmental policies, this can not yet be possible in Burma with the current junta's tight grip on authority and unwillingness to share power.

Public participation is the most important principle of governance, but is often the most neglected, and in the case of Burma, severely limited. The public must participate in the decision-making process from the beginning, which includes reaching consensus on the type of environmental project to be carried out. Public participation is much more than just the exchange of information, but also the "true sharing of power and responsibility between government authorities, community groups, and the wider community" (Chenoweth et al. 2002:498). It is exactly for this reason that the junta does not allow genuine participation for any national projects since the government views public participation as threatening national security and government authority. In fact, the junta's main objective – indeed it is how they continue to legitimize their rule – is to maintain national security. The regime does not permit any critical remarks against its national policies, voting still remains a dream, congregating in large groups without permission is illegal, and civil society remains very weak at best.

Regional Institutional Pluralism

The regional institutional fight for MSEA environmental leadership highlights the institutional power struggle to maintain hegemony in governing the region. In order to appease public criticism and post-Rio pro-environmental discourse, regional governance institutions, such as the ADB-GMS and ASEAN, integrate sustainable development initiatives into their official pro-economic development mandates. "Greening" an institution's economic parameters versus civil society demands to protect local livelihoods and environments are emblematic of how institutions and civil society appropriate different "environmentalisms" to suit their separate agendas. Institutions attack the environmental problem through institutional means, which manifests as generalized, apolitical, technocratic, top-down and expensive solutions. In addition, none of these intergovernmental regional governance institutions were specifically established to address environmental or social problems, nor engage with the multiplicity of stakeholders down to the grassroots level in the region.

The various levels of institutions include GMS/ASEAN governments, civil society organizations (CSOs), NGOs, private businesses, multilaterals and bilateral organizations, academic institutions, research and advocacy networks. But for Burma, this long list of stakeholders becomes narrowed down to the government/military, semi-private businesses (usually with political-military connections) and a few quasi-NGOs with government MoU's. Despite the rich diversity of regional stakeholders, the intergovernmental regional cooperation framework monopolizes the decision-making process for environmental issues in MSEA; however, Burma has been relatively neglected thus far. But with the need to expand economic markets and diminishing natural resource bases, the regional institutions are tempted to tap into Burma's open arena.

Since Burma is a member of the GMS, the regime qualifies for ADB-GMS funds. However this could lead to problems if projects follow Article 36 of the ADB's Charter which states "only economic considerations are deemed relevant to Bank decisions." In other words, the Bank shall not interfere in the political affairs of any member country or to consider environmental concerns. The ADB's apolitical stance and avoidance of blame for any political repercussions of economic development deems their environmental governance efforts ineffective, especially when the consequences in Burma can be so severe for its people. And for ASEAN, of which Burma is a

member, its "principles of non-interference in domestic matters" and "consensus-based decision-making" with respect for national sovereignty constrain any serious interventions over environmental concerns. Most importantly, ASEAN does not include Yunnan, China as an immediate member, who is most responsible for the ecological destruction of northern Burma.[28] The infrastructure projects that both ADB-GMS and ASEAN promote for regional integration not only largely discredit the institutions from spearheading environmental projects, but also distress ecological integrity and local livelihoods. In fact, it has been well documented that infrastructure projects in Burma involve human rights abuses by using forced labor, at times violently relocating communities, and causing severe environmental destruction.[29] For example, many of the roads being built in Kachin State are Chinese funded and function as routes for transporting timber east to China. A Kachin religious leader shouts, "The roads are only for taking trees! They are not for the people."

Crossing Borders: China's Economic Growth and Transboundary Ecological Cost

Erecting a regional foundation for transboundary environmental measures with Burma must focus primarily on the China-Burma border. Since the early 1990s China has cast the undesirable ecological costs of economic development across the border to northern Burma by importing huge quantities of raw timber and gems. Thus more attention must be focused on the "important cross-boundary patterns in the flows of resources and the politics involved in the dispossession of peoples to facilitate resource extraction" (Dalby 2000:86). As such, transborder resource flows (i.e., political economy) must be incorporated more fully into transboundary environmental governance mechanisms. In this regard, regional environmental measures have the potential to address the politics of transboundary environmental change. However, this would involve overcoming the "territorial trap", the perception that environmental change occurs only within individual nation-states. "Statist analyses and a cartographic imagination of the nation-state and policies of regime construction are unduly constrained in providing political and conceptual tools for grappling with contemporary eco-political difficulties (Dalby 2000:93). But ecology, and economic development affecting it, is without political borders.

While the transboundary economic development promotions have the potential to foster regional linkages, Chinese authorities seem intent on its opposite – to use development as a nation-state building exercise to augment national power along ethnic borders. Besides securing stronger state control along the border, China's border development policies become the gateway to exploiting northern Burma's rich natural resources in order to sustain China's high economic growth and concomitantly develop landlocked Southwestern China. Since Yunnan's 1996 logging ban, newly unemployed Chinese have been building Chinese-funded roads in Burma for the explicit reason to cut timber and transport the unprocessed logs across the border, all of which support Yunnan's border industry and raises Chinese employment.

Resource diplomacy also plays a major factor in much of the regional cooperation, where natural resources aid diplomatic relations. This ideology continues to unfold in Burma with China trying to secure an economic stronghold; therefore, transboundary environmental legislation would

[28] However China is included in ASEAN+3 and the GMS framework.

[29] A Karen Rivers Watch (KRW) report documents the atrocities of the Burmese army, who have destroyed 85 villages and depopulated a vast stretch of the Salween bank since 1995 to build and operate the Baluchaung Hyropower plant in Karenni State. A KRW official declares, "Any plan should treat them as equal stakeholders to ensure protection of natural resources and maintaining a sound environment in this frontier area" (Mizzima News, May 30, 2005). Also, the Burmese military battalion based in Bamo District, Kachin state ordered locals in March 2004 to provide labor for the construction of a hydro-electricity project that is reportedly being built with Chinese assistance (Mizzima News, March 16, 2004).

grind against political-economic priorities. For example, China's new foreign minister, Li Zhaoxing, met with the Burmese counterpart, U Nyan Win, in late April 2004 to discuss strengthening "bilateral high-level exchanges and expanding cooperation in various sectors including economy, trade and drug-control" (Xinhua News, April 29, 2005). However, there appears to be diplomatic intentions as well, with Nyan Win reassuring China of her loyalty to the one-China policy and Anti-Secession Law. Chinese military ties with Burma have also expanded, with a common fear by neighboring countries that China wants to use Burma to try to expand its military and political reach (Lintner 1994:22).[30] Burma also offers China an outlet for its goods, and a direct route to the Indian Ocean for energy resource access. Attempting to implement environmental packages across the border could also be used as a diplomatic tool to augment power and authority of both government parties involved.

Although China-Burma cooperation has almost exclusively centered on economic development and trading of natural resources, there have been a few meager cases of transboundary environmental cooperation. According to my research in Yunnan, the following instances involved limited, transboundary environmental protection measures outside the scope of GMS and ASEAN:

1. The Chinese Forestry Department at Xishuangbanna Nature Reserve has cooperated with the Burmese Department of Forestry staff on fire protection and elephant conservation.
2. Forestry officials at Gaoligonshan and Tongbiquan Nature Reserves in Yunnan have cooperated with the Burmese Ministry of Forestry in managing natural resources and with local Kachins across the border for fire protection measures.
3. Southwest Forestry College in Yunnan has conducted forestry trainings at Pidaung Forest Reserve near Myitkyina, Kachin state from 1994-1998 and at Popa Mountain. They also brought Burmese forestry officials to Tongbiguan Nature Reserve and Kunming for further training.
4. Burmese and Chinese Forestry Department officials also held discussions on enhancing cooperation in jointly combating the smuggling of forestry products in the border areas, expanding timber trade between the two countries and strengthening technical exchange between the two departments (Xinhua news, March 20, 2004).[31]

These examples, although certainly many others exist, illustrate that transboundary environmental measures involved limited cross-border training on forest protection, and almost exclusively dealt with the Burmese Ministry of Forestry. The local Kachin and Shan across the China border are mostly neglected, except for providing free labor to put out fires to protect Yunnan's protected forests. This neglect is not only a missed opportunity in environmental education, but also politically charged. The Chinese government and academics only dealing with the Burmese Ministry of Forestry in effect recognize the junta as having control over the natural resources in ethnic areas, which is certainly not the case since ethnic insurgencies are still mounting. Adequate transboundary natural resource management can not occur unless these indigenous peoples and ethnic-political groups are also included in environmental projects, and the rampant natural resource trade across the China-Burma border is regulated.

---

[30] China and Burma made an agreement for China to provide a consignment of a total of 1,000 military trucks to the Burmese junta. During 2001, 40 heavy artillery transport vehicles were transported across China's border at Muse into Burma ((Democratic Voice of Burma, January 10, 2003). Then more than 200 Chinese-made military trucks have reportedly crossed the border in late May 2005. According to one witness, about 100 military vehicles each had driven over the border in Muse two or three times in 2005 alone already (Khun Sam 2005).

[31] However, this only translates into the transfer of timber transport vehicles donated to the Burmese forestry authorities by a Chinese logging company to be used to improve Burma's timber products transport capacity.

The Political Ecology of Ceasefires

In the early 1990s, three Kachin political splinter groups signed ceasefires with the Burmese junta: the Kachin Defense Army (KDA) and the New Democratic Army- Kachin (NDA-K), and soon thereafter, the Kachin Independence Organization (KIO). However they still retain their arms and control limited autonomous territory and the natural resources contained within. The ceasefires granted the Burmese military access to the natural resources in Kachin State previously administered under insurgent control, at the same time allowing the now placated insurgent groups access to the Burmese military's patronage resource network. The ceasefires enabled increased cooperation between Yunnanese and Burmese government officials, resulting in increased natural resource border traffic through SPDC controlled-border check points (Duan Tingchang 2003). The environmental impact is that the previously remote frontiers now witness large-scale, non-sustainable, commercial timber and mining extraction through ceasefire concessions since the threat of open warfare no longer deters extraction (Talbott and Brown 1998:58, Smith, C.F. 1991, Global Witness 2003, PKDS & KESAN 2004, Images Asia E-Desk & PKDS 2004). Martin Smith, the leading foreign political economist on Burma, accuses not only the Burmese for logging, but also the insurgent ethnic armies:

> The Burma logging trade has become a desperate business in which few parties emerge with their reputations intact. Though on a lesser scale, many of the country's armed opposition groups have also become increasingly active in logging deals since 1988 as one of their major sources of revenue to buy arms and ammunition. The most serious cases of over-felling have reportedly taken place in areas where insurgent armies have signed ceasefires with the SPDC (1994:15).

In effect, the rebels have become timber companies. For example, in return for ending all military activity, the NDA-K focused exclusively on operating logging and jade concessions for resource rents mostly in northern Shan State (ERI and KESAN 2003), with about 200 logging trucks a day arriving in Baoshan, Yunnan as a result, equivalent to an annual timber production of about 200,000 m^3 (Brunner et al. 1998). Another key reason for increased logging in post-ceasefire KIO-controlled Kachin State is because of the KIO's switch from jade mining to logging, and to a lesser extent gold mining, to continue to support their political arm. This is because the KIO lost their control over the jadeite mines to the SPDC and their partners after they signed the ceasefire agreement. One Kachin informant summarized the ceasefire environmental situation: "The KIO taxed border trade and collected taxes on rice, etc. to help fund the insurgency. They mostly funded themselves through jade; but after the ceasefire agreement they took trees instead."

Furthermore, logging and mining have drastically increased in pace and scale in northern Burma due to changes across the border in Yunnan, such as the Chinese government's promotion for Yunnan border trading and Yunnan's own stricter environmental protection. In general, though, an end to most of the rampant fighting in Kachin and Shan State creates a peace conducive to natural resource extraction. A Kachin youth simply explains: "When there was fighting in Kachin State there was no chance to take the trees out." The most recent report claims that over 1 million cubic meters of timber products every year pass across the Yunnan border (Kahrl et. al. 2004).

The ceasefires have effectively divided territory into government-controlled and ethnic-controlled areas, with timber rights apportioned accordingly (Talbott and Brown 1998:58). Therefore, if environmental governance policies which remain at the government level are implemented for Burma, then they would only target SPDC-controlled areas. But this would do little to solve the environmental crises in northern Burma since much of the environmental destruction is occurring in ethnic-controlled areas out of reach of the SPDC. But enacting environmental

governance linkages with the junta to target indigenous areas could offer a mechanism to invite the Burmese military into Burma's resource-rich ethnic frontier. The penetration of the state into Burma's frontier regions, even for environmental protection, can have serious consequences on the people inhabiting the areas.

Violent Military Border Development

After the ceasefires along Burma's borders, the military regime was able to push further into previously hostile indigenous territory, leaving behind a treeless trail of infrastructure to provide energy for lower Burma and Thailand and to facilitate natural resource extraction.[32] A Kachin school headmaster admits that "they [SPDC] are not coming for the peace; I am afraid of a situation worse than before the ceasefire agreement." Indeed, the SPDC is not coming for peace, but rather setting up military bases and conservation zones to control the Kachin and their natural resources. The Burmese border development/environment initiatives are given authority through the Program for the Progress of the Border Areas and National Races Development, or *Na Ta La*, established in 1989 and upgraded to a Ministry in 1994. Since it is backed by the Ministry, which is essentially empowered through the military, the *Tatmadaw* (the military branch of the Burmese regime) proclaims itself as the agent for enforcing the "Three Main National Causes": the non-disintegration of the union, the non-disintegration of national solidarity, and the perpetuation of national sovereignty. These national clauses aim to bring the ethnic insurgent frontier into the national domain by adhering to a policy of "community without politics and consensus by command" (Lambrecht 2000:33). The *Na Ta La* Master Plan's five objectives try to augment the military's strength by pushing nationalism outwards toward the frontier while concomitantly trying to access foreign exchange to continue to support itself.[33]

These stringent national objectives can be achieved through military territorialization of Kachin State's rich natural resources administered through ceasefires and solidified through transboundary environmental contracts. In the same manner that the *Na Ta La* uses development to justify its military presence, they or another pertinent ministry responsible for carrying out transborder environmental projects could use environmental protection to help militarize Burma's frontier regions. The SPDC's economic and environmental policy for the frontier and the presence of the *Na Ta La* legitimize extending military power into the borderlands, enabling policing of border trading posts and undermining the livelihoods of ethnic communities. The Ministry could assert that the *Na Ta La* must set up bases along the frontier in order to "protect" forests under the direction of the Ministry of Forestry and regional governance bodies.[34]

But the *Na Ta La* does not even try to completely hide their interest in Kachin State's natural resource wealth, as the following quote in a *Na Ta La* propaganda publication demonstrates: "Exploration and exploitation of natural resources is an important part of the Border Areas and National Races Development Programme. The State Law and Order Restoration Council therefore made arrangements to explore, extract and exploit minerals and metals along with other development

---

[32] Refer to a few environmental-human rights focused publications on Burma, such as ERI 2000, Salween Watch and SEARIN 2000, Moody 2000, and Images Asia E-Desk & PKDS 2004).

[33] The five objectives include: 1. to develop the economic and social works and roads and communications of the national races at the border areas in accordance with the Three Main National Clauses; 2. to cherish and preserve the culture, literature and customs of the national races; 3. to strengthen the amity among the national races; 4. to eradicate totally the cultivation of poppy plants by establishing economic enterprises; and 5. to preserve and maintain the security, prevalence of law and order and regional peace and tranquility in the border areas (Ministry for Progress 1994:1).

[34] The SPDC will create the first-ever "wildlife and conservation protection" police in the history of Burma, with about 60 policemen for the Hukaung Valley Tiger Reserve along the India-Kachin State border, subsidized by US-based Wildlife Conservation Society (WCS).

works" (SLORC 1990:102). Indeed, a Kachin environmentalist believes that the "Ministry of Border Area Development and National Races means they just chop down trees."

Eco-Military Construction in Burma

The Burmese regime replaces the cry to save the environment within its own national fight for power, thereby transforming the foundation of environmentalism to support military-building projects. However, it must be stated that being opposed to eco-military tactics for biodiversity protection does *not* equate to being anti-conservation. Protection of local biodiversity is admirable in its own right, and should be the goal of all communities supported by the government and regional institutions; indeed, it is the only way to sustain global and local ecological-human functions. However, achieving these goals by ignoring fundamental human rights, indigenous land rights and right to self-determination does not only become a moral issue, but also will not achieve its intended conservation goals.

International environmental organizations and regional institutions grant governments substantial financial assets to carry-out political projects in the name of conservation, thus augmenting nation-state hegemony, irrespective of their political legitimacy. Goldman in his analysis of "Environmentalism' World Bank-style" comments that "newly imported concepts such as conservation, biodiversity, sustainable development, and watershed management have material effects when they become translated and concretized into new regulatory regimes, state agencies, and large-scale capital investments" (2000:3). The state may appropriate environmentalism to establish their resource sovereignty outside the scope of the conservation goals desired by their donors. According to Nancy Peluso, the main problem of international environmental protectionism is that "international environmental agreements assume that nation-states have the capacity, internal legitimacy and the will to manage resources within their territorial boundaries" (1993:199). She further argues, "The implication is that States should be able to control the behavior of all users of all resources located within the State's declared jurisdiction, whatever the origin of the State's claim, whatever the nature of competition for those resources, and whatever the nature or origins of resistance to the State's resource control" (1993:199). In this way the environmental projects in Burma imagined by donors in fact may enhance the non-democratic military framework that upholds the country. The military state, with the aid of regional environmental protection measures, gains control of indigenous natural resources, thereby constructing militarized national/regional natural resources.

The appropriation of "global environmentalism" by the nation-state is exactly what enables a separation of politics from the sphere of "environment".[35] Government-sponsored projects, coordinated by the military, become "apolitical" state projects to achieve "apolitical" environmental goals. It is the same process that Ferguson refers to in describing development as an "anti-politics machine" (1994). The international environmental organizations that cooperate with the Burmese junta must refrain from referring to the political situation in Burma, or how some environmental projects might be manipulated to benefit the military rulers. This dictatorship demand for an absence of political reference in implementing environmental projects allows the Burmese regime to carry out highly political acts under the convenient and well-funded name of environmental protection. Raymond Bryant, a scholar on environment in Burma, also argues that "conservation projects provide an effective means to promote environmental conservation in a politically and economically important part of the country at the same time as it provides a justification for tightened political

[35] "Global environmentalism" refers to apolitical internationally funded conservation projects that aim to protect national/local natural resources as part of the global commons, largely absent of social justice or local participation.

control over this area. In this manner, 'coercive conservation' in Burma is designed simultaneously to meet environmental and political objectives to obtain sustainable development" (1996:351). Environment, then, can act as a platform to displace politics from military-operated activities. So at the same time that environmentalism is used by the regime as an international *political* tool by signing international environmental treaties to gain greater international recognition and cooperation, environmentalism can simultaneously be manipulated as an *apolitical* weapon to justify conducting politically contentious state projects.

Global Environmentalism in Burma

Many conservationists have broken through thick bureaucratic tape to establish environmental protection measures in Burma. In particular, Kachin State has received much attention since it is part of the Indo-Burmese region listed by Dr. Norman Myers as one of the eight "hottest hotspots of biodiversity" in the world (Moncreif & Myat 2001:2). The hotspot retains a concentration of endemic flora and fauna species, but which also is currently experiencing exceptional habitat loss. In response to this world-famous biodiversity, the Burmese government has adopted the global green rhetoric by becoming members of international agreements and organizations to gain international recognition as an environmentally friendly government, despite running the country as a military dictatorship (see Table 1).

While the SPDC has signed many international environmental treaties, they have not executed many of them since they do not require specific actions to be implemented, pending on the terms of the treaty. More interesting, however, is that most of the major environmental policies that do get implemented are land conservation projects, such as creating national parks, which enable the control of resident populations through massive land re-zoning. In order to implement the environmental and sustainable development goals, the Burmese government, under different ministries such as the Ministry of Forestry and Ministry of Livestock and Fisheries, cooperates with various international environmental organizations (see Table 2). Despite all the international conservation work conducted inside Burma, the well-respected pro-democracy leader, Daw Aung San Suu Kyi, believes that conservation in Burma could not happen as it is intended due to the inability of the SPDC to allow villager participation and grassroots environmental organizing essential for successful environmental projects. "I doubt under the present circumstances you can do anything very effectively in the way of conservation. Under the kind of military regime that we have here you would not be allowed free access to all the people with whom you wish to work" (NCGUB 1997). One KIA official interviewed remains skeptical of NGO's working in Burma: "The SPDC control's everything. If one NGO wants to develop Kachin State, then they must follow the SPDC policy. Therefore, it would be hard for them to succeed. The SPDC controls everything, so it is hard for NGO's to do anything."

The first major initiative towards environmental legislation included the creation of the National Commission for Environmental Affairs (NCEA) in February 1990. The NCEA is responsible for coordinating environmental policy in Burma through various government ministries, and drafted an Environmental Protection Law under the advisory of the UNEP. It is also responsible for international cooperation on environmental matters. The Minister of Foreign Affairs chairs the NCEA, an indication that the junta sidesteps dealing with environmental issues and instead uses it for international diplomacy. Also, different ministries administer and enforce the various environmental laws created by the junta, so that the responsibility for protecting the environment is divided among many agencies that do not work together (Gutter 2001:9). And at times this includes using the military branch. For example, the "government institutions responsible for the management of

natural habitats are often dependent upon other institutions, such as the police, armed forces, and judiciary, to effectively discharge their responsibilities" (Birdlife International draft report 2004).

The Forest Department, under the jurisdiction of the Ministry of Forestry, retains the primary responsibility for administering biodiversity conservation policies. Within the Forestry Department is the Nature and Wildlife Conservation Division (NWCD), which overlooks wildlife conservation and protected area management. The Ministry of Forestry shares responsibility with the Ministry of Livestock and Fisheries and the Ministry of Agriculture and Irrigation relating to the protection of non-forested habitats. But in forested areas that possess a security threat to the Burmese government, such as in areas populated by ethnic minorities with past or present hostilities towards the SPDC, the Ministry of Forestry shares responsibility with the Ministry of Defense. In addition, "regional military commanders have considerable influence over the way policies are implemented within their commands" (Birdlife International draft report 2004). And in post-ceasefire areas, such as Kachin State, national policies, including environmental projects, is coordinated with the *Na Ta La*.

For the environmental policies that are enacted in Burma, it is not only interesting to see how these policies are inculcated by the military state, but also which ideologies are not incorporated into Burma's environmental legislation, such as participatory decision-making. The democratic foundation of third-world environmentalism, or "environmentalism of the poor", must first be drained out before the Burmese government nationalizes any project, leaving behind a watered-down version of environmental action. Several national environmental projects are being endorsed by the SPDC and funded by international organizations, such as community forestry. However even this mandate, which normally attempts to decentralize the control and use of forests down to villages, has similar top-down, military control problems that other national environmental mandates in Burma possess. For example, the community must cooperate with the Forestry Department, as well as the Land Records Department, at every step, including mapping, assessment, surveying, training, providing seedlings, land management, etc. This will include the State Peace and Development Council (SPDC), the TownshipPDC and all the way down to the VillagePDC. The Forest Department's approach to gaining "community participation" is to "inject tree-consciousness to all strata of people by all means" (Sein Maung Wint 1993:15). Also, the villagers must only plant seedlings offered by the Forestry Department (mostly high-value, exotic plantation species with little ecological value), the village is still denied any land rights for the community forest, and villagers must not harvest any forest products in natural degraded forests designated as community forests. Community forestry in effect acts as a conduit of increased SPDC control down to local communities who lose their autonomy over their forest livelihoods.

National Military Parks

The Protected Area System (PAS) promoted by international environmental agencies appears to be one of the major forms of environmentalism taking root in Burma, which perhaps is the type of environmental protection that is most conducive to relocating human settlements and controlling peoples' livelihoods. The international conservation regime and the military dictatorship guide their strategies along similar lines, although they desire different outcomes. The SPDC-conservation organization alliance strives for the mutual goal to remain apolitical to control natural resources and the people who use them. Or in the words of Bryant who has extensively researched environmentalism in Burma, "Control of people originates in the institutions of social control already dominating civil society, and are applied to the control of natural resources by and for the state" (1997:216).

In creating the Hkakabo Razi National Park in northernmost Kachin State neither the international conservation organization responsible for its creation (Wildlife Conservation Society, or WCS) nor the Burmese junta informed or consulted the KIO, the political representative for Kachin people in that area. This is because any organizations working in Burma must sign a MoU with an appropriate ministry, forbidding dialogue with any ethno-political groups inside or outside Burma. This national park is located just north of Putao, which the Burmese regime took control of since the ceasefire agreements in the 1990s. The national military have established well over ten army bases since then as it is perceived as an important national security zone. The establishment of this national park may serve similar national security needs since it justifies government military presence in an area previously off-limits to SPDC forces in KIO-controlled territory. Another more alarming example is the creation of the Myinmoletkat Nature Reserve in Karen State which violently oppressed Karen communities living in the area while simultaneously bringing in logging and oil drilling through government concessions to Thailand (see Associated Press 1997, Faulder 1997, and Levy and Scott-Clark 1997). Within a few months of signing the MoU to establish the nature reserve, the Burmese army launched one of its biggest and most successful military offensives to secure the area from the ethnic Karen to include their territory in the proposed reserve. According to a declaration by the Karen National Union (KNU) in January 1997, "The KNU does not recognize the superimposition of biosphere reserves or wildlife sanctuaries by the SPDC or foreign companies whose intentions are questionable, dishonest, and only face-saving, and those actions and devious and oppressive toward the Karen people and the proper aims and methods of ecosystem management" (Brunner et al. 1998:15).

Transboundary Environmental Democracy

Engaging with the Burmese regime on environmental projects can trigger serious human rights abuses, but other alternative routes exist to protect Burma's environment while safeguarding the Burmese. Civil society networks, which are predominately religious-oriented in ethnic areas in Burma, often remain neglected by international environmental and humanitarian organizations and donors. The academic Ashley South agrees that "the re-emergence of civil society networks within and between ethnic nationality communities has been one of the most significant – but under-examined – aspects of the social and political situation in Myanmar over the past decade" (2004:234). And since the ceasefires in the early 1990s in Kachin State, a greater space has been created for the re-emergence of community networks. South continues by arguing that "many local NGOs and CBOs [Community-Based Organizations] have forged the space within which to work for 'development from below,' and build networks of independent, community-level participation" that "undermine the ideological and practical basis of military rule, creating autonomous spaces, at least in limited spheres" (South 2004:252).

However, many of these civil society networks defer from engaging with environmental issues. This can be partially explained by the SPDC beginning to view environment as politically threatening when done through local initiatives outside the scope of government ministries. Otherwise, environment could act as a source for locals to organize against, and thus threaten, SPDC control. Indeed, it is exactly this potential for environment to coalesce divergent ethno-political factions which carries its true weight in emerging civil society networks in Burma.

After hearing several success stories on communities organizing over environmental issues to block timber and mining companies from intruding into their communities, I have found four common themes: church, influential pastor leader, environmental education and community cohesion. The organizing took place in the church through the strong leadership of well-known pastors, with someone in the church community (although not necessarily the pastor) having had

environmental education (usually from Thailand), which was spread through the community at church. The burgeoning "Eco-Christian Network" has been largely ignored by researchers and secular funders, despite the already existing cohesive network connecting pan-ethnic Christians, current funding by overseas Christians, and already conducting trainings and implementing projects that challenge SPDC hegemony and address immediate local needs. A UN-Burma development representative and an environmental ethnic religious leader had the following exchange that epitomizes the split between local religious leaders and international funders striving to bring assistance to Burma's frontier: UN: "We need less pastors and more agronomists and foresters." Pastor: "Right. Or pastors with environmental awareness."

Conclusion: Human-Environmental Rights

Biodiversity conservation is embedded within a social and political process, and therefore must address social justice issues as part of its environmental mandate (Taylor 2000), such as the right to self-representation and autonomy and the right to self-determination. Environmental conservation must address socio-political justice of all the people concerned with the project in order for successful sustainable development and biodiversity conservation. In this way, environmentalism becomes understood primarily as a struggle for democracy (see Guha 2000:123, and Fahn 2003). There is no place where this could be truer than in Burma. One Kachin informant had this to say about the human-environmental rights linkage in Burma: "Most Kachin people are very concerned about the environmental situation, but they can not complain. If they complain, they get the bullet or go to jail." Clearly, the foundation for democracy and human rights must be constructed first before environmental justice, and thus sustainable development, takes root.

Works Cited

Associated Press. 1997. "Burma using forced labor to build tourist park, exiles say." October 20.

Badenoch, N. 2001. "Mekong Regional Environmental Governance: Perspectives on Opportunities and Challenges: Introduction." In *Mekong Regional Environmental Governance: Perspectives on Opportunities and Challenges.* Working Papers of the REPSI Mekong Regional Environmental Governance Research and Dialogue Group, Chiang Mai, Thailand.

Birdlife International draft report. 2004. "Investment Opportunities in Biodiversity Conservation by Civil Society in Myanmar."

Brunner, J., Talbott, K. and C. Elkin 1998. *Logging Burma's Frontier Forests: Resources and the Regime.* Washington D.C.: World Resources Institute.

Bryant, R. 1996. "The greening of Burma: Political rhetoric or sustainable development?" *Pacific Affairs*, Vol. 69, Issue 3, Autumn, Pp. 341-359.

Bryant, R. 1997. *The political ecology of forestry in Burma 1824-1994.* Hurst & Co.: London.

Chenoweth, J., Ewing, S. and J. Bird. 2002. "Procedures for ensuring community involvement in multijurisdictional river basins: A comparision of the Murray-Darling and Mekong River Basins." *Environmental Management* Vol. 29, No. 4, 497-509.

Dalby, S. 2000. "Geopolitics and Ecology: Rethinking the Contexts of Environmental Security." Pp. 84-100. In Lowi, M. and B. Shaw (Eds.). *Environment and Security: Discourses and Practices.* St. Martin's Press: NY.

Democratic Voice of Burma. 2003. "New Weapons arriving from China." January 10.

Duan Tingchang. 2003. "Myanmar Strives to Expand Border Trade with Neighbors." *Xinhua* News, December 2.

Earth Rights International (ERI). 2000. *Total Denial Continues – Earth Rights Abuses along the Yadana and Yetagun Pipelines in Burma.*

Earth Rights International (ERI) and Karen Environmental and Social Action Network (KESAN). 2003. *Capitalizing on Conflict: How Logging and Mining Contribute to Environmental Destruction in Burma,* written by Ken MacLean.

Fahn, J.D. 2003. A Land on Fire: The Environmental Consequences of the Southeast Asian Boom. Westview Press, USA.

Faulder, D. 1997. "In the name of money: SLORC, the Thais and two multinational oil Giants are building a gas pipeline. The Karen are in the way – and that's just too Bad." *Asiaweek* May 9: 42.

Ferguson, J. 1994. *The Anti-Politics Machine: 'Development,' Depoliticization, and Bureaucratic Power in Lesotho.* University of Minnesota Press: Minneapolis.

Global Witness. 2003. *A Conflict of Interests: The Uncertain Future of Burma's Forests.* London, UK.

Goldman, M. 2000. "The birth of a discipline: Producing authoritative green knowledge, World Bank-style." Paper draft. Not published.

Guha, R. 2000. *Environmentalism: A Global History.* Longman: NYC.

Gutter, P. 2001. Environment and law in Burma. *Legal Issues on Burma Journal.* Burma Lawyers' Council. No. 9, August.

Images Asia Environment-Desk and Pan Kachin Development Society (PKDS). 2004. "At What Price: Gold mining in Kachin State, Burma."

Kahrl, F., Weyerhaeuser, H. and Su Yufang. 2004. "Navigating the Border: An Analysis of the China-Myanmar Timber Trade." Forest Trends and World Agroforestry Centre.

Karen Rivers Watch. 2004. "Damming at Gunpoint: Burma Army atrocities pave the way for Salween dams in Karen State." November.

Khun Sam. 2005. "Chinese military trucks arrive." *Irrawaddy Magazine.* May 26.

Lambrecht, C. 2000. "Destruction and violation: Burma's border development policies." *Watershed.* Vol. 5, No. 2, Nov. 1999-Feb 2000. Pp. 28-33.

Levy, A. and Scott-Clark. 1997. "Burma's junta goes green: Save the rhino, kill the people." *The Observer*, P. 9. March 23.

Lintner, B. 1994. Enter the Dragon. *Far East Economic Review* December 22. Pp. 22-24.

Ministry for Progress of Border Areas and National Races and Development Affairs, State Law and Order Restoration Council. 1994. "Concise Master Plan for Development of Border Areas and National Races." June 22.

Mizzima News. 2004. "Forced labor continues in Kachin State." March 16.

Mizzima News. 2005. "Mass signature campaign against Salween Dam." May 30.

Moncreif, J. and Myat, H. 2001. "The War on Kachin Forests." *The Irrawaddy,* Vol. 9, No. 8, October-November 2001.

Moody, R. 2000. Grave Diggers: A Report on Mining in Burma.

National Coalition Government for the Union of Burma (NCGUB). 1997. Environment and Burma. Message from Daw Aung San Suu Kyi to the briefing on Burma, New York City, May 25.

Pan Kachin Development Society (PKDS) and Karen Environmental and Social Action Network (KESAN). 2004. Destruction and Degradation of the Burmese Frontier Forests: Listening to the People's Voices. Searchweb, Netherlands.

Peluso, N.L. 1993. "Coercing conservation? The politics of state resource control." *Global Environmental Change.* June, Pp. 199-217.

Ribot, J. 1999. *Framework for Environmental Governance.* Paper presented at the

Environmental Governance in Central Africa workshop, held in Washington DC 26-27 April 1999. WRI.

Salween Watch and SEARIN. 2004. "The Salween Under Threat: Damming the longest free river in Southeast Asia." October.

Sein Maung Wint, 1993. Myanmar strategy for forest resource development. *Myanmar Forestry*, October, Pp. 11-17.

Seymour, F. and G. Faraday. 2000. Natural resources management in Asia: the implications of emerging environmental governance norms. WRI.

Smith, C.F. 1991 *Report on the Myanmar forestry sector*, field document no. 11. Union of Myanmar for the FAO, Yangon.

Smith, M. 1994. *Paradise lost? The suppression of environmental rights and freedom of expression in Burma.* Article 19, XI. International Center Against Censorship. September.

State Peace and Order Restoration Council (SLORC). 1990. *Measures Taken for Border Areas and National Races Development.*

South, A. 2004. "Political Transition in Myanmar: A New Model for Democratisation."

Talbott, K. and Brown, M. 1998. "Forest Plunder in Southeast Asia: An Environmental Security Nexus in Burma and Cambodia." *Environmental Change and Security Project Report*, Issue 4, Spring: 53-60.

Taylor, D.A. 2000. "The Rise of the Environmental Justice Paradigm: Injustice Framing and the Social Construction of Environmental Discourses. *Am. Behav. Sci.* 43:508-580.

Walker, A. 1999. *The Legend of the Golden Boat: Regulation, Trade and Traders in the Borderlands of Laos, Thailand, China and Burma.* Curzon Press.

Xinhua News. 2004. "China/Burma timber business." March 20.

Xinhua News. 2005. "China to further relations with Myanmar." April 29.

Name of Environmental Treaty	Year Signed	Extra Information
Framework Convention on Climate Change	Nov. 1994	
Member of Global Environment Facility (GEF)		Qualify for large international envt'al funds
Member of ITTO	1993	Drew up a national Forestry Action Plan
Nuclear Test Ban Treaty		
Vienna Convention - Protection of Ozone Layer		
Montreal Protocol - Substances Deplete Ozone		
UN Convention to Combat Desertification		
CITES (protect trade of wildlife species)	June 1997	Rampant wildlife trade with China
UNESCO's Man and the Biosphere (MAB)		Has yet to create a MAB in Burma
Convention on Biological Diversity	Nov. 1994	No Nat'al Biodiversity Strat. & Action Plan yet
World Heritage Convention	Nov. 1994	
Int'al Center for Integrated Mtn Development	1992	Collaboration with Hkakaborazi NP
FAO		Alot of cooperation on forest management
Ramsar Convention on Wetlands	Mar. 2005	Moyingyi Wetland Wildlife Sanctuary est'ed

Table 1. Environmental Treaties Signed by the Burmese junta

Name of Environmental Organization	Project details
Asian Elephant Specialist Group (AESG)	Elephant surveys
Global Tiger Forum (GTF)	Tiger surveys
South-East Asian Zoos Association (SEAZA)	
Washington Park Zoo-Oregon (US)	
Whale & Dolphin Cons. Society (WDCS-UK)	Marine inventory and conservation
David Shepherd Cons. Fdn. (DSCF-UK)	Recently funded bat conservation
Depart. Wildlife & National Parks, Malaysia (DWNP)	
CARE	Conservation (will not respond to questions)
World Concern	Mostly health and agriculture, incl. agroforestry
WildAid	Difficult to obtain information
Birdlife International (UK)	Conservation parks, bird protection
Wildlife Conservation Society (WCS-US)	Conservation parks, large mammal protection
International Neem Network	
Smithsonian Institute in Washington D.C., USA	Wildlife surveys, etc.
JIFPRO (Japan)	Funds of various forestry initiatives
Japanese Overseas Forestry Consult. Assoc. (JOFCA)	Funds of various forestry initiatives
Action for Mangrove Reforestation (ACTMANG)	Mangrove restoration in delta region
California Academy of Sciences	Biodiversity inventory
Harrison Institute (UK)	Biodiversity inventory
FREDA	(National NGO) Forest Conservation
BENCA (National NGO)	Bird conservation
Myanmar Bird and Nature Society (MBNS)	(National NGO) Bird cons. and nature ed.

Table 2. Some Environmental Organizations Operating in Burma

Development of A Model for Environmental Management in Lower Area of Mekong Basin River

Mr. Suwicha Suphama
Khowsuankwang Municipality, Khowsuankwang District
Khonkaen Province 40280
Mobile 0-6666-5369 Fax: 0-4344-9467, 0-4342-3360
suphama@gmail.com, suphama.s@chaiyo.com

Key words: Development/ Model/ Environmental Management

Acknowledgements

The author particularly thanks to the Steering Committee of the Conference of "Trans-border Issues in the Mekong Sub-Region", for the partial grant supported by Faculty of Liberal Arts, Ubon Ratchathani University, Thailand, in collaboration with the Rockefeller Foundation.

This research is successfully completed with the great motivation, kindhearted guidance, and compassionate recommendation of Dr. Nongnapas Thiengkamol. The author would like to deeply thank to her kindliness.

The author also thanks to Police Lieutenant Colonel, Somsak Chairungrueng, Vice Superintendent of Police Precinct 2, Department of Immigration 2, Bangkok Airport, and all police officers of Mukdahan Immigration Checkpoint, particularly Mr. Somsak Saikaew, the manager of boat pier of Town Municipality of Mukdahan, and all municipal officers who assist to cooperate and facilitate for data collection.

Additionally, the author would like to thank my Ph.D. candidate friends in this research team, Ms. Kessanee Koktatong, and Mr. Koon Kruaewan for data collection and analysis, and students of Kaen Nakorn Witayalai School for data collection.

Finally, the author thanks Ms. Nittaya Suphama, my beloved wife and Methus Suphama, my lovely son who inspire, support, and motivate me all the time until this research is completed.

ABSTRACT

The objective of this research is to develop of a model for environmental management in the lower area of Mekong Basin River. The population consisted of community leaders in the lower area of Mekong Basin River. The sample groups are community leaders that are selected by purposive sampling method. The selection will be done after the training need is done with focus group discussion method. The criteria for selection the participant based on the set criteria that are willing to participate, implement, operate, and cooperate in environmental management implementation. The participatory training is used as research method. After training the participants must be willing to act as steering committee, including act as trainer to contribute their knowledge received from the training course independently and together with other participants to practice all activities about environmental management both inside their own communities and outside their communities whenever they free from their work. The participatory training will be implemented with the integration of Appreciate-Influence-Control technique (AIC), for development of a model for environmental management in the lower area of Mekong Basin River. The contents that are used in the participatory training course consisted of environmental management, participatory workshop, principle of environmental education, building community leader competency, healthy city and sustainable development. After operation process is finished. Evaluation of the outcome will use

Participatory Performance, Assessment, Monitoring, Evaluation, and Impact (PAMIE) technique (Thiengkamol, N., 2004). Finally the model will be proposed according to the findings of the research. Before the above implementation will be operated, the preliminary survey has to be implemented to collect fundamental data before participatory training course will be arranged.

Introduction

Mekong River is an international river with the length of 4,909 kilometers. It is the tenth length river of the world and the longest river in Asia with the area of basin of 804, 381 square kilometers which is width with the 24th of the world. This river named with the universal name of "Mekong River" (http://www.st.ac.th/suda/ Printable/ne.txt). It is only river that flows pass through six countries that are Republic of China, Lao People's Democratic Republic, Myanmar, Thailand, Republic of Cambodia, and Republic of Vietnam and it is also a border river between Thailand and Lao People's Democratic Republic. It can be used as transportation and fishery; therefore both Thai and Lao people gain plenty of benefits from it. Moreover, there are different tourism sites along this river (http://www.prachathai.com/news/show. php?Category=vm&No=1572).

From the past to the present, there has been different of development projects happened in the Mekong Basin. Most of the projects were emphasized on the construction of fundamental structures such as road building, port, and electrical power plant for instance. It affects to the complicated ecological system and way of life of million people who live and depend on this river. There are 8 dams locating at the upper region of the Mekong Region in the Unnan Province, Republic of China. These intimidate the others provinces that locate on bank of this river. These projects cause the tremendous changes to natural system on deluge, and drought of water in the river. In addition, it obstructs the flow of clay sediments. These changes cause the remarkable impact to way of life of million people who live at the lower region of Mekong River that are Myanmar, Thailand, Lao, and Vietnam (Teerapong Pothimun, n.d.).

Currently, the cooperation of the countries locate at the bank of the river or water way, on the management of International drainage basin according to the principle of Common management that has been accepted world wide for the case of the river flows through more than one state. Its principle holds on that every state at the bank of river has "Common of interest". The state that locates at upper region does not have the right of use water better than the others. At the aspect of environmental conservation, The International Low Commission (ILC) defined that the state has the obligation to be aware or with conscientiousness to use the water without significant harm to other states in the same basin. In case of damage, state must be consult to the state damaged to make ad hoc adjustments on the issue of pay for damage. It is noticeable that ILC Draft Articles dose not defined the clear function of the state causes the damage due to water use must pay for the state damaged. The state at the bank has solely function or co-function to protect or conserve the ecosystem of international river. Moreover state has to decreases and control pollutions that might cause the damage to others states and consults each other in order to do list of prohibited, limited, or substances controlled that will be drained to the river. Regarding implementing for unallowance of the new species and strange species are contaminated to the ecosystem of river. In addition, all countries must implement the measurement according to the International Rules and Standards (IRS) to protect the environment of sea with the environmental control of river and mouth of river.

Even though, there is international law related to the management of international river basin but in the actual situation, all management of river basin follows the policy formulated by each country without regarding the existing situation and actual life styles of people. Thoroughly, the people do not participate in development of community planning.

Therefore, development of planning that holds the principle of people participation. This principle is actual development of planning together with people but it is not planning for people. It has the fundamental concept and practice at people and mainly depends on their knowledge, living,

and demand. The local people and stakeholders have opportunities to express and exchange their attitudes and opinions to search the choices for their make decision. Setting the direction and demand of Mekong River management are relevant to the way of their sustainable community in order to use the results of the study to be a prototype of development that is matching to the demand and way of life of people at lower region of Mekong River to lead to the sustainable development.

Literature Review

The development plan is set by depending on the principle of people participation is a planning for development based on concept and practice, knowledge provided, way of living and demand of people. In order to let the local people and stakeholders express their attitudes and exchange their ideas and information to search the alternatives, they are able to make decision for guideline setting, and desire of Mekong River management related to their sustainable community. Erwin and William (1976), gave the meaning of people participation that refers the process that lets the people to involve to implementation of work development, cooperated thinking, and co-made to solve their own problems with the cooperate thinking for creative thinking. The skillful knowledge to cooperate to use of the appropriate technique, will be used for monitoring the outcome of involved works.

Kulachan Preeyakorn, (1992) concluded that the participation meant whether individual, group of people, organization that devote to be volunteer to participate in decision making for project implementation to share the benefit and to evaluate the development project with the voluntary mind without the regulation from outsider but it just responses to the demand of community members. In additional, the fair for sharing interest occurred from development will be distributed members' satisfaction and with the owner felling.

Orachon Somsa-Ard (1995) gave the meaning of community participation that the local people play role in implementation to follow the plan and projects of government at the state of decision making what are the problem and demand. The people initiate by themselves, therefore it should lead to the successfulness of plan or project.

Pisit Sukree-Yapong (1999), gave the meaning of people participation that includes the information reception, participates in providing the related information and considering on the detail, advantage and disadvantage of project implementation, and participate since the phase of decision making so they participate both implementation and monitoring also included preventing and solving the problem that happened from the project implementation.

It can be concluded that individuals, groups or organizations dedicate with voluntary mind to participate in the project implantation since the beginning to the end phase of the process. They may participate in any stage or the whole cycle with the congruent ideas, with shared target, in decision making process and take responsible. The action, development, change, and response to needs of members in the community to accomplish the aimed objectives are included. The people participation in environmental management with divergent forms, it depends on the level of people participation. It might start at the work unit information of project to inform the people and it includes allowance of people to play role in that issue as far as they can let people participate.

Cohen and Uphoff (1977) divided participation into 4 types as follows:

1. Decision making composed of 3 stages that are start making decision, making decision, and decide to act
2. Participating implementation composed of resource support, administration, and collaboration.
3. Participation of benefits.
4. Participation of evaluation.

From the concept of people participation in environmental management, it can be concluded that the pattern of participation in term of "Public Information". The people should be received the

actual information in the area from person or related work unit that has to inform the detail of project on implementation and expected outcome. This information must be informed before the decision had to be made to implement that project. "Public Consultation" is the participation on the consultation between implementer and people who involved and received impact in order to hear and check the additional information for report preparation of environmental impact assessment. This is another channel to distribute the information to people who received impact to make more understand about project. Moreover, it should have complementary alternatives for decision making. "Public Meeting" is let the stakeholders use the public stage to make understanding and searching the cause and effect of project implementation in that area or not. The meeting for hearing the opinion can be implemented in different forms in order to be properly with the problematic state and topic of discussion at the community meeting. The meeting will be in term of "Technical Hearing", and "Public Hearing", including "Decision Making" and "Legal Mechanism".

The right of people participation under the environmental law has basic philosophy of the requirement of every citizen to conserve the environment and ecosystem together with the holding that environment and ecosystem are the resource and property of everyone in the society including the local people and all stakeholders to express their attitude and opinion and exchange the information in order to search the option and to make decision. In addition, the direction will be set. The requirement of locality in the Mekong River management involved the way of community in order to develop the sustainable healthy city. The aim of development is a balance of economy, society, and natural resources and environment to accomplish the good quality of life and happiness of people. The important factors for development with balancing and sustainability, it includes the promotion of development of independence and sustainable society. The proper usage and maintenance of the natural resource and environmental balances without the impact to ecosystem, it needs to use the holistic integration. Therefore the cause and effect in all aspects must be considered (Ministry of Natural Resource, n.d.).

The sustainable development means the integration development of three elements (3Es) that are Environment, Economy, and Equity with 5 principles as follows:

1. Regard to the long – term impacts and consequences of development towards human life, it is not merely to solve the facing problem.

2. It is interdependency among economy, environment and social wellbeing.

3. Participation and transparency, any development needs the participatory decision making and transparent is made by social stakeholders.

4. Equity, the sustainable development is emphasized on the importance of equity of races in all aspect of society and taking the responsibility all together.

5. Proactive prevention among races, sustainable development is long term development with the co-expectation of races in society. It is emphasized on the prevention of conflict at beginning that it is better than having conflict in the future.

The sustainable development likes any development activity without regarding only the growth of economy, environment, but it needs to consider on equity or social equity as well (Yanyong In-Muang, 2003).

From the United Nations, the Earth Summit Conference on the Human Environment at Stockholm, Sweden, it was claimed all over the world with regarding impact from the natural exploitation beyond the limit of word resources. Outcome of this conference was "The Stockholm Declaration, 1972". There are 26 issues related to human environment. This is clear in the involvement of all environments towards the global environment. Afterward, in the year 1983, the United Nations established the General Assembly of the United Nations on World Commission on Environment and Development that is called Bruntland Commission in order to study on the balance between environment and development (Commission of National of Social and Economic Development, n.d.) The concept of sustainable development was appeared in the Stockholm Declaration (1972). It was the agreement among countries that influence to development of

environmental law among countries in the feature that called "soft law" because it is not accepted or develop to reach the level of customary international law or treaty. But it is a criterion that defined to behavior, right, and obligation of government. The Stockholm Declaration, 1972, set the frame of principle in the part that involved to 12 principles of sustainable development. There are two dimensions of components that are environmental dimension and ethic dimension that composed of the international cooperation, and suggestion on environment continuously. The equity on usage of natural resources, state right on natural resources consumption, right on environment, missions were regarded. The different missions of each state will insurance the usage that is not harmful or affects to environment of other states.

The concept of sustainable development is accepted among the countries to be used on environmental management in order to achieve the protection of the natural resources and global environment. The guideline of country development is used for alleviation the poverty. In 1992, the United Nations Conference, held the conference called The United Nations Conference on Environment and Development: UNCED) or "Earth Summit" at the Rio de Ja Nairo city, Brazil between June, 3-14, 1992. The results of this meeting was come out of the important document that presented to the collaboration, and agreement to protect environment such as The Rio Declaration on Environment and Development, Agenda 21, and Convention on Biological Diversity.
These indicated to the development and continuity of concept of sustainable development among countries to be accepted. It was finally used as international environmental law.

Additionally, the action plan is prepared for implantation in order to obtain sustainable development. This was bilateral levels, particularly, for the countries that have shared common border so it has an opportunity to cause impact from the trandsboundary pollution. The cooperation in the multilateral levels include regional and global levels that aimed to search guideline, strategies, and action plans. Moreover, the law is issued to protect environment and natural resources, and the suggestion on environment is continuously given from city to city in all aspects of technologies, experiences, prevention method, environmental problem solving, and natural resources conservation by using the processes of network development among countries to monitor, examine the situation of ecosystem and environment, and evaluation with Environmental Impact Assessment (EIA) as the importance principle. The measurements must be used for monitoring, and examining the environmental impact continuously. Moreover, it has to have the measurement to decrease impact both during implementation, and after implementation of the project. The usage of natural resources must pay respect to nature and state sovereignty, particularly, the natural resource in state authority. The usage of resource should not impact to the neighboring countries, thoroughly, the equity of utilization of natural resources together among countries at least two countries with the maximization benefit and equality that cause the minimization damage throgh the based on the sincerity principle and good neighbor through international mechanism of natural resource and environment forever.

Methodology

The research design was implemented in steps by step as follows:

1. The preliminary survey was done in order to search the basic information of the population demographic characteristics and the present situation of environmental management.

2. Tools, the questionnaires were employed for collection and evaluation the behavioral on environmental management.

3. The questionnaires was employed for determination the reliability of each question and the whole document was done by determining the alpha coefficient (α-coefficient) (Sproull, 1988).

4. Population and sample, the samples were 60 peoples who live on the bank of Mekong River, Mukdahan Province, Thailand and Muang Kunthaburi, Khang Sawannaket, People Republic of Lao. Samples were collected by simple randomization technique.

5. The Chi-Square test was used for determine the association between country differences, demographic data and environmental management.

6. The results of preliminary survey will be used as the data base for the arrangement of the concept and content for participatory training integrated with Appreciate-Influence-Control (AIC). During the implementation, the brain storming is used based on SWOT (Strength-Weakness-Opportunity-Threat) analysis and project operation methods of Who, Whom, What, When, Where, Why, and How (6W1H) (Langly, 1998; Weiss, 1993; and Sproull, 1988).

7. The participatory training, principle of environmental education, building community leader competency, healthy city and sustainable development will be prepared. After operation process is finished. Evaluation of the outcome will use Participatory Performance, Assessment, Monitoring, Evaluation, and Impact (PAMIE) technique (Thiengkamol, N., 2004). Finally the model will be proposed according to the findings of the research.

Research Results

The results of environmental management, it indicated that at the country level of lower region of Mekong basin, regarding Loa and Thailand.

The finding illustrated that the nation associated to environmental management statistically significant at level of 0.05 in the issues of environmental management including as follows:

1. Environmental management in the aspect of environment and natural resources inside the community.
2. Environmental management in the aspect of forest resources utilization.
3. Environmental management in the aspect of the international agreement of aquatic animal fishing about the conservation consideration.
4. Environmental management in the aspect of waste disposal.
5. Environmental management in the aspect of environment and natural conservation for Mekong River.
6. Environmental management in the aspect of waste water.
7. Environmental management in the aspect of natural resources.

The finding also indicated that age, sex, marital status, and income had no association to knowledge and perception on environmental management but the different occupation, and education level had association to knowledge and perception on environmental management.

The further phase of research on environmental management, AIC will be used as technique to implement with participatory training. The target group is community leaders at the lower area of Mekong River in order to develop the prototype for raising awareness and changing their behavior of daily practice for alleviating the environmental impact and decreasing of the natural resources exploitation. Moreover, all stakeholders will participate to manage environment of the local area of Mekong River together to attain the sustainable development.

Discussion

Even though, at the lower area of Mekong River, there were a lot of development projects in this basin but most of them were the fundamental structure such as road, port constructions, and electrical power plant for instance. These projects caused the remarkable change of environmental system with the resulting of flood and drought of Mekong River, including the obstruction of clay sediment flow, which affected to the ecological system. Then the biodiversity of the river will be decreased. Therefore, these changes also influence on way of living of million peoples and various

countries that locate at the lower part of river that depend on the Mekong river for living. The water basin management and lifestyles are also relevant to the direction of policy of each country establishment without regarding the existing condition, the actual way of life, and people participation for local policy and planning.

This research, it was found that the people of lower area of Mekong River agree to support for natural resources and environment conservation, and forest resources utilization inside their community. In addition, agreement among countries should be formulated for fishery and aquatic animal conservation, waste management, and environmental maintenance of Mekong Basin.

Therefore, stakeholders' awareness must be raised to perceive the importance of surveillance and maintenance for the river, which is blood that nourishes the people locate at the bank through the brain storming by using the crisis to be an opportunity to recover the way of live of people to live in the good quality environment and enrich natural resources to accomplish the healthy life and peaceful society. Especially, the promotion for people participation on environmental management must be made based on the multidisciplinary concept. That is in terms of environment and social balance with the participation of local stakeholders. People will play role for problem solving, including sharing thinking and practice, and planning to solve their local problem, by themselves. The plan will be prepared and solved their problem among people, organizations both government and non-government organizations, and different institutes by employing AIC technique for operation. This technique has principle based on people thinking and practicing to construct the body of knowledge of living, and to mainly response the people's requirement.

In order to let local people and stakeholder with different age and occupation to have an opportunity, they can express their attitudes, opinions, and information to be alert to search alternatives and make decision. In addition, a guideline of requirement of community people towards lower area at Mekong River management about the way of community is set. Furthermore, the process of people participation will be designated, improved, and developed the effective process, tools, and guideline of people participation to construct the appropriate prototype for other communities for development with the environment and natural resources utilization as maximum profit and minimum natural resources exploitation to attain the sustainable development.

Recommendations

The further research, it should construct the model of environmental management of lower area of Mekong River through holding, the public stage among representatives of community, institutes, and organization that take responsibility on environment to be stimulated and raise the awareness and be alert to perceive and understand the problem happened. Additionally, the promotion will be made to define guideline of environmental development with people participation to perceive the problem happened. In order to search the guideline for solving problem together by brain storming with AIC techniques, the participatory training for community leaders will be arranged. Afterward the prototype is developed to be used for other community and to develop the network for environmental management among people, communities, and organizations. Afterward the evaluation must be continuously done to lead to authentic sustainable development

References

Cohen, J.M. and Uphoff, N. Rural Development Participation: Concept and Measures for Project Design Implementation and Evaluation. New York: Cornell University, 1977.

Erwin and William. Participation Management: Concept, Theory and Implementation. Atlanta: Ga. Georgia State University Press, 1976.

Langly, A. (1998). "*The Roles of Formal Strategic Planning*" Long Range Planning. Vol. 21, No.1.

Sproull, N.L.,(1988). Handbook of Research Method: A Guide for Practitioners and Students in the Social Science.

Thiengkamol, N., (2004). *Development of A Learning Network Model for Energy Conservation.* A Thesis Doctor of Education (Environmental Education) Faculty of Graduate Studies, Mahidol University.

Weiss, J.W., (1993). *5-phase Project Management: A Practical Planning & Implementation Guide.*

http://www.st.ac.th/suda/Printable/ne.txt

http://www.prachathai.com/news/show.phpCategory=vm &No=1572

กระทรวงทรัพยากรธรรมชาติ กระทรวงมหาดไทยและสมาคมสันนิบาตเทศบาลแห่งประเทศไทย. เมืองน่าอยู่:รายงานการสัมมนาการสนับสนุนองค์กรปกครองส่วนท้องถิ่นฯ. ม.ป.ท. ม.ป.ป.

กุลจันทร์ ปรียากร. ทฤษฎีแนวคิดและกลยุทธ์เกี่ยวกับการพัฒนา. กรุงเทพฯ: สถาบันบัณฑิตพัฒนบริหารศาสตร์, 2535.

ธีระพงศ์ โพธิมั่น. เขื่อนแม่น้ำโขงตอนบนในประเทศจีน : อันตรายของคนหลายล้านในแม่น้ำตอนล่าง. ม.ป.ท., ม.ป.ป.

พิสิฐ ศุกรียงศ์. การมีส่วนร่วมของประชาชนในการจัดการมูลฝอยชุมชนในสมาคมที่ปรึกษาสิ่งแวดล้อมไทย, สำนักงานนโยบายและแผนสิ่งแวดล้อม และมหาวิทยาลัยเชียงใหม่. เอกสารประกอบการสัมมนาเชิงปฏิบัติการเรื่อง รูปแบบที่เหมาะสมในการบริหารจัดการมูลฝอยชุมชน. ม.ป.ท, 2542.

ยรรยงค์ อินทร์ม่วงและคนอื่น ๆ. การเฝ้าระวังคุณภาพสิ่งแวดล้อม. ขอนแก่น: โรงพิมพ์คลังนานาวิทยา, 2546

สำนักงานคณะกรรมการพัฒนาการเศรษฐกิจและสังคมแห่งชาติ. เศรษฐกิจพอเพียงคืออะไร?. ม.ป.ท., ม.ป.ป.

อรชร สมสะอาด. การศึกษาระดับและปัจจัยที่มีผลต่อการมีส่วนร่วมของประชาชนในการดำเนินงานโครงการธนาคารน้ำ: กรณีศึกษาจังหวัดสุรินทร์. วิทยานิพนธ์ วท.ม. กรุงเทพฯ: มหาวิทยาลัยมหิดล, 2538.

หน้าว่าง

Theme E

Regional Market Economy

Trade and Transport Logistics In The Upper Mekong Riparian Countries

Author: Sumalee SUKDANONT, Researcher,
Transportation Institute, Chulalongkorn University
6th Floor, Prajadhipok - Rambhaibarn Building,
Phayathai Road, Bangkok 10330, Thailand
Tel. 02 218 - 7448, Fax 02 218 - 7446
E-mail address: Sumalee.s@chula.ac.th

ABSTRACT

The Upper Mekong Riparian Countries consist of four countries namely Thailand, Laos, Myanmar, and Yunnan (South China). Although they were once fragmented by different political systems, the long historic relation for more than thousand years and the end of the cold war have led to revival of the old ties of trade and cultural relationship.

This paper concerns about the cross border trade between Thailand and the other upper Mekong riparian countries. It presents the importance of the cross border trade and how it is performed through the economic gateways in the north and the northeast of Thailand namely Chiangrai, Tak and Nongkhai. In addition the problems and obstacles of the trade are discussed. The other part of the article deals with the transport networks that link the sub - region, and the major trade routes. Moreover, it discusses the role that each riparian countries contribute to the trade and transport logistics of the sub - region.

Keywords: Mekong, cross border trade, transport

1. INTRODUCTION

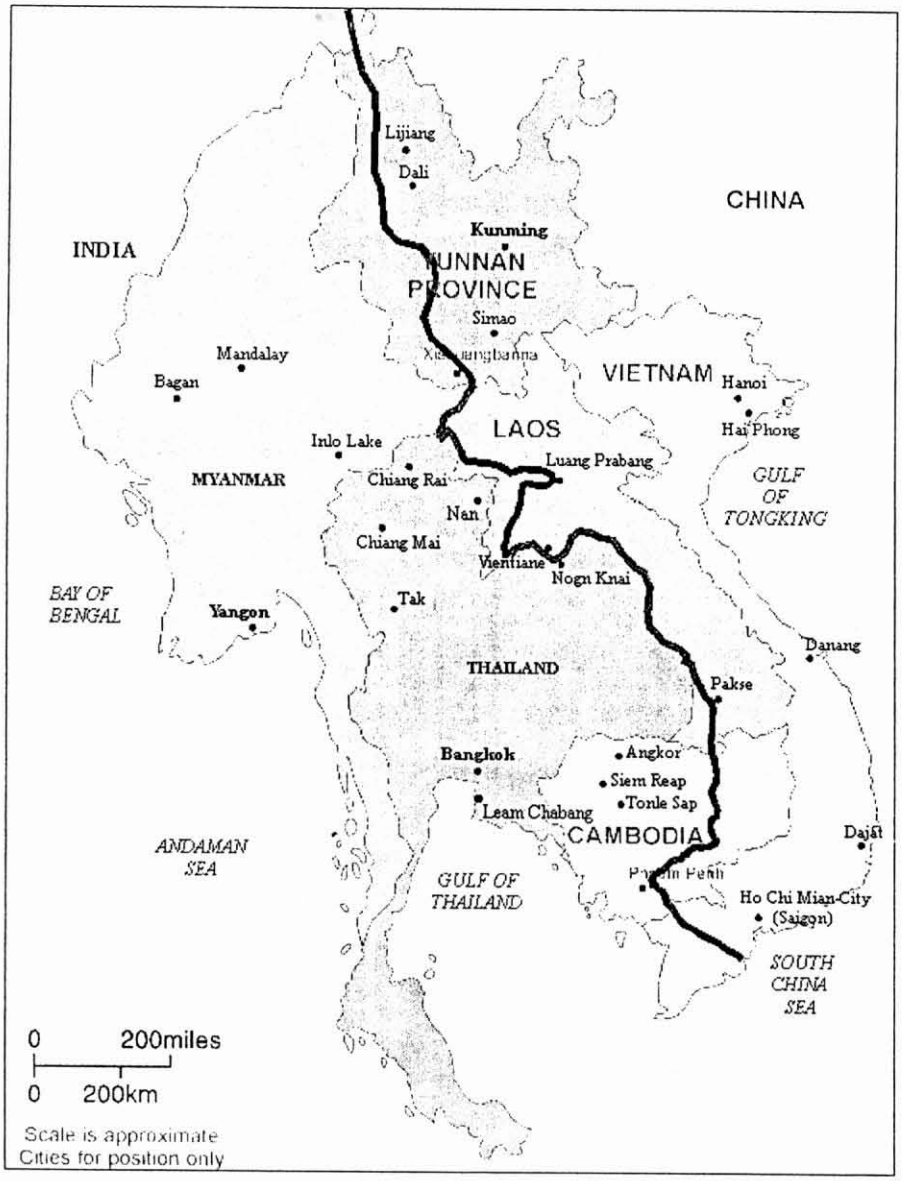
The Upper Mekong riparian countries, except Thailand, have been in the international trade with the free market economic countries for about two decades. After long years of socialist economy and barter system mostly with the USSR, they have been left poor in comparison with the other Southeast Asia countries namely Indonesia, Malaysia, Singapore and Thailand. The collapse of the USSR has urged on these countries to quickly open up doors for foreign investment and trade.

Since 1988 Thai economy has been more dependent on international trade than other sectors of economic activity. The foreign investment helps the country to become new industrial country. Hence the Thai products especially consumer products are highly welcomed by the other three countries in the sub - region.

The cross border trade of Thailand and the upper Mekong riparian countries is performed through the provinces that lie along the borderlines in the north and the northeast of the country. These provinces function as the economic gateways to the neighbouring countries.

- Chiang Rai. It is in the north of the country. It adjoins Myanmar at Mae Sai where the first Thai - Myanmar Bridge was built. At Chiangsan it borders both Myanmar and Laos. Here is the renowned Golden Triangle where the Mekong River is the natural demarcation line. It borders Laos at Chiangkong where the Mekong River turns to Loas. Chiangrai claims to be the gateway to the upper Mekong since it is just 200 - 300 kilometres to the border of Yunnan, the south of China.

Figure 1 : The Mekong Riparian Countries



• Nan. It is also in the north of the country. It shares the common 277 - kilometre borderline with Laos. Nan may be less important in term of cross border trade but it is a linkage of the north of Laos. From the borderland, Houykhon, it is just 90 kilometres to reach Pak Bang, the biggest inland port along the Mekong River and the most important port in the north of Laos. Pak Bang is 296 kilometres from Mohan, the Chinese border.

• Tak. It is in the northwest of the country. Five districts along the west of Tak adjoins Myanmar. The most important district is Mae Sod, it is about 300 kilometre from Yangon, the capital of Myanmar.

• Nong Khai. It is in the northeast of Thailand, opposite Vientiane, the capital and the centre for trade and transport of Laos. Here again the Mekong River becomes the natural demarcation line between the two countries and the first Thai - Laos Friendship Bridge across the Mekong River was constructed.

2. *TRADE IN THE UPPER MEKONG RIPARIAN COUNTRIES*

From the field survey, it is found that the cross border trade is performed in two manners. One is processed in accordance with the customs formality. They are import and export, and transit cargoes. The other is the trade in informal style. This is a traditional way of trading. It has existed before the customs was set up. People along the border cross the border to purchase daily consumer products. Goods are carried back either to consume or to sell in their villages. Although the goods in each individual trip may not be remarkable, when gathered up they are immense both in volume and in value. The statistics of the informal cross border trade are not able to collected. However in some borderlands, it is estimated that the informal trade is even much higher than the formal one.

2004 - 2001 ountries Cross Border Trade Upper Mekong Riparian C -Thai

Million Baht :Unit

Years	2001	2002	2003	2004
Myanmar — Thai				
Trade Value	*40,536.40*	*43,152.32*	*57,712.82*	*67,668.46*
Export	7,444.9	6,286.82	11,994.60	18,913.3
Import	33,091.50	36,865.50	45,718.22	48,755.16
Trade Balance	25,646.60 -	30,578.68-	33,723.62 -	29,841.86-
R.D.Lao P -Thai				
Trade Value	*11,249.50*	*20,510.77*	*21,912.37*	*28,805.31*
Export	10,810.30	16,233.10	17,452.95	23,792.02
Import	439.2	4,277.67	4,459.42	5,013.2
Trade Balance	10,371.10	11,955.43	12,993.53	18,778.73
Yunnan — Thai				
eTrade Valu	*1,146.43*	*3,209.08*	*4,217.54*	*3,352.63*
Export	838.2	2,738.47	3,129.36	2,110.26
Import	308.2	470.61	1,088.18	1,242.3
Trade Balance	530.01	2,267.86	2,041.18	867.89

Source: Information and Communication Technology Center, Department of Foreign Trade, Ministry of Commerce

The cross border trade between Thailand and the three countries has steadily increased over the past four years. In this paper it discusses on the cross border trade of the major economic gateways in the north and the northeast of Thailand namely Mae Sod, Mae Sai, Chiang Saen, and Nong Kai.

2.1 Thai - Myanmar Cross Border Trade

Myanmar borders the northern and the north-western part of Thailand along a 2,401 - kilometer international boundary.

The Thai - Myanmar cross border trade has steadily increased over the past 4 years. At the end of the year 2004 the trade value was 67,668 million baht, increased from the previous year 15%. The major exports are consumer products, fuel, and building material. The major imports are natural gas,[1] livestock, frozen aquatic animals. This makes the Thai cross border trade unfavorable.

[1] It is imported via Kanchanaburi, which is in the west of Thailand.

The Thai - Myanamar cross border trade is mostly via the two economic gateways in the north of Thailand. One is Mae Sod in Tak the other is Mae Sai in Chiang Rai.

- Mae Sod

Mae Sod adjoins Myawadey, Kayin State of Myanmar. The Muey River is the natural demarcation line between the two countries. Since the second Thai - Myanmar Bridge was completed the construction in 1997, the trade volume via Mae Sod has increased continuously.

According to Mae Sod Customs House, the major imports from Myanmar are frozen aquatic animals and livestock because Mae Sot is only150 kilometres from Mawlamyine which is one of the major fishing ports in Myanmar. The major exports to Myanmar are consumer products such as vegetable oil and seasoning powder, and second hand vehicles which are from third country namely Japan.

Figure 2 : Mae Sod Customs Checkpoints, Thai - Myanmar Bridge

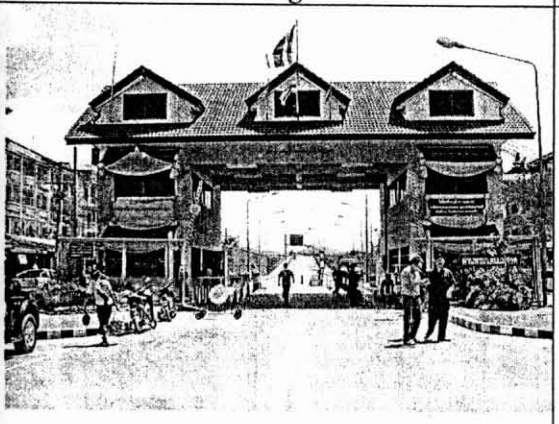
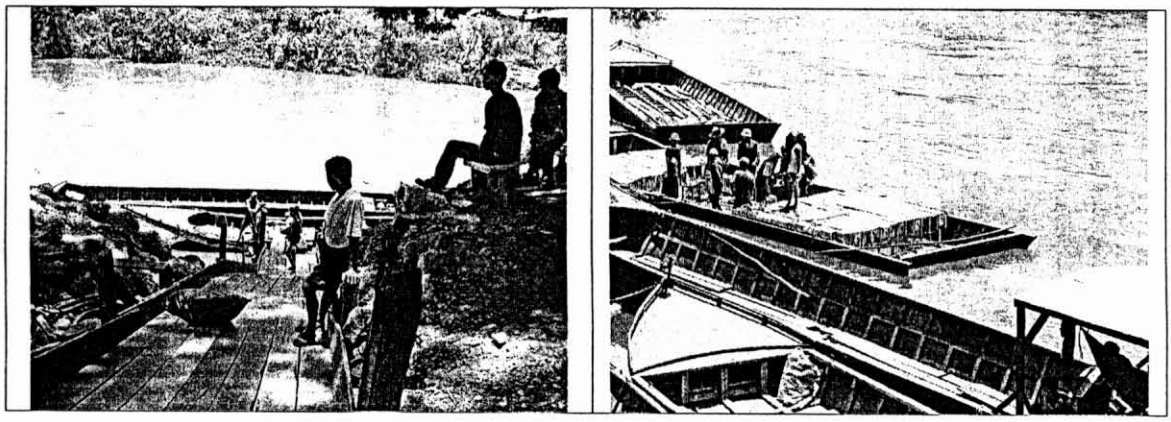


Figure 3 : One of the Major Exports to Myanmar, Second Hand Vehicles

The cross border trade of Mae Sod is performed in two manners. One is regularly crossing the border via the customs checkpoint which situates on the Thai - Myanmar Bridge. The other is crossing the Muey River via the temporary permission checkpoints called in Thai "Ta Kham". There are ten of them along the Muey River. These kind of exports are handled in a very primitive manner. The goods are piled up on the river bank. Then they are conveyed into barges by wooden slides and crossed the river to Myawadey. This type of cargo handling employs hundreds of labours who are most poor Karen from Myanmar.

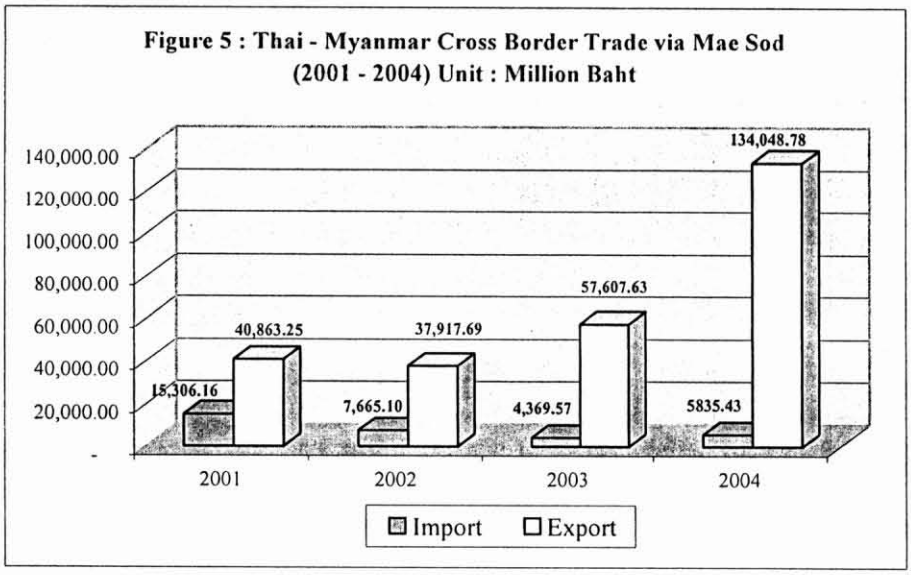
Figure 4 : Handling of Exports to Myanmar via "Ta Kham" along the Muey River



This kind of cross border trade necessarily exists because some of Thai exports namely seasoning powder are considered by the Myanmese Government illegal hence they are not allowed to be transported on the Bridge to Myanmar. Nor are the four million ethnic Karen to regularly handle their importation through the customs checkpoint.

The exports of Myanmar have been increasing dramatically. In 2004 it increased about 130%. This is because these few years Myanmar has been boycotted by the United States and the EU which affects the seaborne trade of the country. Mae Sod becomes the most important channel for exportation of the country since this is the shortest route (310 kilometres) from the Thai border to Yangon, the capital of the country.

Figure 5 : Thai - Myanmar Cross Border Trade via Mae Sod (2001 - 2004) Unit : Million Baht

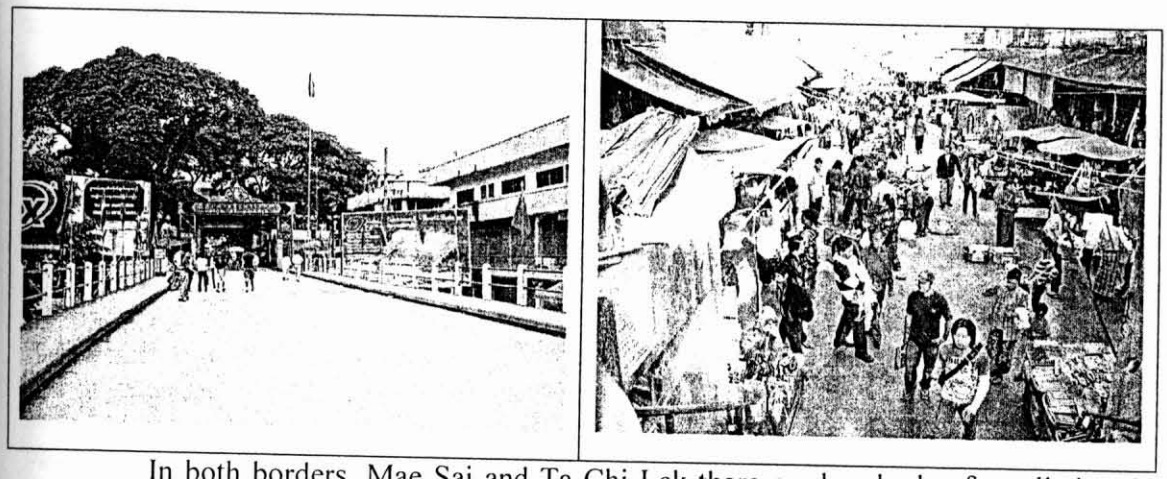


Source : Mae Sod Customs House

- Mae Sai

Mae Sai is very similar to Mae Sod in term that it adjoins Ta Che Lek, Shan State of which most of the population is the ethic and has a river, the Sai River as the natural demarcation line. The first Thai - Myanmar Bridge has been constructed which made Mae Sai once became the top customs checkpoint in the north of the country. Nevertheless the border used to close from time to time due to the attack between the Myanmese Government and the ethic troop. The importance of Mae Sai is that here is the shortest to reach the Chinese border.

Figure 6 : Mae Sai Thai - Myanmar Bridge	Figure 7 : Hundreds of Small Shop-house in Mae Sai and Ta Chi Lek

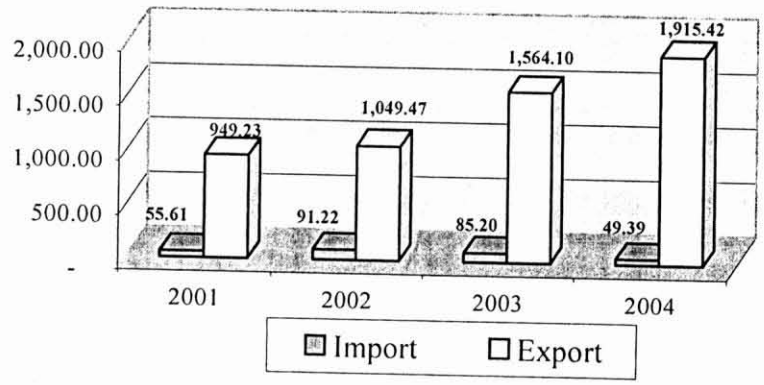


In both borders, Mae Sai and Ta Chi Lek there are hundreds of small shop-houses selling consumer products. From the field survey it is noticed that most of them are made in China. It is learnt from the Mae Sai customs officers that some of these Chinese goods are transported from Shanghai Port (the east of China) by sea to Bangkok Port and on - going trucking to the border. The distance from the industrial area in the east of China to south is over 4,000 kilometres. The inland transportation of goods through the southern highlands requires much more time than the sea transportation. The carriage of these goods by sea even spend less time and cost than by inland transport.

Source : Mae Sai Customs House

According to Mae Sai Customs House, the major imports from Myanmar are livestock and

Figure 8 : Thai - Myanmar Cross Border Trade via Mae Sai (2001 - 2004) Unit : Million Baht



the major exports to Myanmar are fuel, building materials and consumer products. The Thai cross border trade via Mae Sai is favorable. The exports in 2001 - 2004 is average higher than the imports almost 95%. In 2003 the export was higher than 2002 upto 33% and 2004 is higher than the previous year 18%. This is because the construction of Mae Sai - Ta Chi Lek - Kyaington - Muang La which leads to the Chinese border has been completed.

- Problems and Obstacles to Thai - Myanmar Cross Border Trade

Both Tak and Chiang Rai (as well as other provinces of Thailand) border to the Myanmese states where the majority are ethnic. Hence most of the problems are the result of the conflicts between the Myamese Government and the ethnic. The attacks between them causes to closing of the border from time to time. Discrimination against the ethnic of the Myanmese Government, migration of the

inhabitants along the borderlines, smuggling and drug traffic these directly obstruct the cross border trade of the two countries.

2.2 Thai - Laos Cross Border Trade

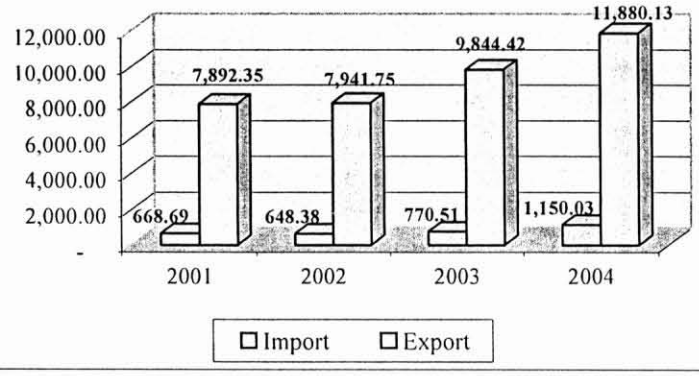
The Thai - Laos cross border trade over the past 4 years also increased continuously with the average 25%. At the end of the year 2004 the trade value was 28,508 million baht increasing from previous year 24%. The major exports to Laos are fuel and consumer products. The major imports are logs and timbers which are 78% of the total exports.

Nong Khai is the most important economic gateways to Laos. It is opposite to Vientiane the capital and also the centre of trade and transport. In the past the cross border goods were transported by ferry to Ta Na Lang. In April 1994 the first Thai - Laos Friendship Bridge was constructed to link Nong Khai and the capital of Laos. Since then all of the goods have been transported by truck across the bridge to Vientiane. From Vientiane, they are distributed throughout the country. Since the bridge was in operations the cross trade volume has increased steadily.

Figure 9 : Thai - Laos Friendship Bridge Checkpoint (in Nongkai)

Figure 10 : Thai - Laos Friendship Bridge Checkpoint (in Ta Na Lang)

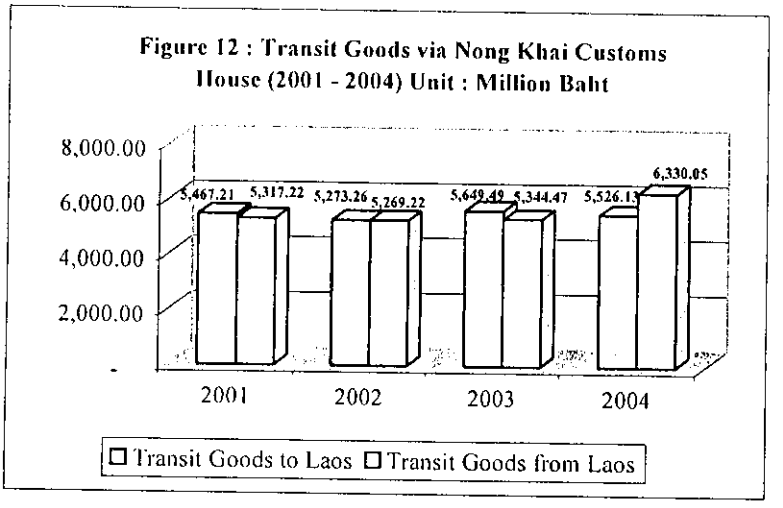
Figure 11 : Thai - Laos Cross Border Trade via Nong Khai (2001 - 2004) Unit : Million Baht



Source : Nong Khai Customs House

According to Nong Khai Customs House, the major imports from Loas are logs and timbers and the major exports are fuel and consumer products. The Thai cross border trade via Nong Khai is favorable. The exports in 2001 - 2003 is average higher than the imports almost 92%. In 2003 the export was higher than 2002 about 19%.

Figure 12 : Transit Goods via Nong Khai Customs House (2001 - 2004) Unit : Million Baht



Source : Nong Khai Customs House

Laos is a landlocked country therefore her seaborne trade is passed through Thai port, mostly Bangkok Port. All the transit goods are transported to and from Loas to the third countries via the Thai - Laos Friendship Bridge Checkpoint.

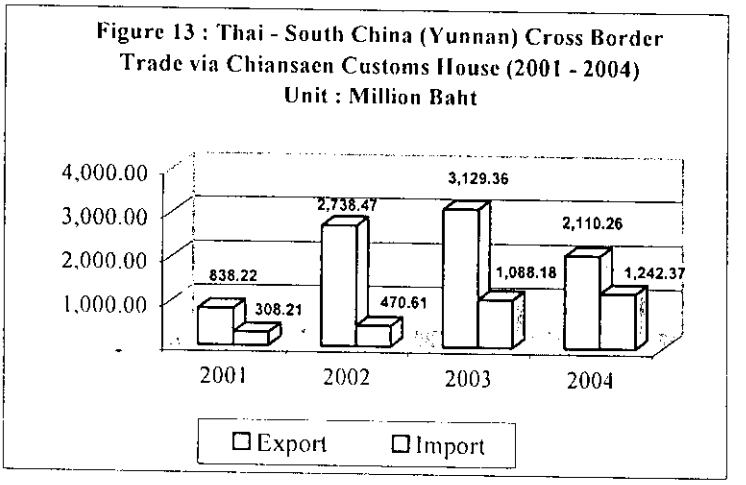
- Problems and Obstacles to Thai - Laos Cross Border Trade

Most of the problems are from the inconsistent trade system of Laos. Since she has just reformed her economics for about two decades so the trade system is still not up to international standard. With a solid political background it is believed that she is able to pick up very soon. When compare to other neighbouring countries, the Thai - Laos cross border trade is far more advanced. The two countries recently (5 March, 1999) concluded bilateral road transport agreement which benefit not only to road transport but also to cross border trade of the two countries.

2.3 Thai - South China Cross Border Trade

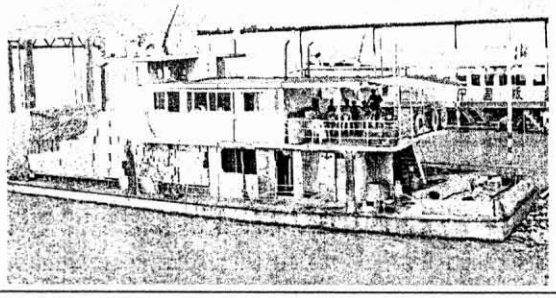
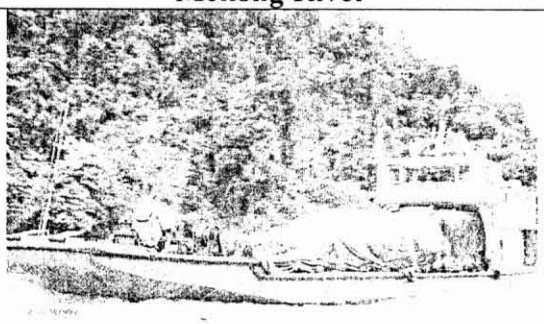
In the past 4 years the Thai - Yunnan cross border trade also increase steadily at the average of 21%. Especially in 2002 the trade value increased from the previous year 64%. There are two reasons of the increasing of the trade value. One is blasting away the rapids in the upper stretch of the Mekong River. This enables vessels of 100 tons from Yunnan to sail down to Chiangsaen.

Figure 13 : Thai - South China (Yunnan) Cross Border Trade via Chiansaen Customs House (2001 - 2004) Unit : Million Baht



Source : Information and Communication Technology Center, Department of Foreign Trade, Ministry of Commerce

The other is the construction of the inland port in Chiangsaen. The port completed the construction in 2001 and started the operations in 2002. In 2003 the volume of import and export cargoes were 21,991 and 52,423 tons accordingly. The major exports are dried longans (a kind of tropical fruit) and rubber. The major imports are fresh fruit and vegetable.[1] The numbers of vessel called at the port were 1,700. Most of them were Chinese cargo vessels.

Figure : 14 Chiangsan Inland Port	Figure : 15 Cargo Vessel along the Mekong River
	

The problem of Thai - Yunnan cross border trade is the two countries share no common borderlines. The road transportation has to pass through either Laos or Myanmar which has not been completed yet. Therefore all of the cross border goods are transported via the Mekong River. Although the river has been tamed for navigation in some parts, due to the huge seasonal flow fluctuation it is not navigable throughout the year.

TRANSPORT LOGISTICS IN THE UPPER MEKONG RIPARIAN COUNTRIES

The Mekong River

The Mekong River flows from the Tibetan high plateau. The river is 4,809 kilometres, it is the longest river in Southeast Asia. This international river flows through six nations namely Yunnan (south China) Myanmar, Laos, Thailand, Cambodia, and Vietnam. Its basin covers an area of 810,000 square kilometres. According to hydrology the Mekong can be divided into three parts, the upper stretch, the middle stretch and the lower reaches. This paper concerns mostly about the upper and middle stretch.

[1] Source : http://www.bkp.port.co.th/csp/

The upper stretch.

Figure 16 : Giant Rapids in the Upper Stretch

This part is from the Tibetan headwaters to the Golden Triangle. It becomes Myanmar - Laos - Thai national demarcation lines. Almost half of the river, 2,198 kilometres of Mekong's 4,809 kilometres, is in side the Chinese border.

During the colonisation period the French had explored this part of the river. The outcome was negative. The major obstacles to navigation were abound in rapids and cataracts.[1]

The China tries to develop the upper Mekong including construction dams and blasting of rapids and reefs. China claims that the hydropower dams will ease the annual cycles of flooding and water shortage in the Mekong Basin. While blasting of rapids and reefs to deepen navigation channels will foster the regional trade. Between Jinghong, China and Luangphrabang, Laos (354 kilometres) 66 rapids are identified very dangerous for navigation. In the past only ships less than 50 tons could be navigable. China and the other three Mekong riparian countries have sign up for blasting away 12 rapids. At present 11 rapids have been blasted away. This allows 150 - ton ships to ply between China and the Golden Triangle town of Chiang Saen. The development aims to accommodate a boat up to 300 - 500 tons. This development increases the trade volume of Thailand and the south China.

- The middle stretch

After the Golden Triangle the river turns to Laos passing Bo Kaew, Luangphrabang, Xiagnaburi and Vientiane. During the French colonisation it was considered to be the most important for transportation of goods from Vientiane to Cambodia. The French set up the navigation channel and navigation aids. From the field survey, it is found that these navigation facilities have existed up to present.

This part of the river provides Laos with the most useful natural navigable waterways for transport. About half of the total length becomes the Thai - Laos demarcation line. In absence of a good highway system in Laos, the entire length of the country, along the Mekong valley, has developed intimate trade with Thailand. With common heritage, culture and language, it is indeed natural that people on both sides of the river to become friends or relatives. It is thanks to the extensive road and rail networks of northeastern Thailand, as well as the geometric position of the Thai side that Thai provinces have become centres of trade activities. The two - way flow of goods conveniently find ways through Thai province of Nong Khai, Mukdaharn and Ubonrachatani.[2]

- The lower reaches

This part begins where the Khone Falls plunge into Cambodia and end in the Vietnamese delta. The river is a steady and faithful supplier of freshwater for Cambodia, with Tonle Sap, the great lake, as the natural reservoir regulation the level. It gives Vietnam one of the world's most fertile deltas for rice cultivation.

---

[1] Ittiphol Pan - ngum, "Thailand as the Gateway to Indochina," Paper presented at the Seminar on "Indochina : Vietnam - Laos - Cambodia", at the Grand Hotel, Karl Johansgate, Oslo, Norway, 1992.

[2] Ibid.

- **Problems and Obstacles to Transport via the Mekong**

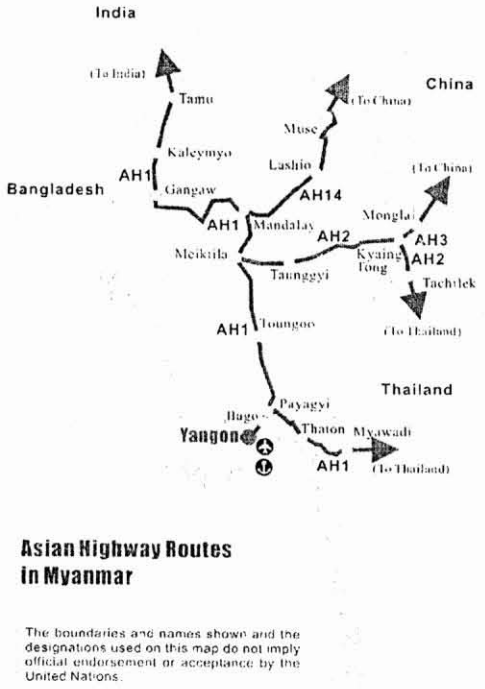
The development or the Mekong is seriously criticised by conservative groups. They believe that the development threatens the livelihoods and life downstream. Blasting away of the river rapids may result in changes in the river current and soil erosion. Some even fears that the borderlines may change. The conflict between two activities, the river development for trade and economics, and conservation of natural resources is inevitable. On the other hand it has to be carefully compromised.

The other problem that may occur when the transport volume in the Mekong increases is the conflict between transportation and fishing. The vessels sailing along the Mekong consist of cargo vessel, passenger, and cruise. These vessels sometimes may cause problems to fishing in the river, especially in the dry season when the navigation channel is limited. On the other hand the fishing tools found along the river namely set gill net, drift grill net, set bamboo trap and set line may obstruct the navigation channel. The two activities may result to conflicts when the transportation increases. To avoid the problem, the navigation channel and the fishing area have to be set up along the river.[1]

Land Transport

At present several initiatives are designated to create international links for road transportation, including Asian Highway Project and Greater Mekong Sub - region Cooperation.

Figure 17 : Asian Highway Routes in Myanmar



Source: The Development of an Operational Plan According to International Road Agreement Between Thailand and Neighbouring Countries (Executive Summary), P.6.

[1] Sukdanont, Sumalee and others, Trade and Transport in the Economic Quadrangle. (Bangkok : Merchant Marine Institut, 1997) p 42 - 43.

Land Transport Network in Myanmar

The total highways in Myanmar are 27,600 kilometres but only 12% of the roads are paved.[1] The major road system was laid out during the colonisation. Because of the conflict among the nation and the economics problem most of the roads in Myanmar are abandoned without prompt maintenance. The route that connects Thailand, Myanmar and Yunnan is as follows:

Mae Sai	→	*Ta Chi Lek*	→	*Kengtong*	→	*Mong La*	→	*Da Luo*	→	*Jinghong*	→	*Simao*	→	*Kunming*
Total 1,018 km :		*164 km*		*85 km*				*131 km*		*165 km*		*473 km*		

This is the shortest route that links Thailand, Myanmar and Kunming, the capital of Yunnan (the total length is about 1,018 kilometres). The road is in good condition for the construction was completed and started the operations in April 2004. This route is under the influence of the ethnic Wa. In the past this was the route for drug traffic. This was one the most dangerous route in the region. After the restoration peace to the Shan State (east) Special Region 4, Mong La, it is now safe for the transportation.

From the field survey, The road is a 2 - lane highway without shoulder. It passes the rural and mountainous terrain. The traffic volume is very low, approximately 400 vehicles per day. Most of them are passenger buses and vans from Mae Sai, lorries from Yunnan and oil tankers from Thailand. The problem is it is quite difficult for the road to crop with heavy traffic, if the trade volume of the sub - region increases.

Figure 18 : The Highway Ta Chi Lek - Mong La

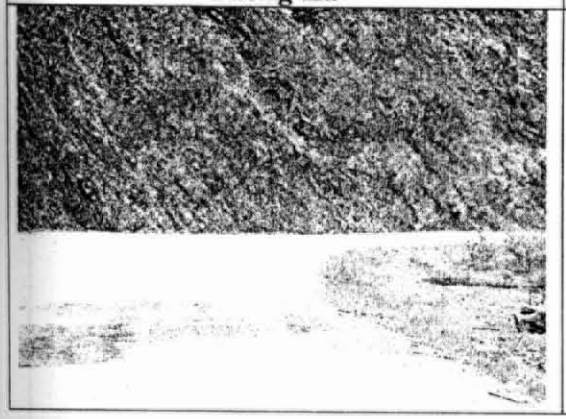
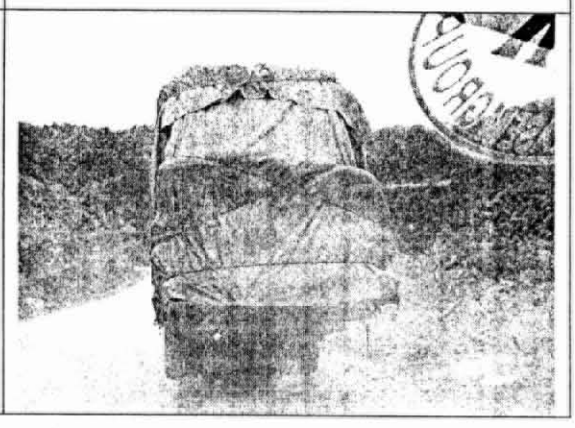


Figure 19 : The Lorry from Yunnan



The railroads in Mayanmar are total 3,569 kilometres. They are metre- gauge railroads. They also have been laid out since the British Colonisation still in service with a low maintenace. Most of the lines ran north - south, including the Yangon - Mandalay railway, and from Mandalay to Myitkyina in the extreme north. Other lines runs north - eastwards from Mandalay of Lashio close to the Chinese border.

- **Land Transport Network in Laos**

The road system has to bore the brunt of the transport demands since there is no rails in the country. The system at present has 14,130 kilometres of which only 15% are paved.[2] There are three major routes that connect Thailand, Laos and Yunnan as follows.

---

[1] http://www.loglink.com/countryprofile.asp?id=133

[2] http://www.loglink.com/countryprofile.asp?id=133

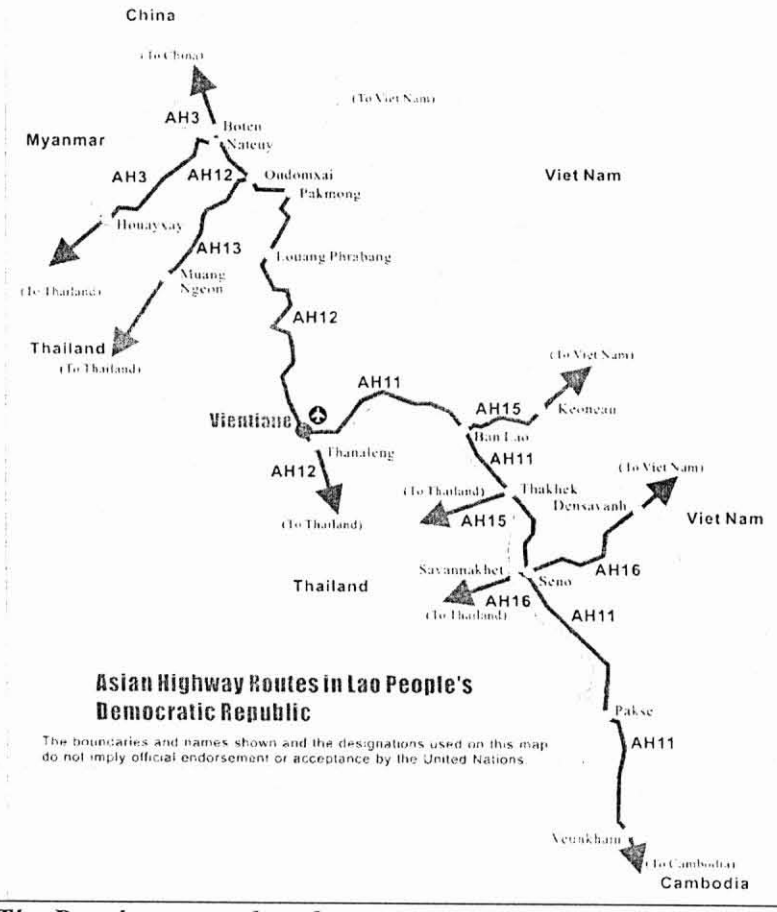
Nongkhai	→ Vientiane	→ Luangphrabang	→ Udomxai	→ Luangnamtha	→ Boten	→ Bohan	→ Jinghong	→ Simao	→ Kunming
Total 2,114	30 km	823 km	194 km	115 km	84 km	230 km	165 km	473 km	

Houykhon	→ Pak Bang	→ Udomxai	→ Boten	→ Bohan	→ Jinghong	→ Simao	→ Kunming
Tatal 1,200	88 km	144 km	100 km	230 km	165 km	473 km	

Chiangkhong	→ Houayxay	→ Bo Kaew	→ Luangnamtha	→ Boten	→ Bohan	→ Jinghong	→ Simao	→ Kunming
Total 1,103	84 km	67 km	84 km	230 km	165 km	473 km		

The major highway is the arterial road No.13 (total length 1,370 kilometres) was built strategically longitudinal, traversing the entire length of Laos. The road links Nong Khai and Vientiane. Towards the north it leads Luangphrabang and intersects the lateral road No.1 (AH12) that leads to Udomxai, Luangnamtha and Bo Ten the borderland. At the same time another two lateral roads No.2B (AH13) and No.3 (AH3) intersects the road No.13 at Udomxai. The former starts from Pak Bang joining road No.1 at Udomxai and running to the Chinese border. The latter runs downward to Houaysay along the Mekong River which the opposite is Chiangkhong of Thailand.

Figure 20 : Asian Highway Routes in Laos



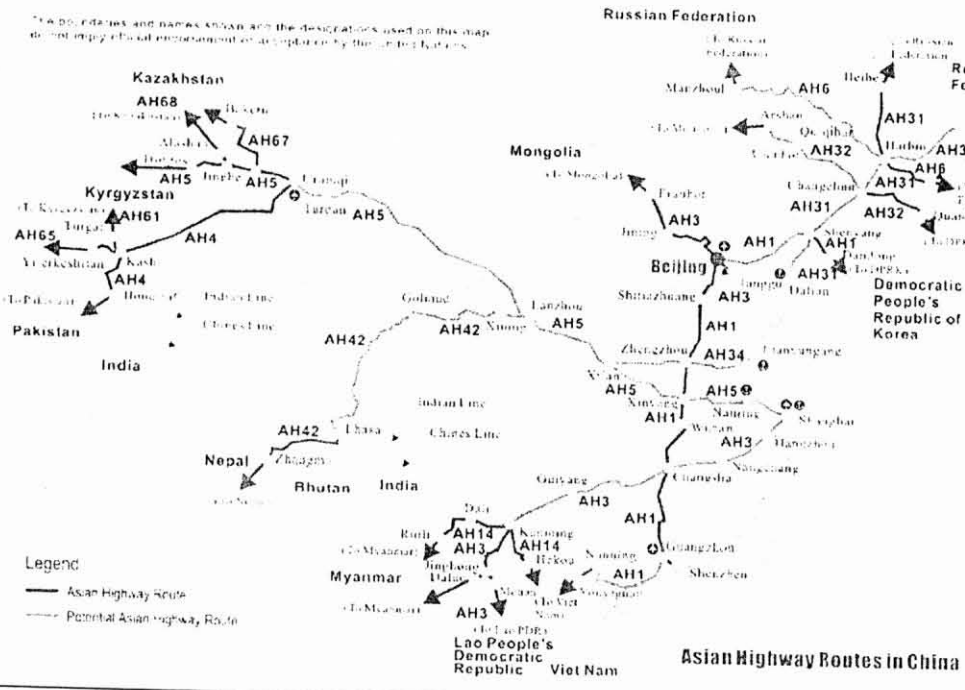
Source : The Development of an Operational Plan According to International Road Agreement Between Thailand and Neighbouring Countries (Executive Summary), Page 5.

Among the three linkages, the shortest route to Kunming is the third one, the total length is 1,103 kilometres. Moreover, there is a project to build a bridge at Chiangkhong. Technically the roads in Laos are of old designs with low load bearing capacity. The road network was laid out relatively by the French Colonial Government. The long neglect during the war of national liberation left the roads in poor conditions. However, there is a plan to improve this route which technically supported by ADB.

- **Land Transport Network in Yunnan**

The total roads in Yunnan are 160,000 kilometres and 2.4% are highways. Up to 2003 the roads have been paved 110,100 kilometres. Anyhow when compare to other provinces of China , road development of Yunnam is still very poor.[1]

Figure 21 : Asian Highway Routes in Yunnan (South China)



Source : The Development of an Operational Plan According to International Road Agreement Between Thailand and Neighbouring Countries (Executive Summary), Page 7.

Yunnan is considered to be the gateway to ASEAN. Hence by the year of 2010 which is the last year of the 11th social and economics plan of Yunnan, all the roads that link Yunnan with the neighbouring countries will be developed to 4 - lane highways. They are recognised as state highways which including: [2]

- Kunming - Hekou : AH14 (borders to Lao Cai of Vietnam)
- Kunming - Bohan : AH3 (border to Boten of Laos)

This is a class 2 highway. As mentioned above this road connects the roads in Laos running to the border of Thailand. The total length of the new constructed Kunming - Bohan is 675 Kilometres. At present two third of the route have been accomplised. The construction of the new road is in three parts as follows.

[1] Sorawit Narupiti and others, The Development of an Operational Plan According to International Road Agreement Between Thailand and Neighbouring Countries (Bangkok : Department of Land Transport, 2005), P. 549.

[2] Ibid, P.545.

: Kunming - Simao is 400 kilometres. It has been developed to 4 - lanes highway and has already started the operations.

: Simao - Jinghong is 100 kilometres. It is under the construction and expected to be accomplished in 2006.

: Jinghong - Bohan is 175 kilometres. The construction was started in December, 2004. The construction of this road including tunnels and bridges will take quite a long time, because the highway is mountainous terrain.

•Kunming - Ruili : AH14 (border to Muse of Myanmar)

This road connects the Myanmar Road (Musa - Lashio - Mandalay - Yangon) The total length is 750 kilometres. The construction of 600 kilometres have been accomplised. The second part, Longling - Ruili, 80 kilometres have been completed. The rest is under construction. This is also class 2 highway.

There is a limited rail network inside Yunnan. The total rail networks are only 2,340 kilometres. At present there is only one railroad that link Yunnan with the neighbouring country, Kunming - Hekou. It was laid out by the French when Indochina was formed to be a gateway to Central China. The French lost some time in constructing a railway from the port of Haiphong to Yunnan because Yunnan comprises some country presenting great difficulty to the railway engineer. This section of the railway is 240 miles long. It was completed in 1910 after some eight years of struggle against the forces of nature. Another line is Kunming - Hanoi, about 350 kilometres. It runs from Hanoi into the Yunnan province at Langchow.[1]

In the 11th plan, Yunnan plan to construct the standard gauge rail links with the upper Mekong riparian countries as follows:[2]

•Kunming - Mengz - Hekou (315 kilometres)

This will parallel the old line

•Kunming - Simao - Jinghong - Bohan (559 kilometres)

This will connect the railroad Nonkhai - Vientiane - Luangphrabang in the future.

•Kunming - Dali - Ruili (478 kilometres)

This will connect the railroads in Myanmar which divides into 2 lines.

: Lashio - Mandalay - Yangon

: Myitkyina - Mandalay – Yangon

- **Land Transport Network in Thailand**

The total highways are 77,697 kilometres with the 46% have been paved.[3] All of the highways in Thailand are constructed under the international standard (equal to the standard of the AASHTO, United States). It can be claimed that the Asian highways in Thailand are totally completed.

There are two major highways that link the aforementioned economic gateway in the Thai border and the upper Mekong riparian countries, highway No. 1 (AH12) and No. 2 (AH13).

The highway No.1 connects the northern economic gateways namely Mae Sod, Mae Sai, Chiangsan, Chiangkong and Houykhon and the three riparian countries. While highway No. 2 connects Nongkhai and Laos. Moreover, both of them link the two major ports of the country, Bangkok Port and Leam Chabang Port. At present they serve as the gateways to the sea for landlocked Laos. In the future when the road network is fully accomplished, they possibly serve Yunnan as well.

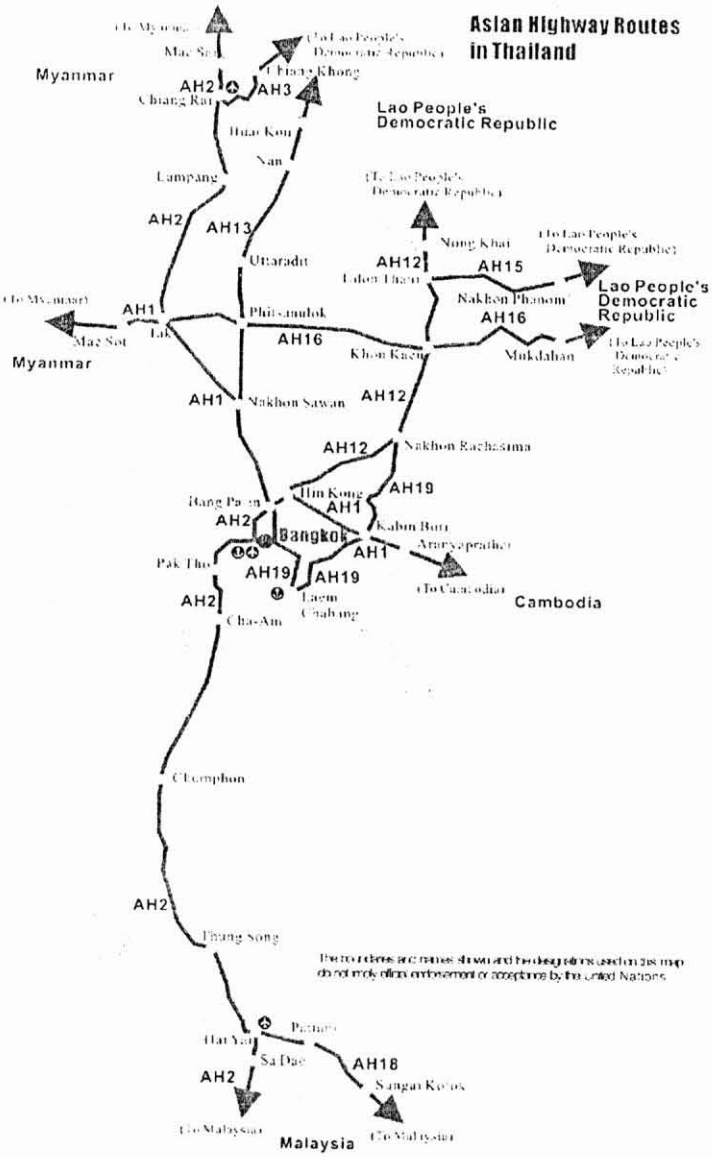
---

[1] http://mikes.railhistory.raifan.net/ro76.html

[2] Sorawit Narupiti and others, The Development of an Operational Plan According to International Road Agreement Between Thailand and Neighbouring Countries, p.546.

[3] http://www.loglink.com/countryprofile.asp?id=235

Figure 22 : Asian Highway Routes in Thailand



Source : The Development of an Operational Plan According to International Road Agreement Between Thailand and Neighbouring Countries (Executive Summary), Page 4.

The rail system in Thailand was laid out during the 19th century. When the western super powers in those day competed to build railways into China in the neighbouring occupied territories, it made the King Chulalongkorn (1868 - 1910) realised that no sooner or later the attempts might be made to seek permission to extend the colonial lines into Thai territories. Hence The rail system was King's transport strategy to maintain national independence while the logistics support for trade were make by judicious choices of road construction to feed the railway lines. The post - war policy had, unfortunately, reversed the grand design and the rail system had not made much progress.[1]

At present the railroads in Thailand are only 3,940 kilometres. The north line only reaches Chiang Mai. It has not been up to the border yet. However, There is a plan to extend the line up to

[1] Pan - ngum, Ittiphol, "Thailand as the Gateway to Indochina".

Chiang Rai. The north - east line is already up to Nong Khai. Although Nong Khai Railway station is at the approach to the Thai - Laos Friendship Bridge, the rail has not across the 20-kilometre distance to Vientaine. The construction of this part will be financed by the Thai government budget with the total amount US$120,000. This is part of the Thailand - Laos - Kungming rail network.

- Problems and Obstacles to Land Transport

The major problem of the land transport in the sub - region is the difference in road standard. Since the roads in Thailand are in much higher standard than those in the neighbouring countries. Several projects have been set up to improve and upgrade the roads in the sub - region especially the road networks connect the sub - region as mentioned above.

Apart from the physical development, the operations of the roads have to be taken into consideration. Different driving direction may causes problem when one is driving from one country which driving direction follows the British system such as Thailand to another country which follows the Continental system such as Myanmar, Yunnan and Laos. Furthermore, in the future when the traffic increases, safety aspect of both cargoes and passenger has to be concerned, for most of the road in Laos running through the mountain terrain and remote areas.[1]

The rail network of the sub - region is very limited. In each country the railroads are few and most are in single tracks which are not sufficient even for the domestic transportation. Hence they need urgent development. The other problem that has to be taken into consideration. The railroads in Thailand and Myanmar which lain out during the colonisation era are metre gauge while the new constructed railroad in Yunnan are standard gauge.

From several field surveys in Laos it is found that there is one open question in the mind of this buffer state how it will fare from the ambitious trade and transport development in comparison with China and Thailand. It is because she is in between the two bigger states who are far more advanced than her in both economics and politics. Her anxiety may affects the development of the sub - region.

CONCLUSION

The transport logistics of the Mekong riparian countries, in fact, has been laid out since the 19th century when this area was strongly under the pressure of the western colonisation, principally led by the British and the French. The main reason for their colonisation was to use their colonies (Myanmar and the Indochina) as a backdoor to China. They laid out the transport system of the sub- region including the Mekong River, roads and rails with the aim of expansion of their empires and the competition for exotic trade with China. Although the colonisation era has come to an end, their transport logistics now become the major trade routes and the transport links of the riparian countries.

The physical condition of the Mekong is the great barrier for the inland water transport of the sub - region and the river development is still in argument. The rail networks are obviously limited. While road networks have been in much further development than the other two modes of transport. Hence the road transport and facilitation become the keys to trade and economic development of the sub - region. With the more stable politics than Myanmar, Laos will become the major land links for the upper Mekong riparian countries. Thailand once was the gateway to Indochina, at present with her excellent road networks functions as the centre of trade and transport logistics of the Upper Mekong Riparian Countries. Moreover, she is also the gateway to ASEAN for the south China.

ACKNOWLEDGEMENTS

This paper is part of the project on Trade and Transport Information Database for the Upper Mekong Riparian Countries. The project is a continuation of several previous studies namely Trade and Transport in Indochina (1991), Trade and Transport in the Economic Quadrangle (1997) and

[1] Sukadanont, Sumalee and others. "Trade and Transport in the Economic Quadrangle", p 54 - 55.

Transport Logistic in Indochina (1998). Several field trips and field surveys have been made in gathering data and information. I would like to take this opportunity to thank the Transportation Institute, Chulalongkorn University for the financial support granted to the project. My thanks also go to Provincial Chambers of Commerce and the customs officers in the north and north - east for the provision of useful data and information. Last but not least I would like to thank the members of the research team who have work hard together in several aforementioned researches.

REFERENCES

Pang - ngum, Ittiphol and others. Trade and Transport in Indochina. Bangkok: Chulalongkorn University, 1991.

Pan - ngum, Ittiphol. "Thailand as the Gateway to Indochina," Paper presented at the Seminar on "Indochina: Vietnam - Laos - Cambodia", at the Grand Hotel, Karl Johansgate, Oslo, Norway, 1992.

Pang - ngum, Ittiphol and others. Transport Logistic in Indochina. Bangkok: Chulalongkorn University, 1998.

Sukdanont, Sumalee and others Trade and Transport in the Economic Quadrangle. Bangkok: Chulalongkorn University, 1998.

Sorawit Narupiti and others. The Development of an Operational Plan According to International Road Agreement Between Thailand and Neighbouring Countries Bangkok : Department of Land Transport, 2005.

Potential Expansion of Distribution Channels Between the Upper North of Thailand and the South of China by Applying Geographical Information System (GIS)

Chusri Taesiriphet, Chirawan Chaisuwan, Boonsawart Prugsiganon[1]
Seksin Srivatananukulkit, Chira Prangkio[2]

ABSTRACT

This study aimed to find how to increase the potential of the distribution between the Upper North of Thailand and the South of China by applying the Geographic Information System (GIS). Dried longans was used as a case study since this product was the highest exported product to these areas.

The study found that trading of dried longans between the two nations was conducted mostly through the trading firms and preferred the distribution route from the Mekong River to Yunnan Province because of its shortest distance, fastest shipping, and cheapest cost. However, the fluctuation and the substandard nature of the transportation systems were addressed as obstacles. The researchers also found that the distribution routes to the east of China by sea tended to be more frequently selected, and extended more routes; in contrast, land transport routes were ignored, while air transportation had few routes and was expensive. Seventy percents of the dried longans were traded in Yiyu city: the biggest wholesale market. The other 30%, went to the south and the east of China which were recently expanded.

There should be three strategies for the expansion of dried longans distribution form Thailand to the south of China: (i) emphasizing the numbers of new trading firms and strengthening the standards and systems, (ii) targeting more market destinations for wider areas in the south of China, not only Yunnan Province; (iii) applying more information in marketing especially GIS; in terms of the landscaping, linkages between distribution routes and the area itself to gain the advantages in business competition. Moreover, the indicators of success should be set in advance to evaluate the success of each strategy.

Rationale and Significance of the Study

Thailand and China have had a good relationship for many years. From 1975 the relationship has improved in all aspects including culture, traditions, arts, politics, economics and society. Cooperation was not only at the bilateral but also at the regional and sub-regional levels, especially in the upper northern part of Thailand in Chiang Rai province which is located in the same geographical area with the south-west area of Yunnan province or so called southern China (Department of Foreign Trade, 2003).

From the year 2000, the Chinese government has had an economic development plan in the western part of the country which established Yunnan as a gateway to the ASEAN. Yunnan is the origin of the three most important rivers in Southeast Asia: Yangtze, Salawin, and Mekong. The Mekong river is the main resource and flows past six countries such as southern China, Myanmar, Lao

[1] Chusri Taesiriphet, Associate Professor, Faculty of Business Administration, Chiang Mai University, chusri@ba.cmu.ac.th
Dr. Chirawan Chaisuwan, Assistant Professor, Faculty of Business Administration, Chiang Mai University.
Boonsawart Prugsiganon, Lecturer , Faculty of Business Administration, Chiang Mai University.
2.Seksin Srivatananukulkit, Associate Professor, Faculty of Social Sciences, Chiang Mai University.
Chira Prangkio, Lecturer, Faculty of Social Sciences, Chiang Mai University.

PDR, Thailand, Cambodia, and Vietnam. There has been an economic cooperation plan in place in the Greater Mekong Subregion-GMS since 1992 (Arsa and et al., 2003).

The progress of the GMS project has had a great effect on the Thailand's border trading as there has been economic cooperation to resolve all the previous problems. This can be seen by the establishment of trading projects between Thailand and China. There has been development in new means of transportation by water, road, and air. The water way is the one such development which has been greatly expanded for the trading between the two countries. For example, in 2002 there was a marine transportation development in the Mekong river through the help of Chinese government in improving river furrow so that a 150 ton ship can navigate it all year round. In the mean time, Thailand has built a new standardized port in Chiang Saen in the beginning of 2004. This resulted in the increase of Thailand and China's waterway trading. For the land transportation, many road projects were also undertaken. In addition, there are now more direct flights from Chiang Mai to Kunming.

Due to these development in transportation modes, the amount of trading has increased ten folds from 1993 to 2003. Thailand and China also signed on free trade agreement (FTA) for vegetables and fruit on October 1, 2003 which resulted in the further increase of trade between the two countries. Thailand has an edge over China in terms of trade balance, especially in the increasing export of dried longans from the Mekong river to Kunming and redistributed to other cities in China.

It is evident that Thailand's northern region and southern China have the potential to distribute goods and Thai merchants can expand their trade through many new means of communication.

Yet, operational problems in Thailand and China's trading remain. One such problem is that the Mekong river is not navigable in summer as the water is receding and only when there is more release of water from China's dam can ships pass through. This has prevented daily shipment of Thailand's goods to China. So, the goods are damaged and costs of transportation increase. Another problem is the road between Mae Sai and Kunming cannot be used due to the border administration of customs from Myanmar to China. (Mr. Sermchai, 2004). Thus, the problems of goods distribution between the two countries had received the attention from both the government and private sectors to find the means to develop and increase the potential for goods distribution in the area.

Thus, there should be a study on the goods distribution in the northern region of Thailand and southern China. The purpose of this study was to find ways to increase the potential of goods distribution in upper north of Thailand and southern China by using Geographic Information System (GIS) with the focus on dried longans. Dried longans was the focus because it is the most exported goods in the studied area. The expected benefits of the study are to provide data and ways to increase potentiality of goods distribution to business people and involved officials. This study is conducted by the Faculty of Business Administration, Chiang Mai University as a part of an integration project to increase the potential of personnel in public and private sectors in GIS. The project is supervised by the Faculty of Social Sciences, Chiang Mai University which received the state funding in 2004 from Chiang Mai University.

The Objectives of the Study

This research aims to study the channel of distribution in Thailand's upper northern region and southern China and to study the potential to increase goods distribution by using GIS.

The scope of the study

The study focused on dried longans distribution from the upper northern Thailand to the southern part of China. The upper northern Thailand included the provinces of Chiang Mai, Lampun, and Chiang Rai. The southern part of China included many provinces like Yunnan and its nearby provinces in China.

Method of Study

The study is descriptive research by collecting two types of data. The first is the secondary data which is collected by reviewing the reports and related research in order to set guidelines of study. The second type is the primary data which is collected by conducting in-depth interview of various sources relating the longans distributions. The interviewees were commercial representatives of Thailand, customs officials, president and committee members of the Chiang Mai and Chiang Rai chambers of commerce, experts on Chinese trade and longans trade, producers and exporters of dried longans, exporters, and experts on GIS data. In addition, there was a seminar held for producers and those who were interested in the issue so that all data about goods distribution could be collected. This data was part of the analysis, and summary for a complete report.

Theory and literature review

Logistic management system is the strategic management of movement, storage and information relating to materials, parts, and finished goods in supply chain, through the stages of procurement, work-in-process and final distribution. Its overall goal is to contribute to maximum current and future profitability through the cost effective fulfillment of customer orders. The important role of logistic management starts from suppliers to manufacturing and distribution and sales and customers. (Wittaya Suharitdamrong, 2003)

Goods distribution is a part of logistic management. It links a company with its customers by presenting the products, giving services and value to them based on appropriate costs, efficiency and customers' coverage .

1. Decisions to be made in goods distribution are:

1.1. Efficiency in information management including quantity, time and sites of goods distribution.

1.2. Set up a network of warehouses by using basic data available like the cost of transportations, and other expenses. The goal is to meet with the key performance indicators previously determined such as total costs of goods distribution system for the year.

1.3. Modes of transportation as the expenses on this part will be an essential part in the cost of goods distribution.

2. The factors to be considered in evaluating the performances of goods distribution:

2.1 Time and speed of goods distribution should be compared with other operational plans. For example, it is necessary to consider whether the distribution method is consistent with the market promotion in the marketing plan.

2.2 Accuracy of quantity of goods shipped to each location.

2.3 Various aspects of operational costs such as the cost of distribution for each product category, for each channel, and the cost of each transportation mode should be considered .

2.4 Channel and geographical coverage. They are needed to be compared with an organizational strategic goals.

Geographic Information System: GIS is a computer system which is consists of data collection, data analysis and result presentation using geographical factors. GIS is comprised of spatial or coordinated reference data which is a combination of the analysis system and the basic data. The GIS, therefore, is a whole system based upon the spatial dimension through the use of technology in different steps like collecting data, systematically setting up criteria in data usage to analyze or set up simulation model and finally presenting results to users. The data, which is an important element of GIS, consists of both digital and analog components. These two data types are not sufficient for GIS as it should have others to symbolize real places like schools, rivers, agricultural fields. These three types of data are point, line, and polygon.

GIS can analyze data to fulfill the various needs of users like checking the accuracy of data, problem-solving analysis, or building geographical simulation models. Thus, the data should be stored in digital form so that it allows convenience for data retrieval and response to the various needs of multiple users.

Literature review

1. Khamnueng Yothayai (1998) studied the potential of exporting dried longans to China. The result of the study were that Thailand had the potential to export dried longans to China as there was an increase amount of fresh longans production. Problems which needed to be solved were the shortage of fresh longans, labor shortage during the longans season, the lack of capital among group processors, and the low standard of dried longans. The suggestions were for both the government and private sectors to improve efficiency in productions by emphasizing benefits.

2. Nisit Panthamitr (1999) studied the problems of border trading in upper northern region. The results of the study were the trade between Thailand and southern China was with Yunnan province by using the waterway transportation on Kong river between Chiang Saen, Chiang Rai province with Chiang Rung. The currency used were Yuan and Baht. There was a high value placed on the informal trading system. This was due to the fact that these merchants were old merchants who had been in the business for quite a long time and they were like relatives. They were also the groups who became the local influential ones and the new merchants could not break their influence. Problems which occurred from Chiang Saen area were the lack of a dock to transport goods, the customs officials were strict and manipulated rules for their own benefits, the ships between Thailand and southern China could not transport goods year round due to the receding water level in the summer time. Thai ships could not get through the international waterway because of the lack of agreement with Myanmar, the lack of personnel in transporting good, and finally the complicated procedures in importing and exporting goods.

3. Aksornsri Panichsas (2004) had suggested ways in establishing trade with China based on China's geographical area and its economics size, the country has a stable potentiality but when compared with Thailand, some of China's provinces have a bigger economy than Thailand. As a result, Thai merchants should pay more attention in having trade with China in the provincial level. This will allow the study of trade in greater detail. The most interesting precincts are the ones with the top three highest GDP: Guangdong, Jiangsu, and Shandong. Each province has higher GDP than Thailand's. These three provinces also share some similarities such as coastal location, advanced and complete infrastructure, a deep port for big ships, openness and the link with foreign countries for quite some time, especially Guangdong province.

The interesting provinces in terms of having the highest per capita income are Shanghai – the most advanced city in China, Beijing – the country's capital, Tianjin – with the advanced port and overseas investors, and Zhejieng – with many experienced businessmen. These four provinces have the average per capita income greater than Thailand's. In addition, there are other interesting provinces

like Fujian and Liaoning. Both have commercial trade with foreign countries and the same level or higher of foreign investment than Thailand.

In conclusion, China's markets have their differences in each site and there are other rules and regulations to be studied. Having a business strategy will help investors get into the provincial or local market so that they will have a chance to be competitive. However, one has to study consumer behaviors as well as local people's habits to find some provinces which have potential and appropriate for existing business.

Conclusions

Researchers collected data from both the secondary and primary sources and then analyzing them to evaluate and conclude the study. The results of the study were divided into three parts:

Part 1: Goods distribution between upper northern Thai and southern China
Part 2: Dried longans distribution between upper northern Thai and southern China
Part 3: The potential increase of dried longans distribution between upper northern Thai and southern China by using GIS

Part 1: Goods distribution between upper northern Thai and southern China

Trading situation between upper northern Thai and southern China's GIS trading has increased continuously from 2000. In 2003, the total value of trade at Chiang Saen was 4,217 millions baht with the export value at 3,129 millions baht. The highest value of an exporting item was dried longans with the value of 2,267 millions baht which was about 72.45% of the whole export value. The Chinese government was the sole agent of importing process. Thais exporters were only distributing goods through Chinese trade representatives. Payments were based on trust instead of on international system.

Distribution Routes

Five routes which were used for goods distribution to southern China were:

1. Mekong river route was the most important water transportation between Thailand and southern China with the total value of 95% of the whole trade value. From 2001, there was an agreement among four countries – China, Thailand, Myanmar, and Laos – which resulted in the mutual benefit of Mekong river waterway. The agreement also reflected a clear transportation tax rates in each country. Each country would open more ports and all together there will be 14 commercial ports. Among the new ports, each would have its clear specification. The majority of trade came from the dock in Chiang Saen in Chiang Rai province and Jinhong or Chiang Rung, or Simao port and Kuan Lei in China with the total distance of 380 kilometers.

There were some problems in transporting goods by ship. To begin with, Mekong river's water level was not consistent as in the dry summer only 50-100 ton boats could pass through but not on a daily basis. Meanwhile, China had been building dams for generating electricity and only if China released water could the boats travel up river. This resulted in damaged goods. In addition, the river had small rapids and sandbars which were unsafe for the ships. Majority of ships were Chinese. The duration of transportation was different: if the ship originated from Thailand, it would take around three days as it went up the stream while it would take only one day downstream from China to Thailand. Thus, this water transportation depended largely on China.

2. Road transportation was the link between Thailand and southern China by passing through Myanmar, and Lao PDR. There were three routes:

2.1 The one that went through Myanmar was called R3W. It took 6 hours from Mae Sai district, Chiang Rai province, Thailand to Tachilek in Myanmar and ended at Chiang Rung or

Jinhong in China. The total distance was 393 kilometers. This road could be connected to Chiang town in Kunming in Yunnan province with an addition distance of 700 kilometers. This route was opened in 2004 but it was not used much due to many obstacles. First of all, there were problems of customs among the three countries as there was not one-stop service. Secondly, there was a problem with minority group in Myanmar. This road way would be the second best choice next to the waterway in Mekong river as it will become a trading road in addition to its convenient, fast, and safe tourist and commercial route.

2.2 The road through PDR which is called R3E from Chiang Kong district, Chiang Rai province to Huay Sai, Laos and continues to Chiang Rung, China with the total distance of 254 kilometers. This is expected to be completed in 2007.

2.3 The road through PDR which starts from Chalermprakiat district, Nan province to Nam Ngearn border in Lao PDR and to Chiang Rung, China with the total distance of 300 kilometers. This road is under construction and more funds are needed.

3. Sea transportation is the trade route from the north of Thailand to Bangkok port and Lam Chabang port, to continue to Hong Kong port or Huang Po port, Guangzhou city, Guangdong province. The goods will be packed into containers with strict export regulations. Presently, China has opened a new dock in the southern precinct and the coastal area like Guangxi province. This route will have potential in the future as there will be less loading and unloading goods and it will have less damage than the Mekong river route.

4. Air transportation. At present, there are many air transportation routes between Thailand and Yunnan province. For example, Bangkok-Kunming by Thai International Airways and Yunnan Airways flights are operated daily, and on Thursdays and Sundays, Thai International Airway also stops in Chiang Mai both ways. Bangkok Airway has 3 flights per week from Bangkok-Chiang Mai-Chiang Rung. Due to high freight, this route is used more for passengers than goods transportation.

5. Railway. Under the GMS project, there is a plan to connect train route among neighboring countries in the sub-regions. The planned routes are: train route from Den Chai district, Prae province to Chiang Rai province and to Huai Sai, Lao PDR. This will continue to Chiang Rung, and Kunming, China. Another route is from Nong Kai, Thailand to Vientiane, PDR and continues to Chiang Rung and Kunming, China. The route is under the construction.

Part 2: Dried longans distribution between the upper northern region to southern China

Trade situation and dried longans' export to China. Chinese' longans are grown in Fujian province on the east coast of the country. Putian is the most famous place for dried longans in China both in its production and marketing. Presently, there are more production in Guangxi province. Chinese dried longans has the greatest sales in the country while the second highest is Thailand's longans and the third is Vietnam's due to its poor quality.

China is the most important market for Thailand's exported dried longans. In 2003, there were around 20,000 tons of Thais' longans to Yiyu city, Zhejian province which is the biggest wholesale market in China. From this city, goods are distributed to other provinces. Dried longans in China had a very competitive market. Thai dried longans reduced the price down as much as 18 Yuans per kilogram. This was because there was a large inventory remaining from the year 2003. This export volume has a tendency to decrease due to the competition within Chinese market itself. Another factor was the high operating cost rose from the inefficiency of goods distribution between Thailand and China.

Four types of dried longans export to China are:

1. Direct wholesaling by Thai private business to Chinese importers. Thai exporters will contact Chinese importers who have had long term relationship with them. Both parties have

agreed on prices and quantity before any orders will be placed. This quoting price may include transportation fee but transportation will be handled by customers. Payment is based on trust as the quantity is not in a big lot.

2. Indirect Exporting via Chinese Representative. Exporters will have Chinese representatives who will be responsible for clearing the goods at Chinese customs and then distribute longans to other provinces like Jiangsu, Zhejing, Hunan and Shandong by ways of road or train. Thai exporters will not know where and the price of the goods once distributed in Chinese market. However, they will be informed of such later. Exporters will have a way to check the price by themselves. Representatives will collect the money and deduct all expenses like transportation fees and others before transferring the money to Thailand. This is a trust system as merchants have established business for quite some time. Thai exporters should know Chinese language and culture quite well. This type of trading usually is big exporters who have been in business for a long time and the quantity of dried longans are in big lots enough to continuously export to China as well as have a bargaining power with Chinese counterparts.

3. Direct retailing. Exporters will export and sell the goods themselves but they must have their own representatives to administer tax and goods distribution. They also have retail shops in different precincts which consume dried longans. Thai exporters have to check the buying and selling prices daily to prevent cheating from shop attendants. There are not many exporters who will have this type of trading and it is practiced along with the representative type. By doing this, exporters will be able to check the selling price.

The three types of trading require exporters to pack dried longans into boxes while each box is weighed 10 kilograms. The box will also have the exporters' own label on the side of the box.

4. Trading by Chinese. Chinese merchants come to Thailand, manage the order from small factories and then administer the exporting process themselves. They export under the shipping company's name. By doing this, the Thai exporters who sell via the Chinese representative are afraid that this type can become a threatening competitor in the future.

It can be seen that majority of exporting dried longans is through Chinese trading firms while Thai exporters have little information about marketing, and goods distribution in China. The quantity of the trade depends on Chinese representatives.

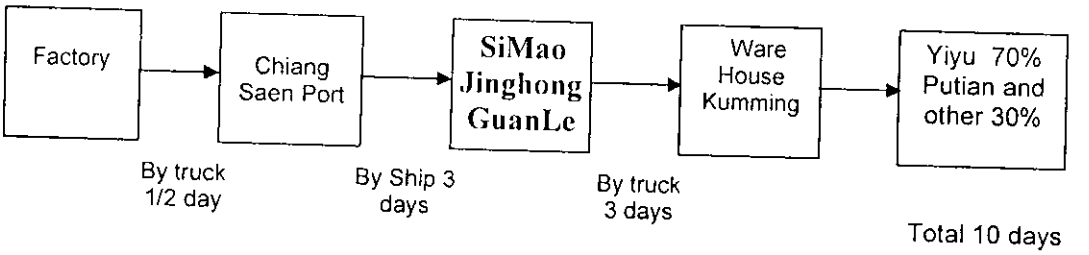
Export Procedures of Longans from Thailand to China

Exporters must apply for the Certificate of Pesticide Residues from Department of Agriculture, Ministry of Agricultural and Cooperatives which has a branch office at Mae Jo University Chiang Mai Province. The officer will then investigate the factory which will take a few days. With the certificate, the quarantine check at the customs will be approved and goods will be permitted for export. If the goods are shipped by containers via Bangkok (Klong Teuy) Port, the certificate is needed. However, the Chiang Saen port and the Chinese customs do not required this certificate. Therefore, shipment via Chiang Saen port has an advantage in this respect.

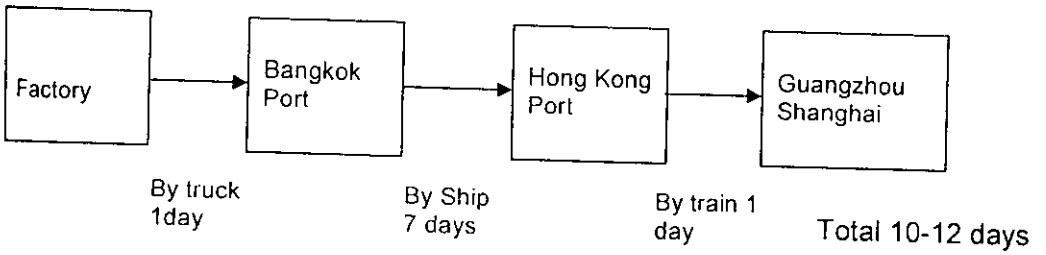
Distribution Routes of Dried Longans from Thailand to the South of China. Presently, there are 4 routes to distribute products from the factories in Thailand to the markets in China.

1. From Chiang Saen Port to Kunming: Approximately 90% of all dried longans are exported via this route. The products are trucked from factories in Thailand to Chiang Saen port. Then, products are shipped along the Mekong river to Simao Port in Jinghong or Guan Leay which will be forwarded by truck or by train to warehouses in Kunming. This route takes about 7 days before the products are distributed to wholesalers and retailers in other provinces. Approximately 70% of the products will go to Yiyu market, and the other 30% will go to Putian and other cities. Another 3 days is needed, so altogether it takes about 10 days which is not so time consuming. An advantage of this route is that it is rather flexible because the regulations are less than the sea route. Cost of distribution

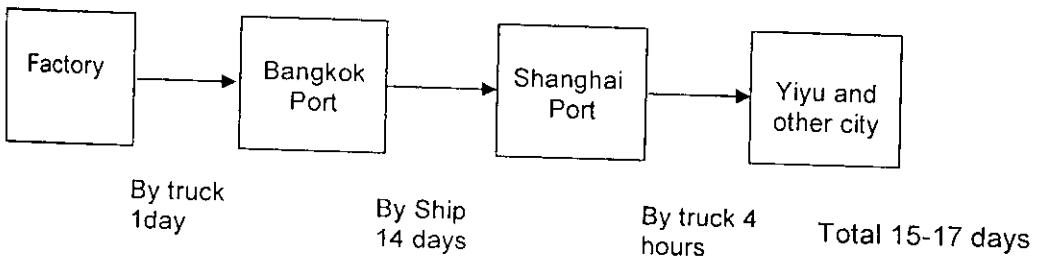
via this route takes about 20% of the selling price. Kunming warehouses have geographical and climate advantages, but several loading points cause high product damage.



2. From Bangkok port to Hong Kong port. This is a sea route. Truck loaded products from factories in Thailand are loaded on to ships at Bangkok port and disembarked at Hong Kong. Then, they are sent to Guangzhou in China by train. This route takes about 8 days to enter China. From Guangzhou, the products are sent to Shanghai and other cities which will reach the markets altogether in 10 –12 days. So, this route takes a little longer and has higher transportation costs. But exporters prefer this route because the products are less damaged due to less loading and unloading times so they can be sold at higher prices. Moreover, the products can be shipped in large big volumes by using larger containers.

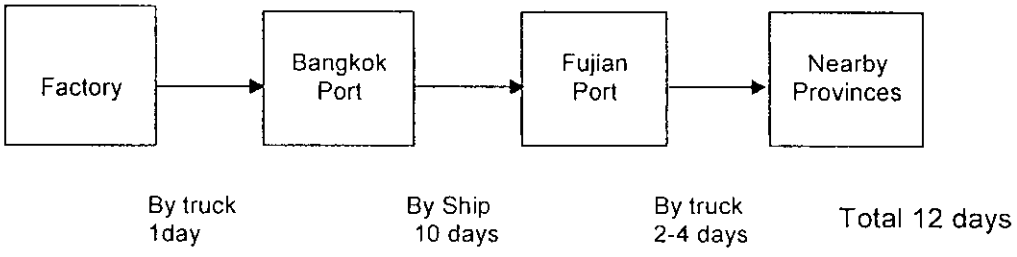


3. From Bangkok port to Shanghai port. This is a sea route which has been use more frequently since 2004. Products from factories in Thailand are trucked and loaded on ships at Bangkok and disembarked at the port in Shanghai. This route takes about 15 days to enter China. Then, the products are sent to Yiyu market by truck which takes another ½ day before they are distributed to other provinces by truck or by train. Altogether, it takes about 15 -17 days to get the products to the markets which is more time consuming than sending to the Hong Kong port. But exporters consider this route has more potential because the Shanghai market is bigger and transportation costs are less because of intense competition among many shipping companies in Shanghai. Besides, the product quality can be maintained because of less loading time so the selling price can be set higher. Moreover, from Shanghai, products can be conveniently distributed to both wholesale and retail markets.



4. From Bangkok port to Fujian Port. This is a new sea route which has been used in 2004. Trucked products from factories in Thailand are loaded on ships at Bangkok port and disembarked at Fujian. This route takes about 12 days to enter China. If the products are sent to nearby provinces, 2-3 more days will be needed. So, altogether, products will reach the market in 12-15 days which consume less time than the Shanghai port option. Exporters who want to sell dried longans in Fujian market have begun to use this route as markets for dried longans have expanded to a point where there are a large department stores where dried longans are sold.

In summary, the distribution of dried longans from Thailand to the south of China mostly use the Mekong river and enter Yunnan province, while the sea routes to the eastern China have higher potential since there have been more routes. The inland route has not yet been operationalized and the air route is not utilized because of its high cost. To decide which routes to be used, exporters have to consider requirements of the wholesale and retail markets in China . Logistics management in China is quite efficient because it is run by the government.



Wholesale and Retail market of Dried Longans from Thailand in China

1. Wholesale Market. YiYu market is the biggest wholesale market of dried longans in China. Dried longans from Thailand have 80% of the market share, followed by products from Putian and Vietnam. In 2003, approximately 75,000 tons of dried longans from Thailand were sold in this market. Sales of dried longans from Vietnam increased but it was not so popular because it had lower quality than Chinese and Thai products. There was also a problem of falsification of products to acquire the tax benefits resulted from Thailand-China FTA.

2. Retail Market. It used to be situated in Putian and nearby areas. Now, it has expanded rapidly into big cities along the eastern coast and the south such as Shanghai, Fujian, amd Guangxi. This expansion is possible because these big cities have a higher income population, and more department stores and distribution centers. In addition to Yunnan province, the consumption of Longans has also increased in other cities along the Yangtze river .

3. ExhibitionCenter. It is located in Kunming and contains both wholesale and retail markets and a meeting place for buyers and sellers. It is the first and only Thai-owned company which has been granted permission to set up an exhibition center in China. It provides consultancy, coordination with Chinese governmental units involved in the import process and transportation of goods to the buyers. This center is a new channel to facilitate logistics and distributions of dried longans from Thailand to the south of China.

Future Prospect of Dried Longans Distribution to China.

In 2004, several meetings between Thai and Chinese governmental and non-governmental parties have been conducted to increase numbers of new markets for Longans in China. As a result, it was estimated that there would be 3 more buying agents of Thai Longans in Kunming, 1 more in Simao and 1 more in Jinghong. Customs offices in every cities would charge the same tax rates. In addition, market expansion strategies such as how to promote the consumption of Longans in Chinese market, how to contact Chinese trade representatives were recommended.

Suggestions to Solve Distribution Problems Between Thailand and the South of China from the points of View of Entrepreneurs.

As the researchers had held a seminar to present the preliminary results of the study and gathering suggestions from entrepreneurs, the following ideas of how to solve the distribution problems between Thailand and the south of China were summarized:

1.1 Geographical data related to trading between Thailand and China should be studied. All transportation routes should be improved with government support.

1.2 Trade information should be made available and must be clearly understood by the business and government staffs. Basic information of each province in China should be gathered in order to assess demands in China.

1.3 The governments should come up with clear agreements on customs and related regulations. Co-operation among all governments in the GMS countries are needed to open up the trading routes.

Part 3: The Potential increase of dried longans distribution between upper northern Thai and southern China by using GIS

Evaluation of Potential of Goods Distribution Between the Upper North of Thailand and the South of China

By evaluating strengths, weaknesses, opportunities and threats in each distribution method of dried Longans between Thailand and South China, the following potential opportunities, problems and obstacles are summarized.

1. At present, the Mekong river route has highest potential to distribute dried Longans. It is the least time and costs consumed and convenient to redistribute to the markets. But it has transportation problems which include; inconsistency of water level, ship navigation under Chinese operation, and a poor loading system.

2. Sea route has less potential than the Mekong river route in terms of time and distance, high distribution costs and strict import procedures. But it has possibility to increase its potential by increasing numbers of routes and markets.

3. Land route has its potential due to the shorter time and distance. But it has not yet opened for use because it has to pass through many countries' borders. Hence, in the future, there is a possibility to be officially opened.

4. The Air route has its advantage in term of time. But it is not appropriate for dried Longans as the freight rates are too high.

5. All distribution routes to China are facing the following obstacles:

- transaction must be made with the government representatives and required long term contact.
- different import procedures and regulations for each province.
- dried longan markets in China is highly competitive.
- increase production costs and transportation expenditures despite the tax exemption from FTA.
- Thai entrepreneurs and related personnel do not know Chinese language and culture.
- Thai entrepreneurs have no marketing information at both the city and provincial levels.
- Thai entrepreneurs lack geographical information to assess locational advantages and disadvantages.
- Payment system is based on trust which is not an international system.

Guidelines to increase potential of dried longans distribution from Thai to south China

Based on the logistics and strategic management frameworks, the analysis and recommendations are followed.

Goals

1. To establish infrastructure for goods distribution
2. To increase numbers of potential distribution routes
3. To decrease total costs of distribution incurred in each route.
4. To develop management and geographical information.

Strategies to increase potential of goods distribution

1. Strategy to increase infrastructure for goods distribution

1.1 Increase numbers of experienced service providers. Thai entrepreneurs have to establish relationship with new trading firms to facilitate the distribution process and market expansion. These include contacting big retailers' buying agents, contacting provincial offices to get lists of trade representatives, contacting Thai consulate and finding opportunities to meet the authorized bodies of those trade representatives.

1.2 The government should put efforts to establishment a standardized system for distribution. These include setting up containerized system at Chiang Saen Port which has not yet been implemented as planned, governmental dialogue to increase security of the road from Mae Sai to Jinhong and reduce the obstacles of boat navigation in the Mekong river.

2. Strategy to increase channels and decrease total costs of distribution

2.1 Aiming at distribution to other southern provinces in addition to Yunnan. The areas in the southern part of the Yangtze river has high potential to increase markets and distribution because it is the main transportation route in China.

2.2 Survey for new distribution routes and select the ones that are appropriate to the target markets. By considering appropriate total costs, each route should be evaluated continuously.

2.3 Collaboration between the sellers to negotiate with the importers and agree not to cut price.

3. Strategy to develop management and geographical information.

Thai entrepreneurs should

3.1 Acquire Marketing Information such as Attitudes and Consumers Behaviors towards Thai dried longans of Chinese customers.

3.2 Learn how to apply geographical information, such as geographical conditions, linkages of routes and areas, in creating competitive advantages

3.3 Know import regulations and procedures thoroughly.

3.4 Acquire knowledge of the Chinese language and culture in order to establish relationships with Chinese representatives.

Determination of Strategic Measures

According to Balanced Scorecard measurement, performances of each strategy will be evaluated from four perspectives consisted of the following:

Perspectives	Measures
Financial	- Decrease Total distribution Costs - Increase Export Volumes
Customer	-Increase numbers of Trading Firms

Perspectives	Measures
	- Increase numbers of retail and wholesale markets
Internal Business Process	- Decrease distribution time - Decrease problems and obstacles
Learning and Growth	-Increase knowledge - Increase channels of distribution

Application of Geographical Information in distribution of Dried Longans

The analysis showed that geographical information is useful for increase potential of goods distribution. GIS provides database of geographic patterns, and links tabulating data with locational data as well as illustrates differences between countries. Faculty of the Social Sciences Chiang Mai University has set up a project to create a database of geographical information for the greater Mekong Sub-region (GMS). The GIS can be used as a tool to assist in the analysis of how to properly manage the area.

Structures of the Database Geographical information in the GMS consists of 3 main parts.

1. Political economics information. It shows the provincial boundaries, city locations, population size, country boundary and economic information such as fresh and dried longans export quantities and amounts, export commodities of Thailand, etc.
2. Natural resources information. It shows forest areas, Mekong basin and islets, river and sea routes and so on.
3. Basic Infrastructure information such as airports, roads, railroads, dams, electricity generating structure, as well as tourist spots and border trade areas.

By using these information , entrepreneurs know the connecting areas between upper northern Thailand and south China especially basic infrastructure for goods distribution such as airports road, railroads, waterways in China which link between Thailand and import points. They, then, recognize which areas will be expanded to increase the potential of distribution of dried longans to its maximum benefits.

Economic perspectives of area management include:

1. to promote the product development that is suitable with the potential of the areas.
2. Improve the productivity to develop local economy and then to export by developing the linkages within the GMS countries.
3. Using the GIS information to identify suitable areas for investment and linking transportation network in the region such as building ports along the Mekong river that can serve water transportations form Yunnan province, from the South China sea and the Gulf of Thailand. The linkage of transportation system will create a network of goods and passengers transportations in this region.

From the structure of GIS database in the GMS and economic perspectives in area management indicates the existence of trade and distribution information regarding dried longans between upper northern Thailand and south China in terms of trade volume, transportation system via the Mekong river and the South China sea, land and air transportation and the network of transportation in the region. This information is necessary and useful for the investment analysis and for building strategies to increase potential of goods distribution. The database is developing by the Faculty of the Social Sciences Chiang Mai University under the integrated project to increase potentials of government and private personnel on geographical technology.

Discussions

The research findings indicate that routes to distribute dried longans from upper northern Thailand and south China has been increased. Coastal route from Hong Kong port to Guangzhou increases by using Shanghai port, Fujian port and Guangxi port to expand to the target markets beyond Yunnan. This finding differs from previous research but is consistent with Aksornsri Panichsasna's seminar presentation (2004) which indicated that there is the construction of ports at eastern coastal areas connecting to south China provinces. Guangxi province in particular has many new ports which support more goods distribution via the South China sea. Furthermore, entrepreneurs should look at trade at the provincial levels since each province is large and having different trade characteristics and regulations. Waterway transportation reduces the frequency of loading and unloading which results in a better condition of products so the products can be sold at higher price. Despite the high transportation costs, when comparing between cost and price, the ratio is lower.

Since there is no tax measure, an attempt from exporters to increase potential for goods distribution from upper northern Thailand and the south of China should be done based on management perspectives. First, choosing the routes that are appropriate with the products and market locations which disperse all over China, need information regarding market and regulations. Information from GIS can be used in decision making. Then, using key performance indicators to evaluate the performance of the chosen routes based on the total efficiency such as total costs and values added to customers by using logistics management perspective.

Recommendations

1. This research has faced limitations regarding data collection from longan exporters. Data relating to distribution channels in China was not gathered because most Thai exporters did not know how the channels were managed. It was the Chinese counterparts' responsibility and they should be trusted. However, some exporters considered this information secretive because dried longans is highly competitive. The researchers have accessed the data by getting introduction from personal acquaintance to exporters who can provide the data.

2. During the study, the geographical information system for the GMS was under gone its developing process of the faculty of the Social Sciences . Therefore, only preliminary data could be used in this analysis.

3. As the benefits of the geographical information system for the GMS cover various aspects of its economic development, further study should be conducted on how to use GIS for other types of business such as Tourism.

References

Aksornsri Panichsas. 2004 "**Trade Situation between Thailand and China**". Paper Presented at the Seminar on Distribution Channels Between Thailand and China by Applying GIS Information. 3 September. (in Thai)

_____.2004. "**Non-Tariff Barriers in China**". Paper Presented at the Seminar on Distribution Channels Between Thailand and China by Applying GIS Information. 3 September. (in Thai)

_____.2004. "**One Province One Country**". Paper Presented at the Seminar on Distribution Channels Between Thailand and China by Applying GIS Information. 3 September. (in Thai)

_____.2004. "**Distribution System in China**". Paper Presented at the Seminar on Distribution Channels Between Thailand and China by Applying GIS Information. 3 September. (in Thai)

_____.2004. "**Situations on Chinese Goods Distribution Systembetween Thailand and China.**" Paper Presented at the Seminar on Distribution Channels Between Thailand and China by Applying GIS Informatiohn. 3 September. (in Thai)

_____.2004. "**Thai Fruit Distribution Center in China**". Paper Presented at the Seminar on Distribution Channels Between Thailand and China by Applying GIS Information. 3 September. (in Thai)

Apichat Sopadang, 2004. "**Logistics Management**". Teaching note. Chiang Mai University. . (in Thai)

Arsa Kumpa et al. 2003. "**Yunnan Province: Economic Cooperation Development with GMS countries**" Paper presented at Economic Quadrangle Conference. Chiang Mai. 7-8 December. (in Thai)

Center for South China Study, Faculty of the Social Sciences Chaingmai University 2003. **Border Trade Between Thailand-China.** Paper Distributed in the Seminar on Economic Quadrangle. 7-8 December 2003.

Chayakrit Maalumpong.2004. "**Geographic Information System Database**". Paper Presented at the Seminar on Distribution Channels Between Thailand and China by Applying GIS Information. 3 September. (in Thai)

Customs Department 2003. "**Tariff**" [On line]. http://www.customs.go.th/Tariff/Tariff (15 January 2004). (in Thai)

Foreign Trade Department. 2003. "**Free Trade Area Between Thailand-China : Impact on Export of Thai Products.**" [On line]. http://www.dft.moc.go.th. (22 May 2003.) (in Thai)

International Trade Negotiation. 2003. **"Agreements on Fast Tax Reduction of Fruits and Vegetables between Thailand and China.**" [On line]. http://dft.moc.go.th. (25 June 2004).

Interview. Chanchai Noktes. **Commercial Consulate at Kunming,** , 8 March 2004.

Interview. Preecha Nomrax, Chiang Saen Customs Officer. **Interview** 17 March 2004.

Interview.Pachara Sinsawasdi, Mae Sai Customs' Chief Officer. **Interview** 17 March 2004.

Interview. Vicharn Chang-ngern. Chiang Saen Port Officer. **Interview** 17 March 2004.

Interview.Montri Boonsri. Mae Sai Customs Officer. **Interview** 17 March 2004.

Interview. Sainarong Rasanont. Chinese and LonganstTrade Expert. **Interview.** 22 June 2004.

Interview. Poonsiri Klaisook and Veradej Mateetarnwongvanij Longana Exporter and Shipping Company Representatives. **Interview**. 23 June 2004.

Interview. Sermchai Kittiratanapaiboon, Chiang Rai Chamber of Commerce. **Interview** 14 May 2004.

Interview. Palmex Company Manager. Manufacturer and Exporter of Dried Longans. **Interview** 24 June 2004.

Interview. Kingfoods Company Manager. Manufacturer and Exporter of Dried Longans. **Interview** 24 June 2004.

Interview. Hongda Company Manager. Manufacturer and Exporter of Dried Longans. **Interview** 30 June 2004.

Interview. Bangkok Bank, Shanghai Branch, Manager, 2004. (in Thai)

Khamnung Yothayai (1998). **Analysis on Potential of Dried Longans Export to China** Independent Study, Master in Economics, Chiangmai University.

"**Manee-Ta-Ming Exhibition Center in China**". Krungthep Turakij BIZ week . 3-9 September 2004.. (in Thai)

Nisit Panthamitr.(1999). **Border Trade Problems in the Upper Northern Thailand** . Independent Study, Master in Economics, Chiangmai University.

Office of the Permanent Secretary, Ministry of Commerce. 2004. "**How to successfully Conduct Business in Fruits and Vegetables Trades in China?**" September.

Office of the Permanent Secretary, Ministry of Commerce. 2004. **Summary of Dialogue between Trade Representatives on Longans and Litchi.** 2 March.

"Thailand-China Trades from Chaing Saen and Chiang Rai Provinces". 2003. Paper Distributed in the Seminar on Economic Quadrangle. 7-8 December.

Thai-Chinese Business Council. Paper Distributed in the Seminar on Import-Export Vegetables and Fruits between Thailand and China. 18 February 2004.

Thai-Chinese Business Council. 2003. "Economic and Investment Situations in China" [On line]. http://www.soc.cmu.ac.th/ ~yunnan/index.html. (17 October 2003). (in Thai)

Thai Farmer Bank. 2004. "China Tariff Rates Foreign Investors should know" [On line]. http://www.soc.cmu.ac.th/ ~yunnan/index.html. (17 October 2546).

Trade Promotion Center, Kunming. 2003 "Distribution Routes from Northern Thailand to South China" Paper Distributed in the Seminar on Economic Quadrangle. 7-8 December

Ministry of Commerce. Trade Problems . (On Line) http://www.dft.moc.go.th/document/foreign_trade_policy/service/horizon/default.htm (4 August 2004)

Pakpajong Watanasint and Pasu Techarin. 1999. Strategic Management and Business Policy. Chulalongkorn University , Bangkok. (in Thai)

Wipapan Kokieatkajorn. 2003. "Preliminary data in Thailand China Free Trade Agreement" [on line]. http://www.ftawatch.org. (16 November 2003).. (in Thai).

Wittaya Suharitdamrong. 2003. Logistics and Supply Chain Management: An Easy explanation. SE-EDUCATION: Bangkok. (in Thai).

Usana Patramontri 2001. "Balance Scorecard System: Internal Audit, Concepts and Case studies. Digital publishing. Bangkok. (in Thai).

From Wat Luang in Chiang Khong to the Night Smuggling in Luangprabang: Negotiation of Transborder Trade under the Changing Mekong Border Riverscape

Jakkrit Sangkhamanee
RCSD, Chiang Mai University
jakkrits@hotmail.com

Abstract

Mekong border trade is now under the changing period where many agencies across the border have been impacted from such changes physically and structurally. This paper takes a critical look into the transborder trade operation between Thailand and Laos with the focus on the riverine activities along the Mekong border and at its related towns of Chiang Khong in Thailand and Houaysai and Luangprabang in Laos. By exploring several changes and adaptation happened in subregional, national, and local levels, it shows how the pragmatic practices of negotiations among different actors have been performed within the GMS trade regime. In addition, this paper is aimed to revisit some of the argumentative points mentioned in the previous study in the *'Legend of the Golden Boat'* by Walker (1999) to depict the success and failure of negotiation of each trade-related agency. The paper employs certain cases for the analysis of border practical and ideological negotiations such as the construction of new deep-water port, the emergence of customs brokers and new generations of Thai grocery suppliers, the evasion of *Mekhong* whisky to the new arrival *Lancang* Beer in Chiang Khong, and the establishment of Chinese market in Houaysai of Laos. With such study cases of local practices under the dynamics of rapid trade and river development, it seeks to express the shifting power relations within trade regulation. Furthermore, the paper brings up the specific case of the Lao long-distance river traders and their itinerant operation along the course of Mekong river and across the line of Mekong border. The case shows how the traders can negotiate with other agencies and with the new-implemented structure both in the trade regulatory regime and with the illicit operation of night smuggling of goods in Luangprabang. Throughout the paper, though not explicitly mentioned, it illustrates the lives of river borderlanders' relations and identities that form the significant part of transborder trade in Mekong border riverscape.

Historically, Mekong has long been a significant river, performing not only as travel route, but has also played a great role in linking cultures and forming social relations among groups of people via long-distance river trade (Evans, Hutton, and Kuah Khun Eng (eds.) 2000, Chiranan 1989, Hill 1998, Koizumi 1992, Osborne 2000, and Walker 1999). Throughout the vast, diversified area of Mekong basin, trade extensively has formed part of various aspects of riparian past livelihood and contributes to the existing, and future development for the riverine and its greater region other than economic affair. Regimes of trade regulation had long been established among related social groups prior to the modern era of nation-state regulations and, until today, has been challenged, modified, and survived through the changing politico-economic environment of the area (Walker 1999).

Now, the latest regime endeavoring of regulating the whole area of what so-called the Greater Mekong Subregion is an obvious evidence of the enduring importance of river trade for development. Mekong is being turned into surmountable trading 'artery' linking up all those connected, subregional development schemes together. But is the GMS trade and subregional development regime the recovery of traditional non-boundary trade pattern/relations in the premodern era? Whether new trade regime is conjunctive or disjunctive to history of long-distance river trade of old time? From past to present, what, how, and to what extent does the role of river trade significantly play in complementing

to the development of the greater region? What and whether there are any tensions that arrive from the new trade regime disjunctive from the preexisting ones?

While, at the policy and procedural level, the construction of new Greater Mekong Subregion for development and the imposition of regulation for new subregional trade regime are gearing toward its goal, the actual livelihood of the people who already has long established transnational long-distance trade regime, who are undeniably affected by such change, is nevertheless absent from the picture of Mekong development. The previous study by Walker (1999) about long-distance Lao woman traders, done during the time the GMS was in its infantile period, well depicts the existence of lives and work of long-distance woman traders along the Mekong in north-western Laos. Within the Economic Quadrangle regulation, it concludes that those long-distance traders have been able to consolidate their position and continue to benefit, exploit and manipulate regulatory practice and ideologies in the formation of their long-distance trading career. This argument, however, needs to be followed up and re-examined since today's development of the GMS and its trade regime is different from what had been researched a decade ago. This is, however, not only the matter of time that makes a difference. The most important factor here is the changing structure of trade regime from state function to higher and greater level of subregional-based regulation hence changing power relations among preexisting agencies. Within state regulations, members of the frontier communities themselves are able to actively involve in the regulations of border by using their social relations (Walker 1999: 94). But the configuration of the GMS trade regime today is extremely different from those occupied by state and its applicable localities back at that time. The GMS trade structure is subregionally dispersed, fragmented and probably rather too complex for the locals to employ their old ways of making social relations in regulating the regime.

This paper seeks to look into the specific aspects of the advancement of today GMS trade with the relations to the existing long-distance river trade operations performed along the mainstream of Mekong river. By providing the picture of alteration of border trade structure which was formerly activated by the local Lao traders and presently dominated by the GMS trade-related agencies and policies, it aims to depict the situation of dual changes between subregional and local level. Such dual changes may have some contradictions in its scale of performance and formal/informality, yet at the same time local adaptation to the new subregional trade regime, however, represents the on-going negotiation to the subregionally-initiated economic space, and subversion to those GMS practices they could and could not cope with at time. Under the concept of transborder economic practice as negotiation, this paper recounts the concrete implication and changes within the GMS trade regulation, cooperation and altercation. It is to make the readers clear first that the idea of 'negotiation' here does not nail down to the speeches or dialogues between traders and state authorities or the bargaining of goods prices with the suppliers. This paper uses the concept of 'negotiation' as a general notion of how the structure and practices of trade between the former and the new and the subregional and the local regime challenge each other in a general way. In other word, it looks at how the riverine borderland has been negotiated as a space for the manipulation of trade between the subregional and local regimes.

This paper will firstly review the newly-established GMS trade regime and regulations from signed agreements and proposed future cooperation under the supervision of ADB to envision the changing trend of border river trade in general. After that, it will outline the restructuring of agencies related to trade from subregional to national level in complement to the local pragmatic changes. In addition to the recent implementation of several policies and the establishment of new agencies, the paper further looks at the physical arrangement which has been designed to stimulate the extensive river trade. The later sections of this paper examine the current situation of long-distance river trade at the ground. The idea is to link the ideology of subregional trade regime with the concrete trade

practices at the riparian border points. The interrelations between subregional matrix, national border, and the cross-border business operation will be explored. It is this analysis that plays a crucial role in conceptualizing the concurrent phenomena of the emergence of subregional trade regime and the local struggle in manipulating it.

1. The Former Era of the Lao Long-distance River Traders

There are different kinds of traders and trading systems that performed on the Thai-Laos borderlands. This study, however, chooses to look at only one particular type of trading system and hence one type of trader: the Loa traders who trades consuming manufactured goods from Chiang Khong of Thailand into northern part of Laos to Luangprabang through Mekong river route. Most of these Lao long-distance traders running their business are women. The Thai manufactured goods that they carry out consist of, but not limited to, processed foods and drinks, readymade cloths, cooking ingredients, toiletries and cosmetics, fresh foods, and so on.

Business contacts between Lao long-distance traders and other multiple agencies in both Thai and Laos sides, emerging from crossing border and traveling long-distance along the course of the Mekong, exhibit the interdependency and complexity of their social relations. Beside the close relationships among the long-distance traders who most of the time travel and run their business collectively, interactions between long-distance traders and local retailers/shopkeepers are also important and highly valued. Though, by and large, the traders do not attempt to profit from excess demand by increasing their prices, but the fluctuation of goods price in Chiang Khong may affect the cost that local shopkeepers/retailers may have to share the burden. However, as Walker (1999: 147) finds, slightly lower price may be offered and negotiated for the shopkeepers with whom the traders have a particularly close personal relationship. Long-distance trade operations also bring in different groups of people forming interactions along the course of the river. The trade affair involves, though not inclusive to, both long-distance and cross-border boat operators, credit providers, customs, border, and port officers of both Thai and Lao, truck drivers, loading laborers at the various ports, and villagers who provide them accommodation; these are the agencies who form up as each part of the jigsaw for overall long-distance river trade regime. The interdependent socio-economic relations that arise from those people involved in long-distance trade operation are very specific to its economic condition and geographical circumstance that allow each agent to meet, socialize, and mutually rely on each other in the restricted regulation of Economic Quadrangle trade regime. As Walker (1999: 150-162 and 2000) argues, restrictive trading environments can be as important as more liberal trading environments in creating commercial opportunity. And in both restrictive and liberalized trading environments, cultural way of 'negotiatable' regulatory practices have been crucial in sustaining the long-distance trading opportunities. According to his study, the long-distance trade operation is truly a space of opportunity with the support of social relations they have long established.

2. Changing Trade Regimes and Regulations under the GMS Economic Cooperation

To the development of GMS markets and the movement of goods and people across common borders, the promotion of transport and economic corridors are central to such objective. Mekong River which is located right at the heart of the subregion has been targeted for flowing of goods and people through and across it. That means that the traditional notion of Mekong river as borderlines, obstructing people and goods to cross between riparian countries, has to be eradicated and replaced with the perception of linking routes between places for the enhancement of subregional market.

Four upstream countries- China, Laos, Burma, and Thailand- came into another tangible agreement aiming at developing on the Lancang-Mekong river the international passenger and cargo transportation. In facilitating commercial navigation, representatives from four governments signed the

Agreement on Commercial Navigation on Lancang-Mekong River in 2000 enabling vessels of any contracting party to sail freely between Simao in Yunnan of China and Luangprabang in Laos. Moreover, the four countries agreed to open their own ports to advance the river commerce. For the border river trade of Laos and Thailand, Chaing Saen and Chaing Khong ports in Chiang Rai province in Thai territory have been opened while Laos government launched six ports at Bann Sai, Xiengkok, Muangmom, Ban Khoune, Houaysai and Luangprabang to international freight boats according to the signed contract.

The Agreement on Commercial Navigation on Lancang-Mekong River also calls, in its Article 5, for the contracting party to grant to each other's vessels the most-favored-nation treatment with regard to formalities relating to vessel entry and departure, customs clearance and other formalities, utilization of berths for loading and discharging of cargo, utilization of docks and warehouses and other port facilities, material supplies and levying of port charges. The vessel crew members are required to register for *'identity'* documents issued by the competent authorities of their countries; the Lao boat operators need to carry Seaman's Book of Laos, for example. With such regional-accepted identification, the boatmen (and boatwomen, of course) shall be permitted without a visa to enter the territories of other countries and a temporary stay ashore in the city or town where the port is located during their vessel's stay in the port of another country.

It is not only the promotion of extensive trade along the river that this Agreement was designed to pursue. Rather, with the recognition of long-going illegal business performed on the borderline river, the Agreement also requests for concerned authorities in contracting party to take measures to suppress and prevent smuggling, illicit dealing in drugs and restricted and prohibited goods as well as illegal entry of aliens. The findings from field research, however, found that the Mekong river today still provides the loophole within subregional regime and regulations for the small-scale, long-distance traders in manipulating the border river for their smuggling, illicit dealings with local authorities, and bypassing the rules of law for national security and subregional economic prosperity. This will discuss the case later in the paper.

Subregional and National Trade Agency and Structural Arrangements

One of the key issues when talking about cross-border business is the customs operation by the state authority. The customs controls do not only provide great amount of income for the state from collecting import-export taxes, but also help in regulating the illicit activities such as trafficking of illegal stuffs into the country. Formerly, each country has their own customs systems which do not really cooperate among their neighbors. The idea of GMS trade development is then looking forward to harmonize the customs systems of its member countries to follow the same line of administration. As to achieve customs cooperation in the region, the GMS governments have initially agreed to implement customs facilitation measures at selected border crossings in the GMS as a pilot project. These measures include single-stop, single-window inspection and synchronization of operating hours of customs facilities at the agreed-upon frontier crossings. Such flagship projects have been proposed and implemented at subregional and national levels bringing the changes to local practices of border trade and relations between traders and trade-related authorities.

The governments of both Laos and Thailand see trade facilitation as an effective economic structural device that will contribute to the development of national trade and subregional commercial transaction and integration. For Laos, it hopes that such trend will, in turn, encourage domestic production through increasing exports and will enhance the country competitiveness by reducing transaction time and cost. Little known or even expected by the outsiders, the far-reaching goal of Laos is not only to be fully integrated into GMS economic cooperation or regional integration of Asia

through ASEAN, but also to essentially involve in the process of accession to World Trade Organization (WTO). Whether that GMS economic model would work for the country in the long term or bring the country into the accession of world economic order, the Laos government already put its efforts in several areas including simplifying administrative procedures such as the registration of business entities, import and export licensing, Customs clearance and other trade related-services. As claimed by the government to ADB's Trade Facilitation Handbook, Laos already established single window inspections at major checkpoints whereby all the inspection and paperwork is done at one place and one time at each checkpoint. The Laos government has been trying step by step to formalize its systems into international standard hence integrate in regional market. However, Laos, like its neighboring Thailand, is well known to foreign investors for its corruption, bribery, and illegitimated patron-client connections between private and public agencies. Therefore, as to increase transparency and predictability of its own authorities, it is required that all authorities involved in approval of imports and exports should strive to simplify the trade procedure and the Customs authorities should disseminate trade statistics to all relevant agencies.

Local Changes and Adaptations

There have been so many changed caused by the emergence of GMS trade regime of regulation since the study of Walker (1999) during the initiating period of the GMS more than a decade ago. This section will portray some of the changes found in Chiang Khong in Thai side and its cross-border town Houaysai in Laos as the result of subregional trade implementation during the fieldwork between April 2003 and January 2005.

- ***The Wat Luang Port and the new deep-water port in Chiang Khong***

The local Wat Luang port was one of the main points of argument in the study of Walker (1999, 93-112) revealing the active role of local regulations over the period of liberalization of border trade. Before the construction of new deep-water port, Wat Luang port has been a significant spot for the operation of local Thai cross-border boats between Chiang Khong and Houaysai. During its good business time, the port would be filled up of more than 40 boats busy crossing the river every weekday carrying Lao traders to Thai soil and return with loads of purchased products for sell and household uses. The boat operators even set up their own Wat Luang Boat Operators' Association to increase their organizational system efficiency and bargaining power with customers and state authorities. The boat operation's Association at the port was a significant actor in regulating river-trade activities at the local border before the coming of GMS regime of regulation. The Wat Luang port, as claimed by Walker (1999: 100), can be considered as a 'micro-regulation' of border which can actively participate, collaborate and manipulate the intricately-woven and locally-specific relations with state authorities to the benefits of their local landscape of power.

The picture of Wat Luang port today is, however, a totally different scene from those portrayed in the good old days. From my observation and several good talks with the existing local cross-border boat operators, it is found that the number of the operators is now dramatically decreasing to a very few number each day. Often times, I encounter 2-4 boat drivers hanging around at the port waiting to cruise a random trip across the border. Most of the boat operators have given up their business and turned to find other ways of living. As a consequence, the *'khiw'* or the locally-regulated boat queue system is no longer practiced due to the less number of operators and customers, the deficient budget to hire the *'kebnen'* (see Walker 1999: 98-100) or money collecting person, the unstable availability of boat operators, and the less sense of commitment to the Association. The port today is then a very quiet and less socialized one than it was described before, not to talk about the negotiating power that has already evaporated from the absent of members and regulatory systems.

There are several factors contributing to the declining significance of Wat Luang port. The main one is the construction of the new deep-water port at Ban Hua Wiang by the Port Authority of Thailand legitimated by the international Agreement on Commercial Navigation on Lancang-Mekong River signed in 2000 as an only authorized port for Mekong trade in Chiang Khong. The port has been built with a rapid demand in facilitating the river trade with neighboring Laos and the China and that speedy construction and hasty planning finally caused the port to be rebuilt for three times (Pianporn 2003) before the present completed one. After the deep-water port completed and officially opened on the first day of 2004, most of the river trade businesses have shifted their boats from the local-based Wat Luang port to the new government-own one. This process does not happen by its nature but was caused by the implementation of new border regulations on trade. The new port is planned to accommodate subregional-initiated the single-stop process of cross-border trade by bringing together the customs office, the plant quarantine office, the Port Authority, and the immigration agency together at the shore as recommended by the GMS trade facilitation framework. It is required that both the Chinese and Lao cargo boats coming to Chiang Khong have to dock at the deep-water port for customs inspection and clearance, unless the port has accommodated the boats to it maximum capacity and there is no room available. If that happens, the arriving boats have to be approved by the port authority first and then are allowed to berth at the Wat Luang port which rarely happened. Beside the formal regulation of authorized docking port, the new deep-water port also standardizes its berth fee for the coming boats as well. The berth fee is charged by the Port Authority which has its office right above the port overlooking any activities that happen ashore and across the border. The fees are collected due to the carrying capacity of the boat; that is each boat bigger than 100 GT is charged 300 bahts per day while the smaller ones and the passenger boats are charged for 200 baht per day each. Cargo loading and discharge of goods are also counted for payment to the port service by collecting 10 bahts for every tone of goods. Also, vehicle admission, cargo storage, and container loading and discharged fees are already presented for the big-scale traders to disburse to the port authority. We may not know exactly how much the port fee regulations are strictly implemented by their staff or followed by the traders at the port in certain different circumstances. However, such regulations for port fee are set by the authority as to promote expectation and stricter *'regulation'* on *'facilitation'* of border trade changing the hands of control from local group where freight and passenger fee are set and strictly enforced by the Association (Walker 1999: 99) to the official authority of border.

Another factor that resulted in the dramatic decline of Wat Luang port are the growing business of the other cross-border boat operation at Hua Wiang port, or locally called Buck pier, located right next to the deep-water port with the more than 70 cross-border boat operators. Due to its fitting location, the Hua Wiang cross-border port has comparative advantage in making more business than the Wat Luang port as a result of state-own deep-water port development. Loa people from Houaysai who often cross the border to Thai town *legally* for shopping especially on Friday for the Friday market prefer to use Hua Wiang port as a proper route. First of all, the Hua Wiang port is just opposite to the South pier of Houysai where the Laos immigration is located, saving more time in crossing the river than to obliquely cruise to the Wat Luang which is a bit farer. Secondly, those Lao who take a day trip to Thailand have to do some immigration pass at the Hua Wiang shore before access into the inner territory, where there is no immigration office at the Wat Luang. Thirdly, it is more convenient to the Lao boat operators who moor their boats at the deep-water port to go to the nearby Hua Wiang port to cross back to their motherland for short business during the day. Wat Luang port is now only survived with the use of those Lao small-scale traders from Houaysai market for their smuggling of small amounts random goods during the night and day.

The recent change of long-distance river trade pattern of the Lao traders also affected the utilization of Wat Luang port. Most of the Lao women traders who formerly share the boat trip from

Luangprabang to Chiang Khong together are now almost disappeared from the scene. Some turned to be settled traders who sell in the Phusy market, outskirt of Luangprabang, while some can accumulated their profit enough to buy their own boat for trade operation. The pattern of trade business has shifted from the women traders who are the ones who come purchasing Thai goods to sell in Laos by their own, and the boat operators who just drive the boat to serve the traders' business to that the boat operators at the present days do not only ply the boat but also are acting as a middle traders buying stuffs and carrying them to the settled traders, whom in those days were the long-distance traders, too. In simple words, nowadays it is hard to find the long-distance traders who are not boat operators. As a result, the traders today are no longer the so-small-scale traders but the middle traders who buy the whole lots of goods for the later provision to several sellers in Luangprabang and along the cruising trip. They then need no cross-border boats at Wat Luang port to, little-by-little, transport their purchased Thai goods to the other side of the river as before since they can park their boats right at the deep-water port in Chiang Khong. This changed pattern of trade operation, after a while, reduces the chance of socialization between the former and today Lao long-distant traders and the Thai cross-border boat operators. The changing pattern of business here will be further discussed later in the paper.

How can we see such change that had happened to the local Wat Luang boat operation and Association in the context of subregional development of river trade here? First of all, the large long-distance Lao cargo boats that cross the river to load at Chaing Khong do not conform to the regulation of the Association anymore. The power of 'micro-regulation' (Walker 1999: 100) has now turned to the state-run Port Authority centrally based their legitimate regime at the deep-water port with the set regulations commanded from its head office in Bangkok. Prior to the completion of the new port, there were already some worries that the Wat Luang boat operators had had from the construction of new port. As Walker (1999: 110) has described, the operators were concerned that the future relocation may bring them into conflict with their rival- Hua Wiang's passenger boat operators. Others reassured themselves with the thought that the new port would serve only the anticipated river trade with China and that relatively small-scale Thai-Lao trade would continue to pass through Wat Luang port. Until today, such concern may prove to be right that while the Chinese boats would use the service of the new ports of Chiang Saen and Chiang Khong, the Lao boats, but very few now, would still use their local port. However, what they could not even think about that time, or has not mentioned in the study (Walker 1999), is how the power of border regulation would be altered or shifted away from their local hand. For the Lao and Chinese boats today, to park or not to park at the Wat Luang port is the matter of Port Authority's decision and approval and not the formerly-monopolized Wat Luang Boat Operation's Association anymore.

Though the regulating activities of border trade are no more in the hands of local frontier authorities and may, to a greater extent, shift to the new regime of subregional development agencies as in the case of Wat Luang cross-border boat operation, I however agree with Walker (1999: 110) in saying that a period of readjustment has been occurring, characterized by stricter, rather than more lenient, state regulation and, with no doubt, that new forms of collaboration would emerge. It is this crucial time that we clearly see the arriving into the scene of another new agency deploying the changing pattern of trade into a more formal style to their significance, existence, and benefits. That new agency is a customs broker which will be discussed next.

- *The Customs brokers*

Looking back to the study of Walker (1999) about the border trade here in Chiang Khong more than a decade ago, it is found that the study does not mention anything about the customs broker at all. This can be assumed that the customs brokers are the new agency that emerged due to the need of, and the support for, trade facilitators in a more formalized system. Though there are only few customs

brokers in Chiang Khong by the time of writing, they are those who have well-established connections throughout the trading business sector across borders. Their jobs mainly are to prepare paperwork for both the Thai and Lao import and export companies, submit such documents to the related authorities such as the customs office, plant quarantine office, provincial forestry office, and immigrations. They also do some random logistical tasks that may happen at the port such as loading and uploading cargo, making reservation for goods transportation, cross-checking the numbers of stuffs, and sometimes even have to travel together with the traders to the point of destination in Laos territory and so on.

Along such mentioned task that the customs brokers need to perform in order to accomplish the cross-border business transaction, it is found that those brokers who tend to be successful in dealing with different stakeholders have to have very good relations and connections in both Thai and Laos side. *Keng* or as I call her *Pii Keng*, for example, is a 32 year-old married woman who has been working as a customs broker for more than 4 years. She has her own business at home in Chiang Khong with the help of her brother and one of his friends. She used to work as an employee in sawmill in Laos for about a decade and hence speaks fluent Lao. She also has a brother and a sister working as a customs inspection staff and a customs information and procedure staff in Chiang Khong Customs Office respectively. Deploying her social background, it is fascinating to realize how much family connections are the prominent parts of trading activities here, especially clear in the case of *Pii Keng*. When there are problems of incompletion or confusion about paperwork happened to the traders or other import-export companies—be they Lao, Thai, or Chinese, the information and procedure officer always suggest the traders or the companies to use the service of her sister, *Pii Keng*, as a recommended customs broker. Or when the inspections of goods are done at the port, it is those traders who use the service of *Pii Keng* received a mind measure in examination. It is totally a family connection that, as I mentioned earlier, encourages the customs officer to recommend her sister as a first priority to the traders or offers a *'kreng jai'* measure for the inspection. I personally do not see this as a corrupted behavior, rather it is representing how the social connections play in the local operations of trade. Besides, her mother and other sister also own food stall with a porch overlooking the river above the Wat Luang dockyard which is always visited by the officials from customs office, Lao traders and the cross-border boat operators for lunch. In other word, almost all members in her family have something to do with cross-border trade community whether in direct or indirect ways.

The bargaining power gaining from significant relations that customs broker like *Pii Keng* has with varied public and private actors in trade business here have been built and sustained for some times through different manners. It is not only the family connection that paves a way for her success in business, but her high-spirited mind and manners that strengthen her social ties within the web of cross-border trade negotiation as well. For example, during the Thai New Year celebration, the whole family together would organize a small ceremony, led by *Pii Keng*, to pay respect and apologize for the wrong-doings to the head of customs office at his house. This family activity was a good strategy to tighten and personalize their relations with powerful state representative for the future business cooperation. In addition, she also has well-grounded connections with Lao official across the border. Foods, little presents, and alcohol drinks have always been sent or carried by herself or her siblings to the Lao officials along or after her shipping businesses are performed. And as I found, that always provides her a lucrative process and satisfaction in return. Even with Lao traders, *Pii Keng* and her brothers often time have a drinking session with the several traders for a relax discussion about the business dealings and any problems arose from customs process, if they have. Of course, the whiskey and beer and foods are always heartily delivered or covered by the magnanimity of the customs broker.

The emergence of the customs brokers in Chiang Khong can be considered as a result of the formalization of cross-border trade dealings and practices. As one of the customs brokers mentioned to

me, today cross-border trade activities seem to be harder than the previous days. Thai and Laos customs and immigration offices are doing their jobs with more strict measures. Things have to be made formal and documented. Such change, even claimed by GMS trade-related policy makers to help promote subregional economic cooperation, made the business performance at the ground more complicated and disheveled for the local traders who have not familiar with such formalized procedures and regulations. The roles of the customs brokers therefore fit into the widen gap between the traders and the authority caused by the GMS trade regulation process. The bridging position of the customs brokers between traders and officials is a concrete change in a rapid move toward subregionalization of trade and that the former direct 'cultural' relations between those two agencies are getting less exploitable in certain circumstances. As concluded by Pii Keng one night when I asked her during dinner and, as usual, followed by beer session with two customs officials why customs brokers are important these days, she said because *"the cross-border activities are getting international-like"*.

- ***The Grocery stores supplying Thai goods to the Long-distant Lao Traders***

Spending time observing at the deep-water port, the relations between the Lao long-distance traders and the Thai suppliers in Chiang Khong can be obviously noticed while they both waiting for the merchandises to be loaded into the cargo boats. During such a demanding period of checking number of goods and human labor-based transferring from pick-up trucks to the boats, both traders and suppliers still reserve some times to chitchat and entertain their kids that come together with the traders. But the actual relations between these two agencies are not only limited to the meeting point by the river port, rather their long-established relations through business, even though less-visible to the outsiders, however pay a crucial contribution in the understanding of local changes of river trade at the Chiang Khong-Houaysai border crossing point.

Most of the Thai suppliers in Chiang Khong outwardly operated by women; though men share some responsibilities at the shops, women are active both in the shops and at the exposed and chaotic ports. The Lao traders too, women always come out in dealing for prices and connections while men are in charged of driving and maintaining the boat. Being the same female gender with the Lao traders, the suppliers are able to make close personal relations in a very easy manner. Most of Chiang Khong suppliers are Sino-Thai and now in the period of changing generation where the coming-up educated mature sons and daughters are replacing their position managing the shops' business formerly run by their parents.

The new generation of Thai grocery suppliers in Chiang Khong has led to the restructuring of credit dealings with the Lao long-distance traders. The significant credit system is a long-established informal arrangement of providing credit in buying goods from the shops that Thai suppliers in Chiang Khong facilitate for the Lao traders due to the fact that they have to rely on those long-distance traders to distribute their goods throughout the north-western Laos. Such distribution is usually funded by the extension of large amounts of credit to the Lao traders- a situation that many Chiang Khong suppliers resent, but over which they have little control (Walker 1999: 158). It is with personal social relations that maintains, and in certain extent constrain, the on-going interdependency between the Thai grocery store owners and the Lao long-distance river traders. As Walkers (1999: 158-159) argues, most of the credit is provided with considerable and understandable reluctance based on cultural forms of regulation -- the debt are unsecured, the shopkeepers have no legal redress in Laos and a limited network of enforcers to call upon in the case of bade debts -- representing the inferior position of the Thai suppliers in the unequal power negotiating cross-border business. With such reliance to merely the Lao traders to distribute their goods across the border and the cultural ways of doing business which, after a long period of practice, have become a 'business tradition', until today the Thai traders still could not readjust their position over the Lao traders in bargaining for business dealing that much.

As I mentioned, however, the situation of doing business is now in a changing situation with the shift of generation running the business especially of the Thai supplier side. The coming up of new youngsters who have been exposed to formal education in business and economics, the old way of cultural dealing is no more acceptable to them. Emphasized by the actual resentful experience of many lost debts from the disappearing of Lao traders who decided to settle in market in Luangprabang, the young suppliers are looking forward of changing pattern of business dealing with the existing old and the new coming Lao traders. *Anucha* and his wife with early thirties of age, for example, are now taking control of the shop replacing his parents' position. They both are active in promoting cash system in selling their goods to the Lao traders by trying to differentiate their supplied goods from other shops in Chiang Khong. By introducing new kinds of products that do not available at other stores, they can empower themselves by not allowing the Lao traders to buy such specific-ordered goods with credits. This goes along quite well with the consumption trend in Laos where people are exposed to the Thai TV advertisements everyday about new fancy versions of products. If the Lao traders would want to take such innovative products to make good sell in a more urbanized Luangprabang, they thus need to use only their cash; no credits are provided for the specialty.

In addition, while some of the long-known Lao traders still receive some preferences for credit provision, the numbers of traders are getting smaller in each shop since the new coming traders are not able to access to the old forms of economic-based socialization in such transitional period of trade. The shopkeepers in Chiang Khong prefer to limit the numbers of credited traders to those they have done their business with for innumerable times throughout many years of business. The new traders are now in a financial problem since they need to get the credit from the shops after they buy the products from the shops for only few times but the suppliers deny to agree with. Those traders, without good credit provision to them, then could not establish their business well with Chiang Khong suppliers and hence need to move to another area of border trade or change to other careers. From a rough estimation by one supplier, he argued that the number of Lao traders buying goods with credit from Chiang Khong grocery stores is now about 30 while it was about twice the number five to six years ago; his shop alone receives only four to five traders with limited extent credits these days.

The process of altering business pattern from credit to cash-based dealing is, however, working quite slowly; good situation for the existing Lao traders. The problem lies to the fact that the suppliers in Chiang Khong do not well cooperate among themselves. The atmosphere of goods supply business is rather competitive than collaborative making the credit system still one of the practical, though not hundred percent satisfied, mechanism for the shopkeepers in attracting customers and marketing for total sales. The old style shopkeepers still want a market-share by maintaining credit provision to the Lao traders based on a traditional way of social relations while the new suppliers see it as an obstruction of business lucrative and hence striving to get rid of it and promoting formal cash economy instead.

Another change that happened to the grocery stores supplier in Chiang Khong and the Lao long-distance traders is the volume and the mean of transportation of Thai goods to Laos. The trend of cross-border trade is now shifting from the hands of local small-scale grocery stores, which receive the goods from factories mostly in eastern industrial estate, to the manufacturers directly transferring their products by themselves using their own vehicles for transportation across borders. The line of merchandise shipping is moving toward a one-line transportation operated by the manufacturers using big container-truck to directly transport the big amount of products at one time to the destinations in Laos, bypassing the middleman of local distributors and grocery stores. This process is made possible by the implementation of EDI system by the Thai Customs Department as to promote larger export

activities across international borders of GMS countries. Under such system, the manufacturers can process the cross-border customs inspection before the goods would be transferred from the factory. There is no need for the exporters to stop at the border for customs investigation reducing the transferring time and unexpected delay. The system is also preferred by the Customs Department since, as they claim, it does not only facilitate faster export logistics and greater volume of goods but also limit the local co-optation in avoiding full tax payment between local customs officials and the local export suppliers. In the complementary to the EDI system, the GMS road networks are developed throughout the subregion, letting the huge cargo container-trucks to access into many areas where it was impossible to do so many years ago. The customs systems in each border too are arranged into a subregional standard where the same 'subregional culture' of customs checks have been applied substituting those local ways of 'local culture' where personal dealings and informal connections are the key strategies. In other word, the customs processes are getting formalized, and in a sense subregionally-centralized, allowing the manufacturing exporter to transfer their specific products across the borders circumventing the local hands in manipulating the random local shipping across the border.

- ***The Chinese Market and the coming of Chinese merchandises in Houaysai***

The Chinese Market, as called by the local Lao and Thai, is located outskirt of Houaysai municipal area and has been set up around the end of 2003. The sellers are mostly Lue who migrated from Xixuangpanna, Yunnan, China and together formed their own market comprising about 40 shops separated from the existing Houaysai Lao local market. The physical construction of the market is not so permanent-like; the shops are formed as blocks by small pieces of woods and tin sheets on the half-dirt ground floor and covered by tin roofs making it hot for the sellers and the buyers to be outside the roof and even hotter to stay inside with no ventilation of accumulated heat during summer. The sellers with their few family members live in the small compartment behind the shop making the area a new small Chinese community outside their homeland or can be considered as a little China town of already small Houaysai. The market is often visited by several ethnic groups of Lao nationals living around the area as well as those Thai shoppers coming as tourists from Chiang Khong, creating the Chinese market the multi-ethnics atmosphere. During the business down time with less customers, however, I often find myself surrounded by just the Chinese traders who always come out and make noisy and loud conversations among themselves with the nearby and many blocks away friends.

The Chinese Market sells varieties of low-cost manufactured products that have been brought from China through inland routes, mostly through Boten crossing point and further down along the still dusty road through Luangnamtha. By the time the products get to the market in Houaysai, they have already been covered with dust and dirt all over places and, soon after, would be ready for sale without any cleaning or wiping away grime. While the products are quite random selected ranging from toothpicks to motor engines to baby cloths and rice cookers, most of the shops have the same kinds displayed on dusty messy stalls for customers to pick up. The sellers, interestingly, could not speak much Lao and even though they have learn how to count the number in Lao and Thai languages, their pronunciation are terribly hard to understand. Since the Chinese sellers had move to Houaysai not very long ago and their language skills are very limited, they however still be able to sell their products to the Lao and Thai customers by using calculator to point the numbers for price and bargaining.

Like those in tourist markets everywhere in China, the set price of products in Houaysai's Chinese Market is quite high, sometimes unreasonably high, but can be bargained down to about 10 percent of the told price depending on the individuals' negotiating skill and sellers' patience. Since there is no expectable system in pricing the products, bargaining is then common found in the market and often times I encountered the sharp and heated negotiations between the sellers and the buyers for settle the acceptable price. Even the new Chinese Market appears to be a low-standard market selling

low quality products and such fact is well recognized by the Lao and Thai shoppers, its significance lies to the condition of choices it provides besides the long-monopolized, more expensive Thai goods in Houaysai local market. Though many Lao in Houaysai prefer a high-quality products with nice package and durable usage Thai products, sometimes with their limited incomes, buying the cheaper, less fancy, and short-term utilization is not totally a big deal. The Lao shoppers rather be smart in choosing what products they would like to consume from Thai manufacturers and which products they prefer the Chinese ones. It is this decision-making of consumption choices that make those local Houaysai market traders have to adapt and be more selective of what goods to take from Chiang Khong grocery stores.

- ***The vanishing of 'Mekhong' whisky and the introduction of 'Lancang River' Beer: The coming of new friendships?***

In the *'Legend of the Golden Boat'*, the author has mentioned in many places throughout the book about his joining the drinking sessions with local people allowing himself as a researcher from outside to really get to know people and enjoy living there in Chiang Khong during his field research (Walker 1999). *Mekhong* whisky, the long well-known Thai made liquor, was quite popular among the working-class drinkers in regular occasions and special events such as during Songkran Thai new year celebration has been name after the Mekong river even thought the spelling of the name are slightly different. The common known of *Mekhong* whisky can be found about 60 years ago as the only one Thai whisky monopolized its production by the gaining of whisky concession from the Thai government. For sixty years of *Mekhong* whisky drinking among general Thai drinkers, it is not exaggerating to argue that Mekong river has gained it reputation partly through the mass consumption of *Mekhong* whisky not only to those drinkers who have relations with the river, the alcoholic folks, or the fans of annual nude calendar distributed by the whisky manufacturer, but it is well recognized throughout the whole country's general public appreciation.

During Songkran festival in Chiang Khong in 2003, however, not only saw the almost disappearing of the consumption of Mekhong whisky among local folks but also has tasted the new-introduced savor of the *'Lancang River Beer'*, shortly referred as the LCR beer imported from China. Right at the famous Giant Catfish, or *Pla Buk* in local language, catching spot where, during the Songkran festival, the official and local recital of spiritual ceremony are performed had been accompanied by the big booth of LCR beer promotion to the local and foreign visitors. Promotion banners have been installed many places in Chiang Khong town saying *'(For) the Thai-Chinese friendship, drink LCR Beer'*. In the midst of summer heat pervaded the crowd joining the rites for *Pla Buk* conservation, the Chiang Rai provincial governor was giving his speech about how Chiang Khong district and Chiang Rai province will be promoted in the near future as a gateway to Indochina and southern China for economic prosperity in the shady pavilion above the *'Mekong'* river bank, the local and foreign drinkers are enjoying the new taste of icy-cold beer appearing in the name of *'Lancng River'* along the riverfront promenade. Such scene may not be any significant to anyone walked pass by or even step inside the booth to flavor the new taste of Chinese beer at all. However, looking from its local historical and contemporary context with the analysis of regional river development, researcher like me would not be able to ignore the coming of LCR beer- not that because I want to have a drink with local companies but the situation is well grounded for symbolic contestation between the traditional *Mekhong*, or Mekong, sentiment and the new-formed era of Chinese-influenced, *the Lancang River*.

The taste of alcohol drinks is like the style of livelihood which varied from person to person. This research does not find any conclusion to the argument of river trade and development that what should be the best practices for the locality. Different people in Chiang Khong have different opinions

about the coming of GMS trade regulation and the domination of Chinese river commerce, just like they prefer different tastes of alcohol drinks. The symbolic contestation between the new-arrival of Chinese influences and the traditional local livelihood through the consideration of whisky marketing and consumption of *Lancang River* beer and the *Mekhong* whisky is not a researcher's own witticism at all. Rather, it is a pragmatic situation of actual transformation into the era of everything new where some local Chiang Khong people prefer beer to whisky, *Lancang River* to *Mekhong*, and the greater and more intensive Chinese-led trade to the small-scale local river trade.

If the drinking of *Mekhong* whisky can be seen as part of the local Thai ways of life in the restriction of production and consumption of whisky in the era of restrictive regulation of international trade, the arrival of *Lancang River* beer is otherwise representing the liberalization of locality to the foreign production and, especially of this case, Chinese market and its influences. In such barrier-free era, the liberalization of whisky to foreign companies can be a simple representation of liberalization of trade in the region where the fluctuation of goods, productions, and values has dramatically taken its opportunity to flow into the area. The transnational cooperation which is often represented through the 'friendship' manner and banner is always welcomed without questioning, Chiang Khong here included. Though the arrival *'Lancang'* beer today still do not get rid the whole sentiment of *'Mekhong'* drinkers, however it, at least, conveys us to think about the whole picture of the future of the 'Mekong' mentality that would be vanishing and replaced by the 'Lancang-Jiang' power, the upper river route where Chinese influence can literally flood or dry up the Mekong.

3. Today Cross-border Trade Operations under the GMS Trade Regulation

Dynamics and Adaptations of the Long-distance Trade Operations

As mentioned earlier in this paper, the pattern of Thai-Lao, cross-border Mekong river trade has been changing locally with the implementation of GMS trade regulations from supranational and national levels. The move toward formality of trade processes and the reformation of cross-border agencies have led to the new approach of border trade regulations where the long-distance river Lao traders and related local people are the main actors that tend to experience such changes and hence need to adapt their practices to cope with the rapid changes of subregional trade regime. This section will take a closer look into the way local traders have to adapt their way of life and business to show their existence within changing the border trade and, again, be able to assert their rights for the cross-border river trade through the process of negotiating action and adaptation to several different agencies surrounded them.

Before and during the infantile period of the establishment of Greater Mekong Subregion economic cooperation, the Mekong riparian communities in both Thai and Laos border towns have used Mekong as a travel route for transportation and merchandise transaction especially in northern part of Thai and Laos where Mekong flow into. For riverine trading business of commodities between two countries, the Thai manufactured goods were bought from Thai border towns and carried by the Lao long-distance river traders employing the cargo boats owned by the Lao operators is the main mean of transportation along the Mekong. Chiang Khong town in Chiang Rai province, north of Thailand, has been the major gateway for import and export shipping linking its landmark with trading routes throughout northern part of Laos. Luangprabang, for example, has been one of the chief destinations in distributing the Thai products from Chiang Khong to the Laos consumers. The Lao long-distance traders were then the middle persons bridging and extending the economies of the two countries through their cross-border business (see Walker 1999 for more detail).

Until today, after the GMS has been established for more than one and a half decade, the long-distance river trade of the Lao traders still exist along the course of the Mekong between Chiang Khong and Luangprabang. However, since there have been so many changes in supranational, international,

national, and local levels concerning trade pattern of practices and regulations, the long-distance trader operation too has been altered from its previous circumstances. The most critical change is the disappearing of the former long-distance traders who travel back and forth between those two towns for trading transaction. The reasons can be varied ranging from the uncertainty of tax collection and customs regulations that they have to bear, the rough travel and mobility of livelihood that makes them away from home for several weeks during the trading trips, the complicated unequal relations with several agencies along the border and checking points, and the harsh business dealings and insecure profit from the cross-border business that cannot guarantee any economic stability especially in the transitional period of GMS economic regime. Such factors have led to the decreasing numbers of mobile traders for Mekong trade. Most of the traders decided to settle their business in Luangprabang as shopkeepers of Thai groceries in local markets. The cargo boat operators who formerly only ply their boat to support the business of the long-distance traders have now become the traders themselves. The reason that makes the boat operators attaching themselves with business in the river is because they have boats and hence can not easily shift to other kinds or styles of job comparing to the burden-free adjustable traders.

Of today, the long-distance river business across the border, however, is still, to a certain extent, based on the former relations that the previous traders have established with the Thai suppliers in Chiang Khong. The boat operators-cum- river traders are now acting as middle persons connecting business between former long-distance traders and the Thai suppliers by allowing themselves to be wholesale dealers and, in the same time, goods carriers to the long-distance traders-cum- settle retailers in Luangprabang. The today long-distance traders will normally receive order of goods from several retailers, most of the time without advance payment, and cruise their own boats to Chiang Khong to buy the goods. They still, more or less, utilize the credit system provided to the previous traders for the goods purchased from Thai supplying stores. While the Thai suppliers in Chiang Khong are trying to empower themselves by encouraging more cash economy, the Lao traders are also taking their position of wholesalers for greater amount of goods for their negotiating power as well. In doing today business, the new boat operators-cum-river traders seem to be able to acquire more negotiating power than the previous sole traders by being the owner of the boat themselves. While each former long-distance traders only buy Thai goods for their own capacity due to their own budget limitation and the constraint of cargo availability in the boat they have to share with other traders, the new traders can buy greater amount of goods from Thai suppliers due to the several orders they have collected from different retailers in Luangprabang and their own management of cargo space in their own boats. Buying extensive quantity of goods and solely managing their own cargo led the new traders to bargain for the cheaper prices of goods with the Thai supplier as well as be able to handle better cargo arrangement for the customs inspection and direct the duration of the trading trip expediently.

Managing cargo boat is one of the crucial businesses within each trading trip resulting in profit making from successfully avoiding full tax payment and smuggling at the landing port. The previous study (Walker 1999: 144-145) shows that, inside the boat, the cargo is carefully stacked so as to minimize import duties on the Laos side of the river. In addition, such strategy is not only solely done to achieve the tax reduction but it has to be complemented by the good social relations established with officialdoms in both sides of the river as well. Now, as the import tax seems to be higher for most of the products imported from Thailand, and hence the more tax avoidance by the traders, the Laos customs has started to check the uploading of cargo at the port in Luangprabang, in addition to the formerly only in Houaysai, as well. The incidents of smuggling or hiding of goods in the cargo space of the boat to escape paying for import tax to the Laos customs authority will be portrayed in the next section.

4. Negotiating Practices on Border River Trade

The Shifting Agency of the Long-distance River Trade Operation

The era of the former Lao traders hiring and sharing the boat along the river together in order to buy goods from Thai town of Chiang Khong had, unfortunately, already ended. The current era of new traders has been emerged replacing the former one under the GMS changing trade regulation, structure, and agencies. Almost all of the Lao long-distance river traders today are those boat owners who used to service the former traders by facilitating boat travel and cargo space for goods transportation from Luangprabang to Chiang Khong and return. During the past decade, the formers traders had gradually shifted away from their mobile lives and are presently performing their trading tasks in a more settle landscape of growing Luangprabang market economy. There are several factors contributing to such change in transborder business performance of the former Lao traders, but mainly grounded and caused by the dynamics of Mekong border riverscape during the past decade.

The first, and probably the most crucial factor, is an increasing uncertainty of tax collection rate and the restriction of the customs control by the Laos customs authority for both imported and exported goods. Often times I heard complaints from many grocery store owners and the cross-border boat operators before and during the summer 2003 that many of the Lao boats that had carried their products, mostly forest and agriculture-based, to sell to the Thai merchants preferred to cruise their boats back to Luangprabang emptied. That was a result of the higher tax rate collecting for imported Thai goods into Lao territory; some claimed that the rate was raised up to 100 per cent during sometimes. One grocery shopkeeper told me that one time their products could not be sold for more than three weeks due to the absent of Lao traders interested in buying Thai high-taxed stuffs. The increasing of taxation rate did not only cause the higher prices and less demands in Luangprabang consumerism of Thai products but was also a big issue in Houaysai local market where most of the local people have already attracted by the good quality and been familiar with the utilization of Thai products.

The higher the tax rates were set, the more intense the smuggling of goods across the border. It was the local way of negotiation, and not totally a resistance of border regulations. Negotiating practices for less payment of tax whether directly with the concerned officers through accumulated personal relations, by hiding the high-taxed goods, or by smuggling of goods into and out of the boat, were the ways the traders have been managed for more than a decade since the era of former long-distance river traders without their own cargo boats (see Walker 1999). Today such local ways of negotiation with the new, and stricter, subregional regulations still exist throughout the cross-border trading sphere. One of the traders deliberately told me about how and how much tax payment she had tried to escape during her last business trip. She used 'Toto blanket', in which she claimed its great appreciation and high-demands among the Lao users, as an example to start the explanation. The purchased price of 'Toto' blanket from Chiang Khong was about 3,900 bahts and the extra payment for its import tax would be 300 bahts for each blanket. That means that if the traders pay the full amount of tax, the total cost of each 'Toto blanket' would reach 4,200 baht without the calculation of shipping cost yet, hence selling price in Luangprabang would be higher, maybe around 45,000 bahts, in order to make profit. As she continued to explain, no one in Laos would buy such an expensive blanket and since there are several shops that sell it for cheaper price. The cheaper price of such blanket comes from the avoiding of taxation during the checking procedure or the smuggling of it during the loading process. She said last time she bought 15 packs of 'Toto' and that she told the customs officers that she only carried 3. It is quite pressing for her that she has to lower her cost as much as possible since the retailers in Luangprabang know exactly and want almost the same price as in Thailand. As the price of 'Toto' in Luangprabang is set and the local Lao grocery retailers have alternative routes that Thai goods would be delivered such as through Leoi and Nong Khai, the long-distance river traders then has

to make sure that their wholesale cost would not be comparatively too high and that they would be able to sell out.

Coupled with the higher tax collecting rate of the Laos customs authority, the more restrictive customs check has also implemented along several river checkpoints. The introduction of the GMS regulations has encouraged the Laos customs to be more transparent and implementing stricter customs clearance. As a result, the Luangprabang customs checkpoints were established and have been active in double-checking the coming of Thai goods through the river trade, in addition to the still working one in Houaysai. It is then the task of the traders again to escape, or otherwise negotiate, for the least duty charge. At this point, as it is in the hometown of most traders, they often chose to unload some of their carried goods before allowing the customs checking to be done.

The second factor impacting the absent of the former traders is the rapids changes happened at the local level and the alteration of the former social relation across and along the border. There are several changes at each borderland, be it Chiang Khong or Houaysai, which brought in new groups of people with new ways of business dealing. To be more specific, the changing generation of the Thai suppliers in Chiang Khong, for example, has been shifted to the new young merchants who prefer the lucrative cash dealing than the traditional ways of personal credit-based economy formerly practiced by their parents. The expansion of monetary exchange in goods procurement, especially those brand-new fancy products which are increasingly wanted among the Loa urban consumers, had led the former Lao traders less ability to bargain for the order of such goods. The small-scale traders then, therefore, had to stick with the cheaper, less fancy Thai products which often times found difficulty to be sold in competitive Luangprabang market. As a result of non-lucrative business, some of the traders decided to move away from their credit-based cross-border business and turned themselves to be the retailers in local market instead. This reduction of numbers of the traders allowed the big-scale traders who own boat and the boat operators to take such situation as their opportune time to expand their business by setting themselves as middle traders collecting goods orders and performing the shipment for several long-distance traders-cum-retailers. With their bigger ordered lists received from different retailers, the new traders, once again, can increase their bargaining powers with the Thai suppliers.

Not only the changing generation of the Thai suppliers that essentially affected the existence of those small-scale traders, but also the coming of Chinese merchants all over the country. The more varieties of cheap products from China are now replacing the low-income buyers in Lao consumerism. While the more luxurious Thai products are taking its greater shares of the former middle-quality products among the urban, middle class Lao, the cheaper Chinese products are in the same time expending its popularity for those who can not afford the high-priced ones or would want to try alternative middle-to-low quality of import merchandises. Choices of consumption are getting dispersed and hence the limited kinds of products brought into the country with the limited cargo space of the river traders are then caught in the middle of rapid changes of cross-border trade and the lifestyle of the Lao expenditure. Toiletries and cosmetics are the obvious illustration of the great range of utilization and taste of products shared between the Thai and Chinese companies. Thai-manufactured shampoo such as *Sunsilk*, *Panteen*, and *Lux* soap, for example, are popular among the affordable Lao users, especially the teenagers who partly been convinced by its over-stated qualities and nice packaging from Thai television advertisements and well-known Thai presenters of product. Also washing powder like *Breeze*, *Omo* and *Fab* from Thailand are also recognized in Laos due to the great amount of its promotion and the product development among the producers within their own competitive Thai market. This is not to mention those direct-sell cosmetics such as *Mistine*, *Avon*, *NuSkin*, and *Amway* in which some of the well-being traders are also the users and the direct-sellers with the introduction of the products and direct-sell business to them by the Thai friends in Chiang

Khong. The However, the rural Lao with less exposure to the consumerist Thai lifestyle are still be able to unattached themselves from merely using dominated Thai products. These people sometimes prefer to pay less for some products they think the brand is not a big deal in consumerism. And that is the time when the cheaper Chinese products have come to be the appropriated choices. Even though most of the Chinese-products consumers in Luangprabang and Houaysai, by this time, still cannot name the Chinese brands they prefer or often use at home, due to the absent of marketing promotion, but that does not mean the Chinese products do not make a success in inserting their cheaper products into the Lao preferences of consumption. Another apparent case of using Chinese products is the selection of clothes and kitchenware and utensils. In the near future, not only the Chinese choices that will take a greater share with Laos economy, Vietnamese products are also getting recognized and fluctuated into the country with the greater business connectivity.

The development of big-project facilities also created the local changes that altered the former practices and the absent of the old-style traders. Roads and deep-water ports construction, for example, has laid the trading routes into a concrete subregional-connected picture. The authorized ports with stricter regulation have also obstructed, even though not totally prohibited, the small-scale traders who do not have their own boat to share the cargo boat with other. That is, the GMS standardized ports require that the parking boats need to have registration book with the list of exact cargo crew members' names and hence temporary boat hiring or sharing of the traders is no more supported or practiced. Better road connections also made the transportation cost for shipment of goods from Thailand and other neighboring countries lower than before leading to the lower prices of goods sold in Luangprabang. While such competitiveness arises, the long-distance river traders yet have to bear the still-high travel cost in each of their river trips as well as the hazards of traveling and the unstable import tax collected by each stopping points.

Another factor disturbing the business of former traders is the irregular change of Mekong water level throughout the years. Without their own cargo boats of the former traders, the unexpected changes of Mekong water level have impacted the former traders' business than those of the present traders who can manage their trading trip and cargo space better. It is clear from the previous study (Walker 1999) that certain arrangements with several different peoples have to be made by the long-distance river traders before each trading trip would start. Of course, first of all the traders have to go around to their goods distributors asking of any requested products from the trip. The traders then simply have to make contact to the Thai suppliers in Chiang Khong as to let know the list of wanted goods and hence the preparation in advance. The designated cargo boat has to be reserved and advance payment had to be met with the boat operator. Sometimes the assembly has to be formed among traders who plan to share the cargo together and that is not to mention about accommodation and other random personal business arrangements along the river trip that have to be planned ahead. But with the unpredictable rises and falls of the Mekong water caused by the river management by the series of Chinese dams upstream, the whole planned trip could be easily canceled once it is impossible for the boat to safely cruise the river.

Credit System: The Social Negotiation of the Long-distance River Traders

Due to several discussed issues above, most of the former traders without their own boat had gradually left the Mekong long-distance trade operation and, based on the business background in Luangprabang, set up their own grocery shops of Thai goods. Needless to say, those former traders still have connections with the long-known Thai supplier in Chiang Khong and that trade relations still continue but with the different setting and ways of practice. For example, they still make connection with the suppliers in Chiang Khong to check about the prices and stock of goods by using mobile telephone. Some of the traders recommend the new traders to buy goods from their long-known

grocery stores wishing that they still can negotiate for some credit provision. This, however, is beyond the interest of this study since it will focus on the new present traders in the context of the GMS regulation.

The today long-distance river traders have their own boat, if not to say that they were actually the boat operators serving the business of the former river traders before. With their own boat now, the business patterns of the new traders are slightly different from those practiced by the former traders before they retired themselves from being the long-distance river traders. Their regular trip often start by going around several groceries shops and the local market, *Talad Phusy*, in Luangprabang as to collect all the lists of goods that the local grocery retailers would like to order from their trip to Thailand. Some advanced payment for goods have to be paid depending on how they negotiate among themselves. This is not a fixed rules and actually been applied case by case. For example, the long-distance traders may ask the retailers to pay for those products they could not get credit provision from the Thai suppliers or if the retailers order a big amount of goods, the traders often requested that they pay some deposits. The situations are also depended on how financial situation of both river traders and the retailers are as well as the broader circumstances of customs restriction and supply and demand in both Chiang Khong and Luangprabang. If the traders can receive some prior payments, plus their own business budget, enough to run their boats and buy listed goods from Chiang Khong, they would allow the small retailers to pay for the goods later once their get the stuff from the traders as ordered.

Besides, the social way of negotiation, personal relations, still plays a big role in defining the power of financial negotiation among themselves. Credit provision is still a working system between these Loa business folks as they have been familiar with after practicing it for such a long time. As they have been used to it, the former traders who are now the retailers often request that they should receive some credit provided by the current river traders since their stocked goods can not be easily sold in local market, hence limited revolving fund. Some of them even suggested the river traders to further request for credit provision from the Thai suppliers as they formerly did without knowing that the system in Chiang Khong is changing now. Insisting in the old way of practice, one of the river trader-cum-retailer in *Phusy* said that *"it is the system we have done for along time, (the present traders) should recognize and know how to do it as well"*. Like the Thai suppliers in Chiang Khong who have to rely so much to the traders for the distribution of their goods into Laos, the current long-distance river traders depends on the local retailers to distribute their carried goods to the local consumers. Such dependent situation has brought them the inferior bargaining power and hence had to accepted credit provision to, and as has been requested by, the long-distance traders and the local Luangprabang retailers for the case of the Thai suppliers and the Lao river traders respectively. As a result, the long-distance trade operation between Chiang Khong and Luangprabang is still working on the chain of credit provision dominated by the end distributors, or the local retailers, in Luangprabang, despite the attempt by the Chiang Khong side trying to get rid of such system.

While the retailers in Luangprabang still strongly apply credit system as the way of dealing business but the Chiang Khong suppliers are moving toward cash-based pattern, the long-distance traders are cough in the middle of financial difficulty and negotiation. What they think would be the way out for them is to upgrade their boat to a bigger-size one and that they can accommodate more cargo, hence making more profit for each trading trip. In addition, in the case that the traders can afford to have a large boat, having a bigger order handing to the Thai suppliers is the way they can empower their negotiation for credit or reduced prices. This plan, however, seems to be a long-reach goal and not easy to be accomplished in the foreseeable future, as claimed by many traders I met, especially within the rapidly changing circumstances of cross-border trade today. What they can do during the meantime then is to try anyway that they can reduce the cost of the carried goods as much as possible. And since

bargaining for cheaper prices of goods and credit provision from the Thai suppliers is not likely to be an achievable choice for the long-distance river traders, the only way to reduce the cost of travel and making the most profit out of it is, alas, to cut the cost of customs payment by smuggling of goods through the porosity and fluidity of border riverscape.

The Avoidance of Tax Payment through the Smuggling of Goods

One two o' clock in the middle of the dark cold silent night, I was waked by *Pii Pui* and *Pii Samai*, the Lao long-distance traders whom I accompanied their trading trip from Chiang Khong and were kind enough to invite me, after reaching the destination, to sleep in their house during my stay in Luangprabang. I was extremely surprised by what happened and of why the whole family, comprising of father, mother and the late-teen son, had to get up in the middle of the sleepy night preparing themselves in a rush manner, and whispered talk as not to interrupt my sleep, for their outdoor mission out of no where. No matter how quiet they try to be, their little dim lights and small uproar had already stirred me up and soon directly attracted my sole attention. After being in the heavy-eyed astonishment for almost ten minutes I decided to let them know that I am awaked and that if they plan to leave the house I should, at least, know. My decision in so doing was worth as *Pii Pui* finally came to me and told me with his soft voice: *"I'll go for work"*. *"Now.!?!."*, I immediately replied with no clue. It was that question that they stopped to briefly explain to me that they would have to sneak out to their boat and smuggle the purchased Thai goods out of the cargo before allowing the customs clearance by the Luangprabang customs authority in the next day.

I was too excited to be able to go back to bed again even though I was still in the bed. To make sure that it was not just a dream, I decided to take out my field journal and started to write things down. I spent the next one and a half hour lying in the bed with eyes still open until the family came back to the house with loads of stuffs and the help of other boat crew residing in the goods-filled boat. They spent about 20 minutes unloading the goods from the hired pick-up truck and, soon after the finished, left again for a second round of smuggling. The whole mission finally ended about half past five in the morning before the dawn of the other normal day and, of course, I was there at the house awake throughout the whole long night.

Next morning, I asked them about the illegal operation last night and received the guileless explanation as they seemed to feel that what they have done was something very ordinary common. To my second surprise, they mentioned that they have to do it again tonight since there were some stuff that still left too much in the boat and one night operation is not that enough. I asked whether this time I can go along with them or even 'help' them with the uploading. With a little disappointment, but reasonable enough to me, they said it was too risky for me to join the activities since I am a foreigner and they would feel more comfortable if I only stay, or try to sleep, at home. Needless to say, I was sleepless again for the second night during such a crucial operation.

The second night, however, was different from the first night action. This time the traders already made appointments with the owners of grocery stores around the municipality of Luangprabang whom they have business connections with to get themselves ready to received the smuggled goods that they had ordered prior to the trip, again, before the sunrise. That night, as the father and mother drove out their almost-antique motorcycle from the house near Phusy market, outskirt of Luangprabang, their only son was already await sleeping at the boat with the other younger crews. During rainy season when the water level is high, they can dock their boat at the river shore nearby the house and that the night smuggling of goods would be quicker, more convenient and less risky. By doing that, they could unload the boat at night and keep some of the goods in the house for, later on, distribution of the stocked goods to the assigned grocery stores during the day times. But tonight since they have to take

the goods out of the shored boat and they do not have warehouse to store them, the contracted retailers then have to get themselves ready to take delivery of the goods at night like this.

Experiencing their nighttime activities for the past two nights, coupled with traveling along the Mekong course with them during their long-distance trade operation for more than ten days just for one trip, I became to realized how the traders and his only son were so apart from each other for most of the time during the years. As *Pii Samai* told me during our random conversation in the boat, they often traveled for about 20 days to more than a month, sometimes it even lasted almost two month, for each round of river trading trip. The time that they would stay in their own house in Luangprabang is varied, depending on how fast they can collect the money and list of ordered product from the retailers that usually pick up the goods from them, but actually not more than a month before the starting of the next trip. Such mobility led the family to stay together and do some home activities together for very limited period of time each year. And once they have a chance to do what so-called the 'family activity' together, it however has turned to be the 'illegal activity' that they somehow have opportunity to do so.

The Flexibility and Munificence of the Long-distance Traders

The trip plan is almost nothing; it is rather super flexible. The business schedule of each boat trip can often be altered not only by the delay in customs clearance by the authority but also buy the traders themselves if they found better business opportunities or dealings during the trading journey. One time I was about to cruise along with 60 tonnage boat ready to leave from Houaysai with the cargo filled with stacks of instant noodle, canned food, blankets, and soda water. The trader who own the boat had found the Chinese merchant who approached him at the port and after a short negotiation, the Lao trader decided that he would cancel the appointment with his long-term friend in buying and carrying rice from Pak Tha to Luangprabang and replaced his half-empty cargo with 120 Chinese motorcycles proposed by the business guy he just met. The boat then had to stay at the Houaysai port for two more days as to load such motorcycle into the boat through small, window-like, door. Due to the few number, and very young, boat crews he had, I then had to step out of being just merely a researcher to a drudge helping with the labor-intensive transferring of such motorcycle. Finally we ended up making the boat carried 58 motorcycle and there was no room within the boat to walk or for the crew to sleep. With that profit-making trip, we had to climb up the roof to walk between the stem and the stern of the boat while all three crews had to sleep on the motorcycles' seat.

The Lao word of wisdom I found in the Lonely Planet Lao Phrasebook saying *"Ngern kum ha ngai, num jai ha yak"*, which literally means 'It is easy to earn money but difficult to find kindness' contrasted to what I have experienced during my itinerant field research in Laos. During my field excursion along the river many times with the Lao long-distance river traders, I had always received the privilege from the traders whom I traveled with no hidden monetary purpose. Not only I found that earning money is not so easy for the traders each time the take off the boat, but also kindness and genuineness are commonly shared to those people around them, including me as their visitor. It is always difficult at first to ask any traders to accept me in accompanying their boat into Laos. That is because there are not familiar with the stranger asking to travel with cargo boat and actually there are well-established passenger boat operations along the river for the tourist service already. Only until I was introduced by the customs officers, customs brokers, or the trusted Thai suppliers in Chiang Khong and I myself insist that I had authorized visa and passport and I do not mind inconvenience of living in the boat, that the traders would accept me as their peculiar guest.

No matter how ambiguous my purpose was to be in their boat or how obscure their understanding about my present would be, the traders had treated me well until the end of the trip. I had always been invited to eat with them and sleep in their living compartment separated from the other

boat crews. If the boat is a small-size one, I would be allowed to sleep in the front area with them while the boat crews have to stay in the rear next to the kitchen and astonishing toilet! If the boat is the bigger-size with two storeys, I would occupy the open space behind the front terrace as my semi-open-to-the-sky sleeping base. In several of the trips, with such comfortable living than one ever expected provided by the generosity, the traders only accepted my small amount of money for meals and the jar of homemade *'Naam prik Pla rah'* or the chilly paste with fermented fish I had always carried for them.

5. Conclusion

The main argument of this paper is to look at how transnational economic practice can be seen as a negotiating space between different agencies involved into the trade regime of regulation. The multi-layer of practices in international trade allow us to see certain changes representing the success and failure of negotiations ranging from subregional ideology in creating Mekong as a new homogenous subregion for economic development, to the national policies of riparian countries following the Bank's mentality by establishing new structures for border controls and trade facilitations, and the local alteration and adaptation in coping with a dramatic change forcing down from above leading to the emergence of new local agencies who can manipulate the new border trade regime such as the customs brokers, or the disappearing of those who cannot deal well enough with the changing power relations that have to get rid of themselves from the border exploitation such as those of Wat Luang cross-border port. The rough examples here can be a good starting point to depict the critical linkages between subregional, national, and local phenomena within the GMS transborder economic regulations and practices.

Border is the place where we can study the meetings between globalization and localization and how it negotiates to each other to form up the situated practices within the particularity of situation. The new territorialization of Greater Mekong Subregion has led to the transformation of national policy on border regulation and in the same time leading to the forming of dynamic borderlanders relations across the national boundaries but within their own defined trading and social sphere. In the more conceptual note, the changing situation mentioned above allow us to take a critical look to see how the characteristics of cross-border river trade link to the transforming process of declining or restructuring of nation-state at the border. In addition, it they depict the way the social relations that derived from the mobility of long-distance, cross-border trade operation transcend, and resist, the physical limits of nation-states and therefore transform the socio-cultural structure of borderlands and subregion. Borders, which formerly be seen as a demarcating line separating political entities from each other, have shifted its nature to be the gateways for the transnational flows of goods, people, cultures and ideology. The traditional local connections have been reconsidered by the promoter of regional development as a practical path to link all the fragmented newly GMS-allocated destinations together. Yunnan of China, for example, can now be link with Bangkok by using the local road connections here and there to form the region-long road drive. Mekong river, too, has been revised again after the lesson of failure in making it as a river road as a subregional passage. Such link may help in creating farer connection between people and their activities but in the same time it may limit the utilization of the tradition practitioners who have to get out of the way for the more powerful agencies in utilizing it. The case of the Lao long-distance traders today may not represent the final outcome of such change yet since some the subregional changes are still undergoing. But what we can now see is the initial change that entails the lost of those who cannot negotiating to stay in the old-style practices and regulation and have to leave the regime. We see the disappearing of power of the cross-border Chiang Khong Boat Association at Wat Luang who has to give up their legitimacy to the newly-constructed port officials. We have learned that borders allow the influx of many brand new goods into the formerly economic-uninspired area such as the Chinese merchandises in Houaysai Chinese market and Lancang River Beer

in Chiang Khong. Yet we do not know whether such introduction will last for long bringing alternatives to the local people with goodwill and prosperity as claimed by the GMS promoter, the ADB. It is a change under the transitional period where nobody can really oversee in the near future.

We also see the emergence of new trade connections with new patterns of business practices not only in the local trade community but also throughout the region. The establishment of customs broker system is an example of the how local people take a transitional period as an opportune time to manipulate the change in subregional trading regulation. The harmonizing, more expectable system of customs operation also allows the new players to enter into cross-border trade which formerly managed by the local trade-related operators. With the national policy arrangement, the manufacturers can now shift their products to destinations in other countries bypassing the local cross-border traders. The new generation of grocery store owner as well have maneuvered the changing consumerism style in Laos, due to the wider choices provided in the countries from neighboring countries, to introduce more standard dealing with the Lao long-distance traders. These are the example of those who can successfully negotiate in the changing nature of border trade. Last but not least, it is through the porosity and fluidity of Mekong that we still be able to see local way of negotiation beyond the surveillances of trade authority through the smuggling of goods. And all the cases above are the negotiation of transborder trade under the changing Mekong border riverscape.

References

Chiranan Prasertkul

1989 **Yunnan Trade in the Nineteenth Century: Southwest China's Cross-boundaries Functional System**. Bangkok: Institute of Asian Studies, Chulalongkorn University. Asian Studies Monograph 44.

Evans, Grant, C. Hutton, and Kuah Khun Eng (eds.)

1997 **Where China meets Southeast Asia: Social and Cultural Change in the Border Regions**. Singapore: Institution of Southeast Asian Studies.

Hill, Ann M.

1998 **Merchants and Migrants: Ethnicity and Trade among Yunnanese Chinese in Southeast Asia.** New Heaven: Yale Southeast Asia Studies Monograph 47.

Koizumi, Junko

1990 "The Commutation of *suai* from Northeast Siam to Bangkok in the Middle of Nineteenth Century", **Journal of Southeast Asian Studies**, 23 (2): 276-307.

Osborne, Milton

2000 **The Mekong: Turbulent Past, Uncertain Future.** Singapore: Allen&Unwin.

Pianporn Deetes

2003 Lancang Development in China: Downstream Perspectives from Thailand. Chiang Mai: Southeast Asia Rivers Network.

Walker, Andrew

1999 **Legend of the Golden Boat: Regulation, Trade and Traders in the Borderland of Laos, Thailand, China, and Burma**. Honolulu: University of Hawaii Press

Cambodia Resource Institute Development (CDRI) Development Analysis Network

---

The Cross-Border Economy of Cambodia An Exploratory Study

by K.A.S. Murshid and Tuot Sokphally

Summary[1]

Cambodia has taken significant steps toward integrating its economy with that of neighbouring countries as well as with the rest of the world. The impacts of this trend are in principle thought to be considerable, but in fact depend on a number of factors lying on both the demand side – the structure of import demand of partners and the extent that this structure is compatible with domestic comparative advantage and competitive strengths, and the supply side – infrastructure, communication, services (banking and insurance), human resources, governance, energy costs. Since the greater regional integration will help to overcome the demand side constraints, the supply side problems are more rigid and demand more time, efforts and resources to remove, so need to be studied now for each individual country.

This study focuses on the Cambodian experience with cross-border trade. Its main objectives include to i) assess the policy and regulatory /facilitation regime for cross border trade, ii) examine cross border trade arrangement and trade facilitation, trade infrastructure and institutions, structure of costs and market performance (with reference to specific commodities traded), and iii) identify the impacts of CBE on household level welfare, especially the poor.

In order to achieve these objectives, two border areas have been selected, including 20 villages in Chantrea district of Svay Rieng province, and another 20 in Ochrov district of Banteay Mean Chey province. Those are where two international border gates are situated: Bavet International Border Gate in Chantrea, and Poipet International Border Gate in Ochrov. A survey on 240 village households was carried out in the 40 studied villages. At each gate, two commodities were selected for the study of its trade structure and operation, in addition to the review of trade policies and regional climates.

The Cambodian economy has greatly opened to international communities as well as its neighbouring countries, shifting from the centrally planned economy in 1980s and early 1990s to a market-based one. A lot of trade restrictions have been relaxed and the Cambodia CBT regulations have been greatly simplified; plus an on-going process of simplification and modernisation of customs. In line with the Cambodian national efforts to stimulate Cross-Border Economy and its economic integration, there have been also some regional efforts to support and promote the CBE in the South and South-eastern Asian regions. Those endeavours include CEPT under ASEAN framework, GMS program, ECS, some triangular cooperation agreements, and so on. CBT with Thailand and Vietnam, in consequent, have increased, though the Thailand-Cambodia trade at a speed a lot faster than the trade between Vietnam and Cambodia.

CBT at Bavet is in decline as the businesses have been shifted to other (existing or newly opened) borders. On the contrary, CBT at Poipet has increased by 2 or 3 folds since the past three or four years, despite the opening of several crossings along the Thai border. At these two border gates, two kinds of CBT operations include the informal small scale and labour-intensive operation and the semi-informal big scale non-labour intensive one. The former is operated mostly by the border residents who have a special privilege in border access at no or lower price. At Bavet international

[1] This is the summary of CDRI working paper 32, published on April 2005. For access to full paper, please contact CDRI at Tel./Fax: (855-23) 880 734.

border gate, the border residents frequently cross the border for purchasing consumption goods, agricultural inputs, and for medical reasons; it is a bid different that these kinds of purpose of crossing are less common at Poipet international border gate.

The two-studied CBT with Thailand are dominated by Khmer traders, operating from both sides. The case of garment processing-trade reveals a complex but well-organised subcontracting system that uses mainly Thai inputs to manufacture garments for re-export back to Thailand. Another case on the Thai-Cambodian trade, the import of processed foods, shows that two channels are operating: the big channel supplies to Phnom Penh and big towns and is controlled by a handful of large traders/clearing agents; the smaller channel is operated by a large number of poor people. Unlike the Thai CBT, a case of CBT with Vietnam, the import of fresh vegetables, is dominated by a series of Vietnamese or ethnic Vietnamese traders that are related to each other by blood or marriage.

From our case studies, we found that official and unofficial costs of border clearance are rising, especially for small traders, first. Second, the risk of credit default is getting greater as competition rises and traders have a greater choice of business partners. Third, personal links and trust are very important and have substituted for missing institutions such as financial and risk-bearing institutions, but are inertia for rapid expansion as it takes time to build trust.

Both border areas and CBE impacts at the two sides are of significant difference. The areas along the Thai border were found to be better off in terms of infrastructure, and service delivery, including communications, access to schools and health centres, credit and financial institutions and rural development programmes. From the village/household studies, we found a significant impact on livelihoods, especially the studied areas along the Thai border. However the poor in the border areas along the Vietnam border do not receive any direct benefits from the CBT but access to cheaper products available from Vietnam.

Owing to the scale and limitation of this study, we could not make any specific recommendations, but three sets of overall policy implication include 'do less', 'do nothing', and 'do more'. With do less, it would be better for us now to focus on actions and implementation rather than just on policy or agreement formulation. With do nothing, we should not deter some small-scale informal operations like the informal garment processing-trade, but watch out for any attempt to formalise the CBT related activities. With do more, we call for the promotion of trade institutions and infrastructures such as finance, insurance, physical infrastructure, trade clearance and forwarding.

Gendered commodity chain of fish border trade from Cambodia to Thailand[1]

Kyoko Kusakabe[2], Prak Sereyvath,
Ubolratana Suntornratana, Napaporn Sriputinibondh

Cambodia's inland fisheries are the fourth most productive in the world (Yim and McKenney, 2003), given the combined capacities of the Tonle Sap (Great Lake) and Mekong River, where more than one million people depend on the fisheries sector for employment, income and food security. Freshwater capture fish production was recorded at 385,000 tons in 2001 (MAFF, 2004). Fisheries were estimated to account for 7-12 per cent of GDP in 2002 (Yim and McKenney, 2003). On the other hand, in Thailand, the amount of harvest from freshwater capture fisheries is half of that in Cambodia – around 200,000 tons in 1997. Thai fishers/farmers culture almost the same amount of fish as they capture (Ministry of Agriculture and Cooperatives, 2004). Because the amount of domestic captured fish is not enough for domestic consumption, Thailand imports freshwater fish from Cambodia and it is the largest importer of freshwater fish from Cambodia. Trade statistics in Cambodia show that the total fisheries export from Cambodia (including from marine fisheries) was around 35,000 to 45,000 tons. However, this is not considered reliable due to underreporting (Yim and McKenney, 2003)[3]. According to Leepayakoon (2004), who collected daily fish import data at the Aranyaprathet at the Cambodia-Thailand border checkpoint from 1999 to 2002, fish imports from Cambodia to Thailand were 10,719.9 ton (300.4 million baht) from June 1999 to May 2000, and 10,522.5 ton (349.2 million baht) from June 2001 to May 2002.

The present study looked at trade between Thailand and Cambodia after the Democratic Kampuchea (DK) regime that ended in 1979. During the DK regime, commercial fisheries were banned, individual fishing was restricted and trade between Thailand and Cambodia was non-existent. After 1979, with the exodus of refugees to the Thai borders, commercial activities emerged in the border areas. With changes in the border trade policies and structures, such as the establishment of state-owned enterprises, market liberalization, and formalization of border trade, actors and their relations have changed over the years. This study focused on women small scale fish traders. They are important actors in the trade chain and the fish trade has created employment for these women who, with their meagre incomes, can financially support their households. This paper examined the changing roles and positions of these traders with the changes in the border trade environment, and analyzed their relations with other actors. One of the important issues that distinguishes their business from that of other parts of the fisheries supply chain is the physical place and space that they work in. The study also examined how the international border influenced their way of doing business and their relations with other traders. The study interviewed fish traders both in Cambodia and in Thailand. Around 30 traders in Cambodian side and 45 traders in Thai side were interviewed. Discussions were held with officers in custom office, department of fisheries in both countries as well as fishers and fish lot owners in Tonle Sap. A workshop that involved both Cambodian and Thai fish border traders, fishers in Tonle Sap and custom, immigration and department of fisheries officers was organized to exchange ideas.

---

[1] Earlier version of this paper was presented at the 7th Asian Fisheries Forum at Penang, Malaysia, 30 November – 3 December 2004.

[2] Assoc. Prof. Gender and Development Studies, School of Environment, Resources and Development, Asian Institute of Technology, Pathumthani, Thailand, kyokok@ait.ac.th

[3] This figure includes all exports. Thailand's customs statistics in Sa Kaew province shows that official trade of freshwater fish from Cambodia to Thailand was 8.8 million baht (around 225,640 US$) in 2003. However, this is the amount imported by registered importers who import in large quantities. This is said to be grossly underreported.

Fish trade network and the international border

Markets distribute and allocate resources, and the allocation is done based on the power relationships that each actors in the trade chain has. The relationships between actors in the trade chains reflect and construct gender relations and create certain advantages and disadvantages for women traders. Polanyi's non-market exchange depicts redistribution and reciprocity, but many of the agricultural markets in the developing countries operate mainly on relations of reciprocity. Such market relations based on social relationships is what makes the market system gendered. Harriss-White (1998) studied the gender construction of non-labour, commodity markets, and described how grain markets are reinforcing institutional inequalities and social territorialisation.

> *"Female traders tend to operate through personalised 'network' trading contracts and are price takers. By contrast, shop-based trade is controlled by men. Men control all derived markets (e.g. the rental markets for transport and storage) and all materially productive activity (mechanical milling). They are price makers and can and do practise collusive price formation." (p.195)*

Crow (2001) in his study of South Asian grain trade also pointed out how the structure of grain and finance markets assists accumulation by the rich and the impoverishment of the poor. As Harris-White pointed out, the economic consequences of the gendering of the rice marketing system reduces both productive efficiency (in which outputs from given inputs are maximised) and adaptive efficiency (judgements about the flexibility of the norms and institutions shaping the way an economy develops) (North, 1990 in Harriss-White, 1998:207). Yim and McKenney (2003) in their study of fisheries in Cambodia pointed out that over-exploitation of small traders can lead to the collapse of the trade and thus would not benefit the development of fish trade. Studies of regional trade of livestock in Africa similarly pointed out how institutional mechanisms, especially the state's regulation, concretely hamper the viability of livestock trade. Sidibe (2003) argued that marketing policies and institutional systems are not clearly defined, allowing the imposition of illegal tax tariffs and corruption to be rampant. Amogu and Salisu's study (2003) showed how the imposition of taxes by authorities is leading to business failure.

The market system that is dealt with in this study is further complicated because it also takes into consideration the effect of international borders. International borders are a relatively new concept in this region. In Southeast Asia, the traditional state was defined by its centre and not by its boundaries (Carsten, 1998; Anderson, 1983; Winichakul, 1994), and the power of the ruler was revealed not by its territory but by the number of people that they controlled. With the concept of modern states being introduced to the region, international borders, with their symbols of national identity and control, have exerted "real" changes on the capabilities and well-being of women and men living along the borders. The special feature of borderlands is that people directly face different economic and political systems at the same time. They juggle with the hegemony of the two states, and utilize the differences to turn them into their opportunities. Thus, the phenomena of borderlands gives a vivid picture of the effect that the centerlands will face under globalization in a more direct way. The geographical location sets certain culture, social norms, family structures, and gender ideology, because of the history, topography, physical infrastructure, religious influence, natural resources, livelihood and economic systems, and state and political structure in the area. This study focuses on a certain geographical area, that is, a borderland. National borders are areas where two or more states come into direct contact with each other. This creates a margin for the hegemony of nation states, but a center for a dynamic movement of goods, people and information that strives to take advantage of this particular geographical location. Especially with a global move towards market liberalization and free trade, cross-border movements of people and goods have not only increased in volume, but also changed forms and actors. In order to demonstrate such changes, the study will specifically set the focus on the

border areas between Cambodia and Thailand, and examines a trade of one commodity, that is, inland fish.

History of fish trade since 1980

During the Democratic Kampuchea regime (the so-called Pol Pot regime) till 1979, commercial fisheries were banned and individual fishing was restricted. Trade between Thailand and Cambodia was non-existent. After 1979, with the exodus of refugees to the Thai borders, commercial activities emerged in the border areas. In 1981, KAMFIMEX (Kampuchea Fish Import Export Company), a state-owned enterprise managed by the Ministry of Agriculture, Forestry and Fisheries in Cambodia, was established to collect fish from fisheries solidarity groups and state fishing enterprises (Touch and Todd, 2002). KAMFIMEX was the sole licensed exporter of fish products and all fish destined for export had to be sold to KAMFIMEX. In 1990, KAMFIMEX was officially established to manage marketing, distribution and export of fisheries products through agents stationed at landing sites, provincial and border offices (Yim and McKenney, 2003).

The first official border checkpoint – between Poipet in Cambodia and Aranyaprathet in Thailand – was a war zone until the early 1990s. It was initially opened to supply daily necessities to Cambodia[1]. In the 1980s, fish could be exported to Thailand only with the help of the military. Traders would contract military drivers to transport their fish to the border, and since they could not join the convoy, they would cycle across following their ware. In later days, traders were able to access *romoh* (modified tractors that transport people) and did not need to cycle. Traders paid a fixed price of 300-400 baht per trip to the military. Some traded in the refugee camps, while others sold to Thai traders. The trade was risky, but lucrative[2].

KAMFIMEX collected 4% of the total sale as a commission from small companies, as well as bought fishes from provincial distributors who held licenses from the Ministry of Agriculture, Forestry and Fisheries (MAFF). As the civil war subsided, and more traders joined the border trade, traders could transport their fish to the border without the help of military personnel. In 1990, KAMFIMEX established a warehouse in Poipet town, and all fish needed to go through them and pay fees to them.

In the early 1990s, fish trade was carried out in Ra market in Poipet, Cambodia. This later moved to the newly constructed Akeak market. However, during 1994-95, due to the war between Royal government forces and the Khmer Rouge, it became increasingly difficult to continue trade in Cambodia. With the coup d'état in Cambodia in 1997, the market was completely shifted to Rong Kluer market in Aranyaprathet, Thailand, and it remains there until today. Rong Kluer market is a modern market with a concrete floor, a high steel roof and with large concrete roads. Trade is done in Thai baht. In Poipet itself, most of the transactions are done in Thai baht[3].

KAMFIMEX used to control the fish export market until 1997. But several factors led to the fall of KAMFIMEX. Internal conflict led to some managers leaving KAMFIMEX and establishing CDCO (Import Export and Civil Development Construction Company)[4]. At the same time, the amount of fish going through Poipet and KAMFIMEX was decreasing. Before the establishment of CDCO, some unlicensed exporters had been changing their export route to other informal border openings to avoid paying high fees to KAMFIMEX (field interview). When CDCO was established, CDCO wooed these unlicensed exporters, even asking them to be shareholders of CDCO to secure fish for trade. With

[1] The characteristics of the early market remain in the present name of the market "Rong Kluer" (salt warehouse).
[2] One Thai respondent reported that the price was 10 times less if they bought fish inside Cambodia.
[3] This is different in other smaller checkpoints. In the checkpoint of Ban Laem (Chanthaburi, Thailand) – Komrieng (Battambang, Cambodia), transactions are mainly in Thai Baht, but Cambodian riels were also accepted in the Thai side of the border. This was not the case for Aranyaprathet. Although all the sellers and many buyers are Cambodians, Cambodian riels were not accepted in Rong Kluer Market.
[4] One of the high-level managers of KAMFIMEX had a sister who already had a registered construction company. He used her company to register as an exporter of fish as well, thus CDCO's company name shows this history of establishment.

the establishment of CDCO, unlicensed exporters either started working with CDCO, or simply stopped paying fees to KAMFIMEX.

At the same time, a growing number of checkpoints and agents were collecting fees from fish traders. Yim and McKenney's study in 2002-2003 identified 27 payments done to 15 institutions in 16 locations to get from the landing site in Kampong Chhnang, Cambodia to Rong Kluer Market in Thailand. According to their study, 69% of the potential profit was paid for fees, and exporters were able to cash in only 31% of what they were supposed to earn. Of the payments, 68% was done in Cambodia, and of this, only 17.4% was for custom and duties; 9.5% went to KAMFIMEX, while payments without official basis amounted to 50.1%.

Because of such large and frequent payments involved in transporting fish from Cambodian landing sites to Thailand, transporting agents were contracted by exporters to manage all these payments. Exporters pay three baht per kg to transport fish from a landing site to the border town of Poipet, and 2 baht per kg to transport fish across the border to Rong Kluer Market[1].

The traders did not passively accept such charges. In 2001-2002, small-scale transporters and traders came together and demonstrated against the fee charged by KAMFIMEX[2]. They demanded free trade for fish exports, and state support in stabilization of prices and markets. The leader was one transporter/broker, who is a native of Poipet. He collected thumbprints from 96 traders and transporters, among whom more than half were women. They also went to make the demands in the Banteay Meanchey governor's house. The demand was finally approved in year 2004, giving victory to the traders-transporters against KAMFIMEX. With their increasing bargaining power, the leader of the uprising said that the payment in Cambodia is much less than before.

At the same time as the Cambodian fees have decreased, the Thai fees have increased dramatically. Before 2001, only the Thai customs were collecting fees. Other payments included water and sanitation fees to the Rong Kluer Market. In year 2001, a Department of Fisheries booth and a Department of Livestock booth were established in the border checkpoint, and all imported aquatic animals need to go through the checkpoint. At the same time, import registration was strictly enforced. Only Thais can register as importers, and all fish that come into Thailand need to be under a registered importer. There are currently three importers registered at the Aranyaprathet border, and fish traders need to pay a fee to the registered company they use. This fee is not large, but coinciding with the period that the Department of Fisheries set up their checkpoint, the amount charged at the Thai customs has increased 2 -5 fold or more. Sophea[3], a Cambodian woman exporter, said that before year 2000, she paid 6,000 baht to Thai customs. Now she pays 10,000 to 15,000 baht per cart. Neary, a Cambodian woman small trader, said that before 2000, she paid 20 baht per basket. Now she pays 100 baht and sometimes 200 baht depending on the "mood (*arom*)" of the customs officer. According to Pany, a Cambodian small trader, Thai customs used to ask for a lump sum payment per pushcart. Nowadays, they are stricter. The exporters said that nowadays, payment on the Thai side is the largest of all the costs.

Along the Thai-Cambodian borders, there are six official checkpoints[4]. During the time the Poipet-Aranyaprathet border was closed due to the bilateral political conflict, other smaller checkpoints were operating as usual. So, some of the traders sent their fish through other border checkpoints. However, road conditions in Cambodia are very bad around the other checkpoints, and there is no large

---

[1] Large scale traders hire fee brokers to negotiate with authorities. Small traders depend on transporters who are not as well-connected as fee brokers. The payment is higher for smaller scale trade. The exact cutting point of the amount is not clear, but for micro-scale traders, the payment to transporters is 2.5 baht per kg, making it more cost effective if the shipment is combined and done together for smaller traders.

[2] Small scale traders and transporters refer to those who trade around 200-500 kg per day on average. There is a large seasonal fluctuation in the traded amount.

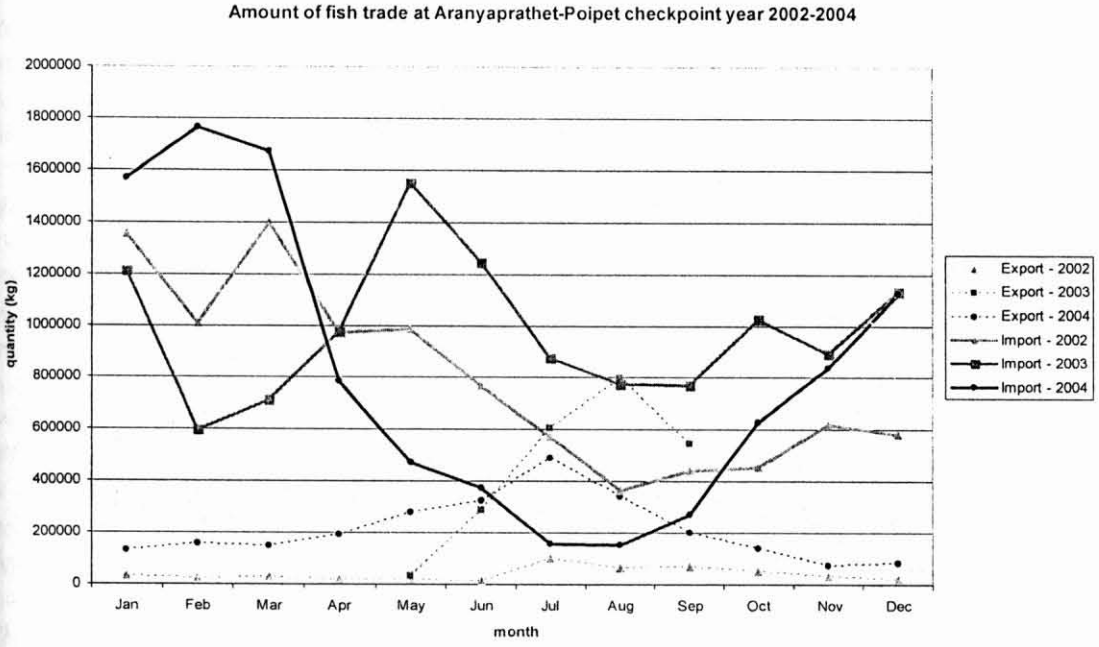
[3] The names are changed in order to maintain anonymity.

[4] Where they have customs offices.

market like Rong Kluer Market on the Thai side, making it difficult for exporters to send their fish in bulk.

The official data that shows fish trade in the border covers only the amount that the registered companies declare for import. It does not cover the small scale fish trade which comprises a significant part of the trade. Data that we were able to collect through the cooperation of the Thailand Department of Fisheries officers at the border checkpoint were able to capture the trade by these small traders that has been invisible till now. It shows large seasonal fluctuation as well as yearly fluctuation (Figure 1).

Figure 1



The figure shows that whenever the import amount from Cambodia to Thailand decreased, the export of fish (cultured fish) from Thailand to Cambodia increased. The trend has increased in the past year.

The price fluctuation is also significant, and is one of the largest problems that the traders have. Figure 2 shows the price fluctuation of snakehead in three areas: Poipet, Cambodia; Rong Kluer Market, Thailand; and Angthong, Thailand. Angthong is located in the central Thailand, in the heart of Thai territory. The traders who are the focus of our study are trading across Poipet to Rong Kluer Market. This figure only shows one week's price fluctuation. Fish lot owners are able to stock fish in cages in the Lake to sell during the off-season, when the price is much better. Large traders in Rong Kluer Market are able to stock fish in freezers for months to take advantage of the fluctuating price. However, small traders do not have access to these facilities. They only use ice in order to store fish. When the negotiation with authorities and Thai traders take time, fish can rot very fast and thus squeeze their already small profit margins. They need to cover all the price fluctuations, and if they encounter several days of losses, it can take them out of business. It was also noted that the price difference between Rong Kluer market and Angthong market is larger than between Poipet and Rong Kluer. Even though geographically, Rong Kluer and Angthong are further, there are more places to pay fees between Poipet and Rong Kluer. Seen in this light, traders in Poipet would have smaller profit margins than traders between Rong Kluer and Angthong. However, this study was able to get only one week's price data and testimonies from traders. More investigation and data collection on this issue is needed in the future.

Market route and actors involved

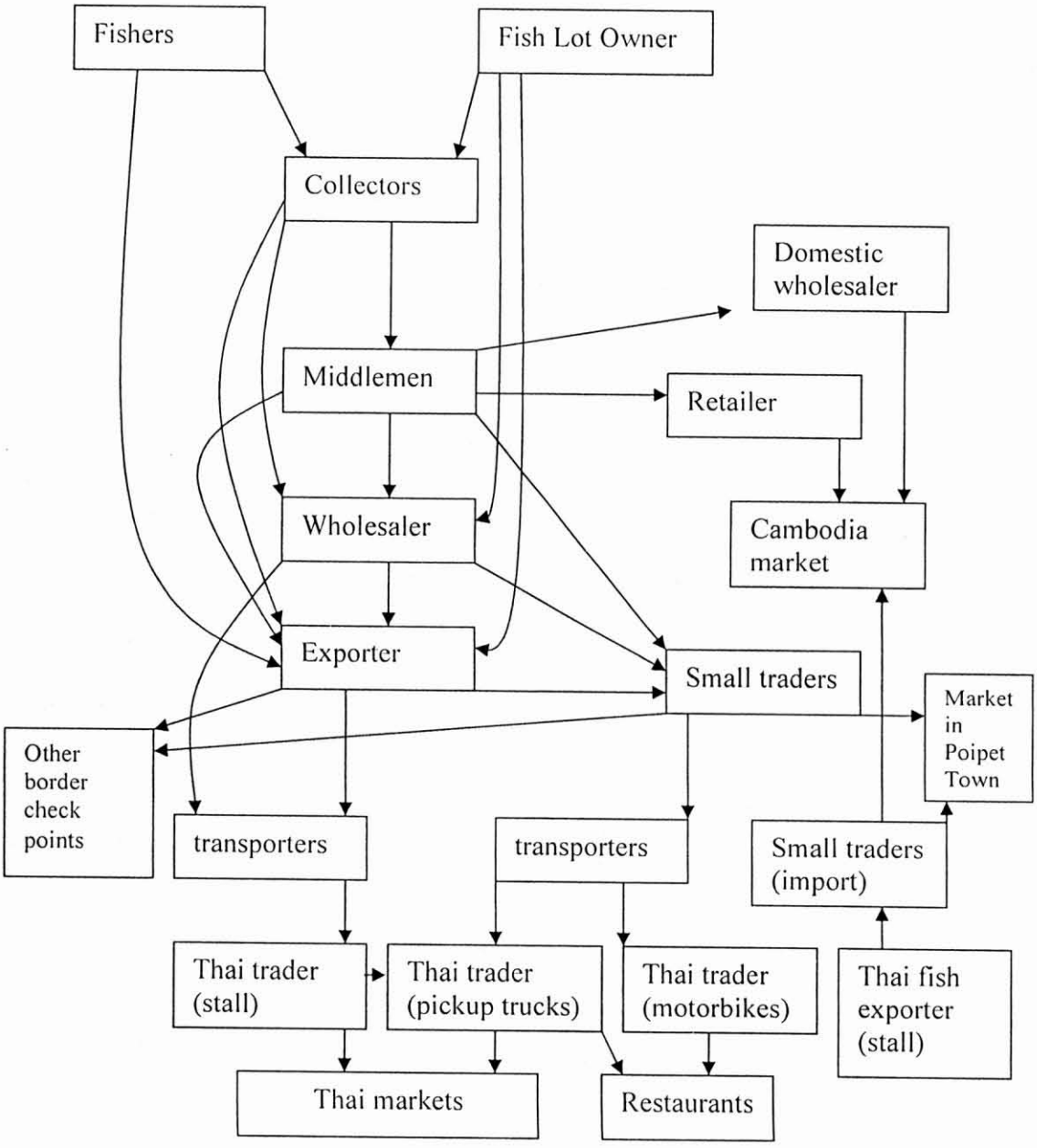


Figure 3: Market route of fish between Cambodia and Thailand

Figure 3 shows the market route of the fish trade from Tonle Sap Lake to markets in Thailand. The following are brief descriptions of the major actors along the route.

Lot owners

since the reforms in late-2000, there are 83 fishing lots in Cambodia. Lot owners buy conditional fishing rights in a state auction. The owner is usually an individual or close family / friend group. Lot owners are generally registered under men's names, since the man is the head of a household. Women

mainly deal with financial management and the clients. Lot owners have control over the fish product and of selling fish to clients. Wholesalers, collectors, and exporters buy fish from them at the farm gate. Lot owners never export fish to Thailand directly by themselves, but, in some cases, lot owners take stock fish to sell in Phnom Penh.

Collector

Collectors buy fish, directly or through their network, from fishermen or lot owners at fishing villages. They have one or several boats containing several iceboxes for fish storage during the fish collection period. Collectors extend credit to fishers and fishers are reuqired to sell to the collectors. Some collectors get loans from wholesalers, middlemen and exporters. Collectors sell their fish collected from fishers to middlemen, wholesalers, retailers and exporters at fish landing sites. There are around 1000 collectors around Tonle Sap River and the Great Lake. Most of the collectors operate as a family businesses. Generally, one collector has around 30 to 70 regular fishermen who are his own clients.

Middlemen/women

Middlemen/women buy fish from one or several fish collectors at landing sites and sell to wholesalers, exporters, and retailers. They also sell to domestic fish sellers. Both women and men are found working as middlemen/women. Middlemen/women who sell to exporters have their own trucks and boats, since they need to collect large amounts of fish. It is estimated that more than 1000 middlemen trade fish to domestic and cross border market.

Wholesaler

Wholesalers have permanent fish stalls at fish landing sitse or floating village where they can stock several tons of fish. They buy fish from collectors, fishermen or lots owners and re-sell fish to exporters, retailers, and restaurant owners. Often wholesalers operate as family businesses.

Transporter

Transporters provide fish transportation services to fish traders. They do not engage in direct buying and selling of fish, and provide services with a fixed price per amount of fish. Some transport fish from fish landing sites, while others only transport it across the Thai-Cambodian border. All transporters are men.

Exporter

Exporters buy fish from fish landing sites and domestic markets. They have permanent stalls at fish landing sites. In order to get a sufficient quantity of fish for external markets, exporters often advance funds to collectors for them to buy fish. They sometimes collect fish directly from fishers and lots owners. In Cambodia, 29 large fish exporters were counted during our survey. Some exporters get advance payments from Thai traders. Smaller exporters are often managed only by women. Larger exporters often operate as family businesses.

Small-scale traders

Small-scale traders buy fish from exporters and wholesalers, and bring the fish to the Thai side. Sometimes, they will buy fish from the domestic market. They normally do not have credit relations with others. All of them are women, although often their husbands or other male kin will help out.

Intermediary or Broker

Brokers negotiate on behalf of exporters at the border gate, with Cambodian and Thai customs offices for tax payments in bringing fish across the border. There are 4 brokers at the Aranyaprathet

border gate. All of them are Cambodian men and were ex-officials in government, military, or military police. They established special relationship with customs authorities and officials dealing with fish export procedures to hasten the process of passing the border checkpoint and lowering fees.

Thai traders in Rong Kluer

Thai traders in Rong Kluer are mostly women. Most operate as family businesses, but women are the ones who manages the business. Many of the traders that have stalls in the market have been traders since the 1980s. There are some temporary traders who come by pickup trucks and motorbikes. These are also usually family (husband and wife) teams.

Sex segregation in fish trade

Along the fish trade chain, women are concentrated in small trading, while men are more in transportation. There are several reasons why women are in small trading. Firstly, women dominate the domestic fish retail trade, and small scale export is seen as the extension of such a role. Secondly, women small scale traders normally have little capital. They also have less connection with government officers or with fishers/fish lot owners, and they have less capital to extend credit to fishers to ensure their supplies of fish. To become exporters and wholesalers, they need to build up relations with fishers and fish lot owners as well as other traders in order to secure enough fish. Transporters need to build connections with government officers in order to get favourable treatment from them. Small scale traders are poor in both financial and social/political capital, and thus remain small. Thirdly, small scale trade is considered not to be suitable for men. According to women traders, small-scale traders need to be subservient to all other actors. "We beg others (*som ke*)" for the trade. Women traders said "men will soon start fighting" since they cannot tolerate (or are conditioned not to tolerate) degrading attitudes from others such as government officers and police officers that they have to pay fees to. Combined with the expected behavior that women are (or should be) not aggressive but obedient, and are subjects for pity and sympathy, women can use strategies such as acting out subservience to authorities without being sensitive about what others will think about them. During the time traders depended on soldiers, Sokha, an old hand woman trader, said that it was better if women did the business and talked to the soldiers. It was easier to ask for their favor. Even after they were free to travel to the border, it was still the women who were in the forefront negotiating for fees with economic police, soldiers and other government officers. "It is better if women negotiate. If men negotiate (with authorities for petty amount of fish), they will start fighting soon because both sides think that the other is looking down on him." For women, this is not the case, Sokha says.

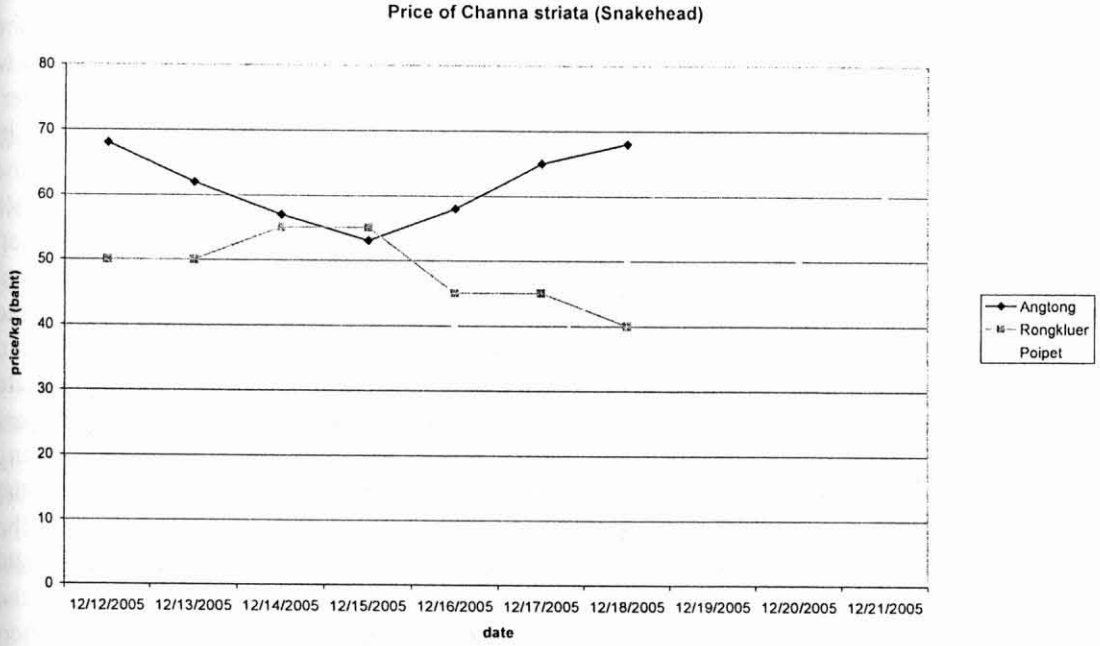
Such sex segregation in fish trade which keeps women in the small-scale border trade makes women vulnerable in several ways. First, women small scale border traders have difficulty in securing fish. Since they do not have capital to extend credit, their fish supply is controlled by exporters/ wholesalers/middle traders who give credit to fishers. Small-scale traders are at the mercy of these actors in terms of access to fish supply.

Secondly, because small-scale traders are not able to stock fish, and have little money to invest in ice, they need to sell their fish as soon as possible. Considering that fish prices fluctuate, small-scale traders are vulnerable to the fluctuations and are not able to cushion large changes. This makes their businesses riskier.

Thirdly, because they have less connection with government officers and are not able to hire brokers because of their small quantities of fish, they are more vulnerable to fee collections by officers and others at the border. They are not able to predict beforehand the amount that they have to pay. Combined with the unpredictability of fish prices, this also adds to their business risks since they cannot foresee the selling price or the cost for their business. They also need to pay higher prices per kg to transporters compared to larger traders when crossing the border. It is also noted that the profit

margins for Cambodian traders would be smaller than those for Thai traders considering the price difference as well as the cost that they have to bear in order to carry the fish across border (see Figure 2).

Figure 2



Fourthly, even though they share similar problems, the small traders are scattered geographically, making it difficult for them to unite. They are actually better linked vertically (with exporters and with Thai traders) rather than horizontally (with other small-scale traders), making it even more difficult for them to construct a sense of fellowship and deal with common problems.

The physical area of the international border makes their marginalized position even more invisible. Borderland is already a marginalized area from the centerland perspective, where rules and regulations are formed. The Thai border trade tariff rules say that only imports of less than 20,000 baht are able to make the tax payment at the border. For larger amounts than this, the traders need to go to the district customs office for payment. This regulation is impractical for small-scale traders, who have too small an amount to go through the official process, but too large to pay officially at the border. This mismatch between practice and regulation creates a fuzzy space where the amount of fees and taxes can be decided arbitrarily.

Towards a gender-sensitive fish trade chain

The analysis of cross-border fish market route demonstrates that the formalization of fish trade and border trade decreases the space within which women small-scale traders can operate. Women small-scale traders operate with "personalized networks" (Harriss-White, 1998) with no access to facilities. Formalization of border trade has made these workers invisible, both in terms of statistics and in tax regulations. Invisibility increases their vulnerability to fee collection, with no legal protection, or recognition of their role in economy. Thus they have no opportunity to voice their concerns. The development of market route has also made women small-scale traders' access to fishers much more difficult. With credit relationships being established among fishers and collectors, middle traders, and exporters, it is now impossible for small-scale traders to access supplies of fish. Fishers, at the same

time, do not have access to the market any more since their means of production is now dependent on credit relationships with these actors[1].

The particularity of border trade along such fish marketing and trade routes is that traders become legally invisible, and also invisible in terms of official statistics, once they cross the border. Borders demarcate who are the legitimate citizens, and who should be protected and who should be excluded. Once the traders cross the border, they do not exist in legal terms, since they are not registered as entrants anyway. The newly introduced registration system for fish imports makes the Cambodian traders even more invisible.

Staudt (1998) discussed the counter-hegemonic forces of the people living along the border. People living and working in the border area defy the state-designated border and try to work around it. This results in the creation of a force that challenges the state hegemony symbolized by the international border. In this study, we saw how small-scale traders use the geographical border to create their own sense of perceptual border and thereby their relationship with the two states. Cambodian men transporters, who exist because of the international border, and have a better standing in Cambodian society, organize and negotiate with the state directly – approving the existence and legitimacy of the state. On the other hand, Cambodian women small-scale traders who are marginalized by the state and made invisible as well as vulnerable to harassment, defy the state-defined border as a symbol of state hegemony, and create their own border through their personalized networks. For them, the place where their customers are is the actual border. They also play around with their identity, shifting and mixing their identity between Thai and Cambodian depending on what is more appropriate in the context of the relations with the other. While men transporters were able to negotiate successfully with the Cambodian state but not with the Thai state, women small-scale traders use the same strategy to deal with these two states, that is, to 'beg' and be submissive. Again, they are able to override the differences in states and thereby nullify the border. By looking at the border from Cambodian women traders' perspectives, we are able to understand better the role of the border people in the creation of the border and the state.

Acknowledgements

The authors would like to thank the Swiss National Centre for Competence in Research North-South, who supported this study.

References

Amogu, U. and A.Y. Salisu (2003) "Improving the competitiveness of small holders in Nigeria: Challenges and opportunities" in S. Ehui, M.B. Barry, T.O. Williams, M. Koffi-Koumi, and Zeleka Paulos (ed.) Policies for improving the competitiveness of smallholder livestock producers in the central corridor of West Africa: Implications for trade and regional integration, Proceedings of a workshop held in Abidjan, Côte d'Ivoire, 17-18 September 2001, International Livestock Research Institute, Addis Ababa, Ethiopia, pp. 61-66.

Anderson, Benedict (1983) Imagined communities: Reflections on the origin and spread of nationalism, Verso, London.

Carsten, Janet (1998) "Borders, boundaries, tradition and state on the Malaysian periphery", in Thomas M. Wilson and Hastings Donnan (eds.) Border identities: Nation and state at international frontiers, Cambridge university press, Cambridge, pp.215-236.

Crow, Ben (2001) Markets, class and social change: Trading networks and poverty in rural South Asia, Palgrave, New York.

[1] In community fisheries, they discuss the community management of fisheries resources. Even though co-management of fisheries resources needs to involve not only the production but also the marketing actors, at present, the marketing aspect of fisheries is not included in the management of fisheries resources in Tonle Sap.

Harriss-White, Barbara (1998) "Female and male grain marketing systems: analytical and policy issues for West Africa and India", in Cecile Jackson and Ruth Pearson (eds.) Feminist visions of development: Gender analysis and policy, Routledge, London, pp. 189-213.

Leepayakoon, Praphan (2004) "The study on the control of aquatic animal importation at Klong Laeok Boundary post, Srakaew province", Fisheries administration and management bureau, Department of Fisheries, Ministry of Agriculture and Cooperatives, Technical paper no. 3/2004, Thailand.

Ministry of Agriculture and Cooperatives, Thailand data in National Statistics Office website www.nso.go.th/eng/stat/subject/toc2.xls (downloaded in July 2004).

Ministry of Agriculture, Forestry and Fisheries (MAFF), Cambodia website www.maff.gov.kh/fisheries.html (downloaded in August 2004)

Sidibe, S. (2003) "Le commerce du bétail dans le sous-espace centre d'Afrique de l'Ouest: Contraintes et perspectives" in S. Ehui, M.B. Barry, T.O. Williams, M. Koffi-Koumi, and Zeleka Paulos (ed.) Policies for improving the competitiveness of smallholder livestock producers in the central corridor of West Africa: Implications for trade and regional integration, Proceedings of a workshop held in Abidjan, Côte d'Ivoire, 17-18 September 2001, International Livestock Research Institute, Addis Ababa, Ethiopia, pp.7-11.

Staudt, Kathleen (1998) Free Trade?: Informal economies at the U.S.-Mexico border, Temple University Press, Philadelphia.

Thouch Seang Tana and Bruce H. Todd (2002) "The inland and marine fisheries trade of Cambodia", Oxfam America, Phnom Penh, Cambodia.

Winichakul, Thongchai (1994) Siam Mapped, University of Hawai'i Press.

Economic Integration and Ethnic Relations: Case Studies from Luang Namtha and Savannakhet Provinces, Lao PDR

Andrew Wells-Dang
Fund for Reconciliation and Development
Hanoi, Vietnam
andrew@ffrd.org

Introduction[1]

The Lao People's Democratic Republic (Laos) stands at a turning point in its economic transition. After the intense effects of the Asian financial crisis, Laos has now posted several years of strong economic growth. In late 2004, Laos was granted Normal Trade Relations (NTR) by the United States, ending the last vestige of its postwar isolation from the international community.[2] More than ever before, Laos now stands ready to join regional economic cooperation through the Greater Mekong Sub-region (GMS), ASEAN Free Trade Area (AFTA), and other projects—as the stock phrase has it, changing from a landlocked to a "landlinked" country. The GMS, in particular, has become "the vehicle by which landlockedness can be transformed from a national liability into a national asset" (Jerndal and Rigg 1999).

The GMS is a project of regional governments, with the backing of international financial institutions and donors. It is particularly associated with the Asian Development Bank, which has been a strong proponent of the GMS idea since the early 1990's (NGO Forum 2004). At the first GMS Summit in Phnom Penh in 2002, leaders endorsed a 10-year regional strategy with 11 flagship programs; the first three of these are "Economic Corridors." Two of the corridors – North-South, linking Bangkok to Yunnan province, China, and East-West, linking Myanmar to Vietnam, pass through the Lao PDR. While road construction is a key aspect of the projects, Economic Corridors are not just about roads, but also "connectivity and cross-border facilitation of people and goods" (ADB 2004). This formulation has since been simplified into the "3 C's": enhanced Connectivity, increased Competitiveness, and a greater sense of Community in the region. The stated aim is to support pro-poor and sustainable growth (ADB Review 2004).

Taking these claims at face value, what effects are the Economic Corridors bringing to the lives of people who live directly along their routes? In the Lao PDR, these are primarily ethnic minority peoples in three provinces: Bokeo, Luang Namtha, and Savannakhet. This paper examines the opportunities and threats posed by regional economic integration on ethnic villages in two of these provinces.[3] Luang Namtha lies in the far northwest of Lao PDR and borders Myanmar and China.

[1] This paper is based on research conducted as part of a project on "State Capacity and Ethnic Relations in Laos: Integration Within and Without," funded by the Program on Global Security & Cooperation of the Social Science Research Council (USA). The author wishes to thank research partners Buasawan Simmala (University of Wisconsin-Milwaukee) and Catharin Dalpino (Georgetown University.) Field research in Laos was assisted by the invaluable Prof. Aloun Silattanakoun (National University of Laos) and by Phoncsavanh Chanthavilay (Ministry of Foreign Affairs, Vientiane) who facilitated the project's approval by the Lao PDR Government. Acknowledgements are also due to the many provincial, district, and local officials who answered challenging questions and accompanied the researchers on village field visits.

[2] For full disclosure, the author and the Fund for Reconciliation and Development were leading advocates for NTR and worked with a broad coalition of Laotians and Laotian-Americans to bring trade relations about.

[3] Background research and interviews were also conducted in Vientiane and Luang Prabang as part of this project and inform the findings presented here.

Savannakhet is a large south-central province bordering Thailand and Vietnam. Given the geographical, economic and ethnic diversity in Laos, no single area can be representative of other areas or of the whole. Hence, research was conducted in a case-study format, aiming to gather as wide as possible a variety of information from interviews and observation with a multiplicity of ethnic groups, government officials at various levels, and international NGOs and donors. In all, we conducted 49 interviews with 81 respondents from 11 ethnic groups, as well as expatriates living in Lao PDR.

In our research, we prefer the term "economic integration" to the buzzword "globalization," as the first shows the national, regional *and* international aspects of economic change. In the case of Laos, the regional and national often take priority over the global. All Laotian citizens are affected by rapid changes in the regional and world economies. The evidence suggests that members of non-Lao ethnic groups face relatively more challenges in taking advantage of these changes than do ethnic Lao. This is not always the case, however, and reality is multifaceted and complex.

Background and literature review

Laos is officially recognized as a multi-ethnic society. Article Eight of the 1991 Constitution of the Lao PDR provides for equality of all ethnic groups.[1] The provisions of the Constitution relating to ethnicity were elaborated on in the 1992 *Resolution of the Party Central Committee Concerning Ethnic Minority Affairs in the New Era,* signed by President Kaysone Phomvihane. This resolution serves as the basis for ethnic policy and many other government policies relating to highland areas, "to change the 'natural' or 'semi-natural' economic system towards one of production of goods, promote and expand the strengths of uplands area and improve the quality of life of the citizens." Other government policies follow seamlessly from this statement (Alton and Rattanavong 2004).

Regional economic integration is supported and supplemented by national development policies of the Lao PDR Government. Officials speak of this as a "process of economic transition from a centrally planned to a market-oriented economy, all within a larger shift of the global economic and political structure" (Phomvihanh 2003). Resolution #7 of the Lao People's Revolutionary Party, issued in 2001, identified three objectives for national development: eradication of poverty by 2020, eradication of opium cultivation by 2005, and eradication of slash-and-burn agriculture.[2]

Partly as a result of these policies, and partly as a reaction to regional economic change, large numbers of Laotian villages have moved closer to roads and district centers over the past decade. Lao PDR officials insist that this relocation is voluntary and even spontaneous, and in cases this appears to be true. International NGOs working in Lao PDR have also documented cases where relocation has contained significant elements of coercion (ACF 2003). An overall conclusion is that some elements of both are present and that it can be difficult to impossible to draw the line between voluntary or pressured relocation (Alton and Rattanavong 2004). Push and pull factors are also in play as in other instances of internal migration.

Lao PDR Government officials emphasize that the intent of ethnic policy is to reduce poverty and provide basic services. External observers are more likely to note secondary objectives to make ethnic

[1] According to the Lao Front for National Construction, this policy was affirmed in a 2004 amendment to Article 8.

[2] Opium eradication appears to be taking place on schedule. The policy on slash-and-burn agriculture is the most complex: some English translations use the word "stabilize" rather than "eradicate," but "eradicate" appears to be correct (Alton and Rattanavong 2004). At the same time, officials in the Ministry of Agriculture and Forestry emphasize that the policy only applies to unsustainable forms of "pioneering" shifting cultivation, not to sustainable swidden rotational systems (also see MAF 1999, PPA 2001).

groups more "modern" in their ways of life or to (re-)establish state control of areas and groups that may have posed security problems. All of these are commensurate with ideologies of nation-building and national development, which can also be used as defensive measures against perceived losses of cultural identity or state authority.

Ethnicity remains a somewhat sensitive topic in Laos. The author was repeatedly cautioned against use of the word "minority" to describe ethnic groups, for instance, out of a concern that this might sound pejorative. More derogatory terms, *kha* and *meo,* for upland and midland ethnic groups were used in Laos in the past, but have now fallen out of usage. The post-1975 revolutionary government adopted a tri-partite division of ethnic nomenclature – Lao Loum (lowland), Lao Thuong (midland) and Lao Soung (upland) – that ironically has French roots (Evans 1998). Following the 1992 Central Committee resolution on ethnic minority policy cited above, this division was shelved in favor of a listing of 49 groups broken down into ethno-linguistic categories (Tibeto-Burman, Mon-Khmer, Lao-Tai, and Hmong-Mien). International experts have identified even more groups: French anthropologist Laurent Chazee (1995) finds 130, while American consultant Jim Chamberlain cites a figure of more than 200. Some government ministries, notably the Ministry of Education, still use the tripartite division in their documents. Ordinary Laotians also say "Lao Loum" to mean ethnic Lao or use "Lao Soung" as shorthand for Hmong in everyday speech.

International documents, such as the detailed reports published by the World Bank and Asian Development Bank, also frequently avoid mention of ethnicity as a key variable in development, preferring euphemisms such as "remote areas" or "disadvantaged communities."[1] To be clear: "remote areas" in Laos are those inhabited largely by non-Lao ethnic groups, who also tend to be relatively more disadvantaged than those living in lowland areas. Ethnic minorities make up 93% of the poor in Laos (UNDP 2001), and the disparity in poverty levels between ethnic Lao and other groups is growing (Kakwani 2001, ADB 2002, CPC 2002). Hence speaking of "poverty eradication" in Laos is essentially the same as ethnic development. The variety of ethnic cultures in Laos, however, means that different groups in different locations will benefit differently from reductions in poverty. This does not mean that all ethnic Lao are well off and all non-Lao are disadvantaged, simply that poverty in Laos has a clear ethnic dimension that should not be overlooked (PPA 2001, UNDP 2001).

Inter-ethnic group comparisons are difficult to carry out, however, given the unavailability of disaggregated socio-economic data by ethnicity in Laos. Detailed national statistical surveys do exist, but the breakdown of data presented is geographical by province (CPC 2004). Officials at the Lao Front for National Construction, the main Party-affiliated organization responsible for ethnic concerns, explain that data collection will be implemented following the standardization of ethnic nomenclature across the country, a survey that is currently being conducted "according to international standards."

Perceptions of relative well-being may in any case matter more than statistics. The Participatory Poverty Assessment, conducted in Lao PDR in 2000, found that many communities define poverty mostly in food security rather than income terms. Economic development, therefore, might bring them more income but less well-being, if it did not also provide secure food supplies and livelihoods. Dr. Leeber Leebouapao, a Hmong who is vice-chair of the National Economic Research Institute, argues that reform and development in Laos should not be narrowly understood as higher GDP or growth rates. If so, the environment and traditional knowledge will suffer, and "such a competition will endanger the

[1] To their credit, the ADB and other donors now require "ethnic impact checklists" for relevant projects, much as they do with existing gender and environmental impact assessments. This builds on the ADB's Ethnic Minority Policy (1999).

stability of the Lao economy" (Leebouapao 2003). Similarly, Lao educational expert Sombath Somphone suggests replacing GDP with a culturally-appropriate index of "Gross National Happiness."

Asked which ethnic groups they saw as relatively better equipped to take advantage of opportunities offered by economic change, most respondents identified larger groups with more secure identities (such as Khmu and Hmong) and/or groups culturally closer to lowland Lao (such as the various Tai groups). Some of these groups are also largely Theravada Buddhist. Less well-positioned groups were identified as those with lower education levels, less cultural similarity to larger groups, and/or smaller size. In the minds of many respondents, however, location is more important than ethnicity. Significant differences may exist within the same ethnic group depending on whether a village is located near a road or district center, remains intact in its original location or has been relocated.

A joint study on child trafficking conducted by UNICEF and the Ministry of Social Welfare, for instance, concluded that ethnic minority children are at higher risk of being trafficked to neighboring countries, especially if their villages had recently relocated. After Lao-Tai groups (62%), Mon-Khmers are at highest risk (27%), followed by Tibeto-Burman (10%) with only a small number of Hmong-Mien (1%) trafficking cases reported (MLSW 2004). Trafficking routes follow closely the Economic Corridors, and the report concludes that effects of modernization, rather than poverty, are the key driving forces behind child trafficking.

HIV-AIDS is also a growing concern. An ADB study, *Mobility and HIV/AIDS in the Greater Mekong Subregion*, notes that the most vulnerable groups include the hospitality, transport, trade, construction, and manufacturing sectors (ADB Review 2004). These are precisely the areas poised for growth from the Economic Corridors. Along the North-South corridor in northern Laos, international NGOs are raising alarms about the potential for the spread of HIV infection among ethnic communities along the construction site as thousands of Chinese and Thai construction workers finish the construction of Route 3 connecting these countries. According to ADB specialist Paul Chang, "These minority peoples, especially the women, are at risk because of poverty, a lack of access to education and health care, a lack of culturally appropriate information in their own languages, cultural and social breakdown in some communities, nontraditional drug use, human trafficking, and involvement in the sex trade" (ADB Review 2004). ADB-supported HIV posters along the East-West corridor route in Savannakhet province, however, are only in Lao language and show less than obvious messages of girls talking to construction workers in an urban setting resembling Thailand.

Both Laotian and expatriate sources identify education as a key factor in ethnic development. Serious discussion is currently underway in Vientiane concerning education in ethnic minority languages, with concern for national unity balancing with a desire for better ethnic participation in the schools.[1] Ethnic students who do not understand Lao will learn little in classrooms where Lao is the sole language of instruction and may have difficulty participating in a national market economy when they become adults. On the other hand, ethnic students who adopt Lao cultural norms and reduce usage of their native language face a risk of cultural dislocation.

In border areas, these distinctions may be moot. If trade is conducted primarily across borders rather than within Laos, the most important language for local ethnic people to speak may not in fact be Lao but rather Chinese or Vietnamese. And since many of the ethnic groups in Laos also live in

[1] Article 21 of the Education Law (2000) states that "Lao language and Lao script are the official language and script for the learning and teaching in all schools... For the various ethnic languages, it is possible to study [them] for the teaching purpose according to the real situation and with the government's authorization."

neighboring countries, it is often possible to engage in international trade without speaking any national or international language at all.

What did not emerge from interviews, regardless the source, was a sense that specific ethnic groups face official discrimination. There was also no sign of present-day, ongoing ethnic tension or conflict in any of the areas visited, though there are reports of such conflicts in other areas and in the past, often mixed with questions of land tenure and ownership. In particular, contrary to some international perceptions, we observed no pattern of "persecution of the Hmong" or any other group. In fact, Hmong may be among the best-positioned groups to benefit from international ties, given their large population inside and outside Laos, experience in business, and Romanized alphabet (Evans 2003). Remittances from overseas relatives can be a significant source of income, particularly for purchasing land. Hmong are also better represented in national and provincial governments than some smaller ethnic groups.

A common thread through interviews is that ethnic relations have improved as groups have more contact with each other. At the same time, clearly marked differences between groups (through clothing, language, or lifestyle) may be declining. This complex pattern of social interaction and change is being expressed differently in various parts of the Lao PDR.

Luang Namtha and Savannakhet: Economic integration at different stages

As stated above, the selection of Luang Namtha and Savannakhet as sites for field research was largely due to their location along the North-South and East-West economic corridors. Of the two, progress towards completion of the East-West project is more advanced (ADB Review 2004). Route 9 across Savannakhet, the centerpiece of the East-West Economic Corridor, has been completely paved since 2003, reducing what was formerly a bone-jarring 10-hour journey across Laos to something less than three. A Mekong river bridge, Laos's second, is now under construction between Savannakhet and Mukdahan, Thailand. Trade along Route 9 is already booming, with hundreds of Vietnamese and Thai trucks passing through daily.

Savannakhet is Laos's most populous province, with 15% of the national population and an above average economic growth rate. The province has extensive industry and resource extraction activities like timber, mining and scrap metal (the last related to its high level of UXO contamination).

Ethnically, Savannakhet contains both ethnic Lao in lowland areas near the Mekong, Bru (Katu and other Mon-Khmer groups) and Tai in the mountains. Provincial officials are largely ethnic Lao and Tai, while upland districts are governed by the locally dominant ethnic groups; in Phine district, visited for this study, Bru make up more than 60% of the population and close to 100% of the district leadership. Compared to northern Laos, ethnic groups in Savannakhet are more mixed together, even in the same villages, and cultural differences are not so apparent at first sight. This might be a consequence of shared war experiences, as most ethnic groups in Savannakhet fought together on the side of the Pathet Lao, and the eastern districts of the province were bombed extremely heavily during the US-led "secret war."

Luang Namtha, in the northwestern corner of Laos, is one of the most ethnically diverse parts of the country. The province has no ethnic majority; 22 non-Lao groups make up 70% of the population. The largest group, particularly in the northern districts of Long and Sing, is the Akha, a Tibeto-Burman group related to the Lolo in southern China (Alton and Rattanavong 2004). Two important roads pass through the province. National Route 3 from Thailand to China is currently being paved and upgraded as part of the North-South Corridor; construction will be complete at the end of 2006. Another all-

weather road, built with a World Bank loan in the late 1990's, crosses from Xiengkok on the border with Myanmar to Xishuangbanna, China. Since this road is complete and some of its social impacts already well-documented (ACF 2003, Lyttleton 2004), the author chose to visit these districts rather than the North-South Corridor route *per se*. Both Sing and Long have also been the locus of significant international development assistance over the past decade, including a European Union project, German Technical Cooperation (GTZ), UNESCO tourism promotion, and NGOs such as Action Contre la Faim (France), Norwegian Church Aid, and ADRA (USA).

A growing Chinese presence is immediately noticeable in Luang Namtha. Chinese migrants run businesses and restaurants. Investors rent land for industrial and agricultural use. The Chinese influx is comparable to Vietnamese involvement in southern Laos, though knowledgeable observers see the Chinese as more institutional and organized. The level of trade and exchange with China has increased dramatically since 2002, on the basis of a provincial government policy (with central level approval) to welcome Chinese technical support and development experience.

Thus, while the Economic Corridor project is further along in Savannakhet, in other respects, Luang Namtha could be said to be further down the path of economic change. This is mostly due to its location on the Chinese border and the huge market that China represents. Farmers are producing for export to China, many of them through their ethnic cousins on the other side of the border, or other intermediaries. Chinese companies are hiring contract farmers and renting land to grow produce and raise livestock. In Savannakhet, by contrast, local people are producing little for export.

In both provinces, non-timber forest products play an important role in ethnic economies. These represent potential resources for international trade, if they are used sustainably and not exhausted. NTFPs also form a key social safety net when agricultural harvests or other products fail (Alton and Rattanavong 2004). The variety of products (and sellers of the products) in Luang Namtha markets is impressive; less variety overall was available in Savannakhet.[1]

It is also notable that Luang Namtha, but not (yet) Savannakhet, has a substantial tourist industry, with dozens of guesthouses, trekking companies, and ecotourist facilities. While the province's attention has been focused on Western backpackers coming from Luang Prabang and Thailand—a stream that is likely to increase once Route 3 is complete—the larger potential tourist market for Namtha is surely Chinese. Indeed, Chinese developers are currently constructing a "cultural village" and resort complex, complete with casino and golf course, near the border at Boten. Provincial officials say that they are aware that tourism might bring negative impacts along with positive, but that to date the benefits seem greater, and that tourism has brought substantial revenue that is distributed among various groups in the province. In fact, some of the poorer ethnic groups (such as Akha, with their colorful clothing) have shown particularly adept at selling handicrafts to tourists.

[1] However, during field visits Savannakhet was in the midst of a prolonged drought while heavy rain was falling in Luang Namtha; this might also have affected the variety of products in local markets.

Case studies: Three villages[1]

Ban Nam Keo Noy, Muang Sing, Luang Namtha

Nam Keo Noy ("Small bottle river") is a Lu village in Sing district, Luang Namtha province. According to the chair of the Lao Front for National Construction in the district, who is a native of Nam Keo Noy, the village was founded more than 100 years ago. It is located about 5 km from the district center along the main road from Sing to Namtha, with abundant water sources nearby. The area is multi-ethnic, with smaller Akha and Kor villages under the administration of Nam Keo Noy, and separate Black Tai and Phu Noi villages beyond.

The village chief (*naiban*) of Nam Keo Noy is a young-looking, wiry man who has held his position for the last 16 years. During that time, he says, villagers' lives have improved substantially. Change began in the mid-1990's, when the village began to produce a surplus of rice and export it to China. Before that, Nam Keo Noy residents had been subsistence farmers only. Trade is facilitated by the Lu group's contacts with relatives on the Chinese side of the border. Villagers bring their rice to the border, about 15 km away, where it is purchased by Chinese middlemen.

Villagers have also tried growing other crops, especially on higher, drier land on the edge of the village. The Lao government and a GTZ project provided some inputs for diversification. An early attempt to grow sugar cane, however, failed for lack of an available market. Opium, a crop grown by other ethnic groups in the area, was also tried, then rejected. The village chief says that the best second crop has been corn, and now villagers grow mixtures of corn and normal (not sticky) rice, taking care of their own grain needs first, then exporting the rest. The traditional water buffalos have been replaced in most cases by Chinese-made tractors for plowing. Planting and harvesting are still done by hand. Instead of hiring outside labor, villagers share these communal tasks.

Nam Keo Noy is one of the greenest and most attractive villages in the area. Each family keeps a *thammasat* organic garden plot, with vegetables for local use or selling in the Sing market. Communally, the residents keep a village forest reserve and wooded cemetery area. Several streams run through the village. Several kilometers further up the road begins the Nam Ha National Protected Area. The *naiban* says, "The heart of Muang Sing is water. If we destroy the protected area, we won't have enough water and we die. We use little [chemical] fertilizer on our crops, and none in our gardens. Even though this would increase the yield, it is not good for the soil and not good for us." These views are quite close to those of Leeber Leebouapao (2003) cited above, particularly the emphasis on *thammasat* (nature-friendly) modes of agricultural production.

Since agricultural trade began, the village has prospered. Houses are large and well kept, many relatively new in Tai-Lao style, with four remaining traditional Lu houses on lower stilts and shaggy rattan roofing. Many families own motorbikes or Chinese-made trucks. Electricity arrived in 2000 when a line was extended from China. Even before then, several villagers had purchased satellite television dishes, which are now common. Despite the proximity to China, the dishes are pointed toward Thailand, since Thai language is easier for the Lu to understand than Chinese.

[1] These accounts are based on field visits undertaken in early May 2005. The author was accompanied by provincial and district officials at all times and conducted interviews through a Lao translator, in some cases supplemented by a local translator into ethnic languages. Villages visited were identified in cooperation with district authorities (in most cases, the Lao Front for National Construction) based on criteria submitted by the research team. The three village case studies were chosen for presentation for the contrasting issues they raised. These villages are not necessarily typical or representative of the districts where they are located, let alone of Laos as a whole.

Nam Keo Noy's success has made it an example, not only for the district but in other provinces. It is easy to see why this village would be an attractive model in Laos. The Lu are sedentary farmers, not shifting cultivators. They are Buddhists, and their language and culture are relatively close to that of lowland Lao. Their lifestyle and choice of crops are within the cultural and agricultural targets of the Lao government. (The *naiban* attributes the village's success to government encouragement, plus improved knowledge of the market.)

Less clear is how easily transferable this model is to others. Not every village has the natural advantages of land, water and human resources that Nam Keo Noy has, let alone access via family connections to export markets across the border. Villages that have relocated to new areas, usually from the uplands to the lowlands, usually lose some of their cultural resources as well. Forming community spirit and unity takes a long time, especially in a new place. Instead of taking risks on new agricultural products, many other villages simply follow what their neighbors are doing, often without adequate market information. (Agricultural extension workers may also be subject to these limitations.) Every village and ethnic group is different, and what works in one place may not apply directly to another.

Still, the people of Nam Keo Noy are rightly proud of what they have achieved. Their village demonstrates the potential of one kind of agriculture-based trade and exemplifies the dramatic changes taking place in many border areas of Laos.

Ban Done Gneng, Muang Long, Luang Namtha

Done Gneng is a relatively well-off Akha village located a short distance from the Long district center along the Sing-Xiengkok all-weather road from Myanmar to China. The newly-elected village chief speaks a mixture of Lao and Akha, while most other villagers, particularly women, speak only their native language. Done Gneng was consolidated from a number of upland Akha villages and moved to this location about 10 years ago. Thus, it is a relocated village but not a newly-relocated one like others along the road towards Xiengkok.

About half of Done Gneng villagers live solely from agriculture; others supplement with other activities. The village has limited land available for rice production, as they no longer have full access to their former swidden fields in the mountains. Many people tend cows, buffalo and goats in the upland areas behind the village.[1]

As with other villages in the area, the primary crop grown used to be opium. This stopped in 2001 and resulted in an immediate income loss for the village. According to the village chief, some residents have made up this income through other activities, but not all. He estimates that about half of the 61 households in the village are still poor. Those with access to good agricultural land who are able to grow different crops year-round have more stable income than others.

Villagers sell agricultural and non-timber forest products at the district market nearby. Ban Done Gneng is also known for its rice liquor, which is traded throughout the province. Villagers travel twice

[1] Alton and Rattanavong (2004) find in a survey of Akha villages in Sing and Long districts that villagers earned cash income from crops including sugarcane, corn and tea (62.5 percent), livestock (20.8 percent), NTFPs (10.9 percent) and off-farm employment (10.6 percent). Done Gneng was not included in this survey.

a month to the Myanmar border market at Xiengkok, where they sell forest products including bamboo worms. Thai and Chinese merchants also attend this fair.

Some rice from the village is exported to China and taken to other markets in Luang Namtha through intermediary traders. Villagers state that these intermediaries sometimes give what they consider to be a fair price and sometimes do not, as there is often a problem of oversupply—people copy what others are doing and the price goes down. Villagers appear to have little knowledge of market prices outside their immediate vicinity.

Like many other villages in Luang Namtha, Done Gneng is beginning to experiment with rubber production. Later in 2005, villagers will begin planting 30,000 rubber trees on land cleared behind the village. Provincial and district agricultural extension workers are providing technical assistance during the planting. The potential future payoff from rubber is large, as shown in the example of a Hmong village, Ban Had Gnao in Namtha district, that began to plant para rubber trees in 1994 (Alton 2005). Using a combination of astute market planning, government loans, and technical assistance, Had Gnao villagers have planted over 400 hectares of rubber over the past decade. Similar to Ban Nam Keo Noy, cross-border connections—in this case to related Hmong communities in Xishuangbanna—have proven critical in beginning rubber cultivation and establishing secure markets.[1] The villagers' success is attracting increasing attention across Luang Namtha and indeed nationally, and villages all along the roads in Luang Namtha are in various stages of clearance and planting rubber during the 2005 dry season.[2]

The risks from rubber cultivation are also large. Trees planted today may begin to be tapped only after seven to eight years of growth, provided suitable weather conditions. Provincial officials believe the current Chinese market for raw rubber is insatiable, although they accept that the demand and price may change over time. The current explosion of interest in rubber in Luang Namtha may be prone to the fallacy of composition: the fact that one village (or country) successfully exports a product does not mean that others can necessarily copy their success. Few other villages, in particular, have the same level of cross-border cooperation as Ban Had Gnao.

Moreover, the environmental effects of large-scale rubber production have not yet been measured in Luang Namtha. It is not promising to see areas of the Nam Ha National Protected Area being cleared for rubber cultivation, as is happening in Had Gnao and other villages along the road from Namtha to Sing. Provincial officials in charge of the protected area explain that different land use rights apply to different parts of the zone.

International trade has begun to affect Done Gneng villagers' livelihoods significantly only in the last several years. In the late 1990's, the Sing-Xiengkok road was improved from a narrow dirt track to an all-weather highway. Although Long district is closer to the Myanmar side of the road than the Chinese border post at Pangthong, the amount of trade and contact with China is much greater. Done Gneng's less recent relocation experience and position near the district center may make it relatively better prepared to benefit from international trade, and resist the most serious social impacts such as drugs,

[1] Some of the Hmong who settled in Had Gnao were refugees who had fled to Thailand, moved to China in the 1980s and then joined relatives in Had Gnao in 1994. While in China, they learned rubber cultivation and other agricultural methods that they later applied in Laos (Alton 2005).

[2] Rubber cultivation requires clearing agricultural or forest land using methods similar to swidden agriculture, which the Lao PDR government strongly discourages. There appear to be no limitations on clearance for rubber production, however. During the first several years of growth, farmers can plant other crops including rice and corn in between the rubber seedlings, allowing for some immediate income from what is otherwise a long-term investment.

HIV-AIDS, and prostitution, compared to recently relocated villages along more isolated stretches of the Sing-Xiengkok road.

Akha are the majority ethnic group in Long district and are well represented in the district government. Despite this, there is a common perception among Akha and non-Akha alike that this group is relatively less advantaged compared to others. While no income or welfare statistics are available broken down by ethnic group, it is clear from NGO studies that other Akha villages have benefited substantially less from international exposure than Done Gneng (ACF 2003). Alton and Rattanavong (2004) find that "The human capacity of the Akha, both in the one original village and the relocated villages, is increasing. Their Lao language literacy and numeracy is improving. They are acquiring new skills in the areas of sedentary agriculture... [and] about health and sanitation. The question is if this is enough for them to adapt themselves to their environments in order to survive and compete more effectively."

Ban Kang, Muang Phine, Savannakhet

This original Bru village was founded in 1903 along a stream in central Phine district, about 5 km from Route 9 connecting Savannakhet to Vietnam and Thailand. During the Second Indochina War, this area was the scene of heavy fighting and many UXO and bomb craters remain from this period. The original villagers fled to the mountains during the war and returned afterwards, joined by several Phou Tai families who were displaced from other areas. At present, the village is mixed among these two groups, and villagers stress the solidarity and equality among them, saying that ethnic relations are better than they were in the past.

Ban Kang possesses adequate land for agriculture, but insufficient water—an especially acute need during the drought in early 2005. A small reservoir and irrigation system reach within several km of the village but do not provide any water to it, as the village is said to be too high for the canals to reach. Similarly, electricity running along Route 9 (supplied from Vietnam) only reaches houses within about 1 km from the road and does not yet extend to Ban Kang.[1]

Kang is a pleasant, shady village, in stark contrast to the dusty and treeless newer habitations along the road. Many new and more permanent houses have been constructed in recent years, though villagers say that traditional materials and structures are cooler and more appropriate. Health and education services have changed dramatically after the opening of a new health center about 2 km away in 2002 and expansion of the village school, which now teaches grades 1-4. Traditional birthing huts are still visible in the village, but since the opening of the *souksala* these are no longer used for their original purpose but instead store rice and animal feed.

Villagers produce a mixture of rice, cash crops (cassava, potatoes), and livestock (ducks, chickens, buffalo). Most agriculture is subsistence-based, with little trade or cash economy in the village (though there is one general store along the secondary road passing through the village). Some households own inexpensive two-stroke tractors, a change that began in the late 1990's, and plowing is now done about half by water buffalo and half by tractor. These economic and social changes have not, however, been enough to ensure food security. Some families only have enough rice for six to nine months of the year.

Several kilometers away, trade along Route 9 is expanding rapidly. Large trucks from Thailand and Vietnam travel in both directions. Smaller vehicles from Savannakhet and other Lao cities also bring

[1] If electricity did reach the village, it is uncertain whether villages would be able to pay for it.

goods to the market at Xethamouk, near the junction where the secondary road originates; this market has expanded by a factor of several times over the last three years. The dirt secondary road was widened after paving of Route 9 and is part of the road construction projects associated with the GMS East-West Corridor. Logging trucks up and down the dirt road by the village, as do trucks carrying scrap metal collected from surrounding areas. Much of this is destined for Vietnam or Thailand. Ban Kang villagers, however, say that logging does not involve them as it is all done by companies.

Some attractive handicrafts and textiles are produced by women in the village, mostly for their own use and not on sale to visitors. The leader of the local women's group says that women have more market awareness and knowledge than in the past, but their exposure is still quite limited. There does not appear to be much local market for these products; the Xethamouk market is largely filled with Thai, Chinese and Vietnamese textiles instead, and Phine district has no significant tourist market, which might provide an outlet in other areas of Laos.

The coming of the Economic Corridor to Phine district, thus, has brought little direct benefit to local villagers to date. More noticeable have been the effects of government social services brought to the village, an evaluation of which is outside the scope of this paper. There is, nevertheless, an indirect relationship between economic development along the road and government attention to nearby areas. And since funding is fungible, infusions for infrastructure projects might open up other streams of revenue that could benefit local residents. These benefits, however, need to be balanced with potential environmental, health and social costs accompanying infrastructure development. An infrastructure-dominated approach to development is unlikely to bring about poverty reduction in and of itself.

Conclusions

The extent and speed of economic and social change underway in both Luang Namtha and Savannakhet is astounding and cannot be overemphasized. Villages, indeed entire districts, that until 2000 had no road access, virtually no involvement in a market economy, and little in the way of "modern" services (electricity, schools, and Western health care) are now watching satellite television, exporting agricultural products, and purchasing consumer goods. Culturally speaking, ethnic villages are moving from the 19th century to the 21st within the space of a few short years. The percentage growth rates of GDP reported in Laos might not match those elsewhere in the region; but countries such as China or Vietnam have had a generation or more to prepare for this growth. In Laos the process has begun recently and is accelerating rapidly. This "telescoping...of cultural and social developments" ensures that the outcomes of development and integration in Laos will be qualitatively different from those in other Asian countries (Evans 1999).

Furthermore, the three case studies presented above show significant variation among themselves. To take Grant Evans's analysis several additional steps: regional, ethnic, and geographical differences *within* Laos ensure that local development outcomes will also vary. External factors—infrastructure development along the Economic Corridors, proximity to border crossing points, market prices for agricultural commodities in neighboring countries—play a significant role in determining which villages may benefit (or lose) and to what degree. So too do specific ethnic and cultural characteristics, as well as provincial and local government policies and attitudes, combined with the presence or lack of international assistance, NGOs, and tourism.

In the most successful villages such as Nam Keo Noy, these factors combine in a virtuous circle, showing the extent of what is possible when economic opportunity combines with environmental protection and ethnic cultural preservation. Most villages, however, are not so advantaged: they must

accept the possibilities and limitations presented to them by the market and by Lao authorities, seeking benefit where possible and negotiating potential negative impacts as they are able. Further away from main roads, markets, and education, more remote villages may receive little immediate benefit at all.

Most provincial and local government officials interviewed for this study appeared aware of both the opportunities and potential risks of economic integration on ethnic communities in their provinces. Given their position, the best they can try to do is maximize the opportunities and limit the risks from rapid change. The success of government management will depend on available funding, but also on their sensitivity to ethnic cultures and local concerns.[1] Unless programs are explicitly targeted to specific ethnic groups, they may either not reach the targets at all, or else do so in a way that unconsciously promotes ethnic Lao cultural influence. Ethnic minority communities may simply not see the world in the same way as ethnic Lao in terms of development, poverty, and values.

The social consequences of economic integration could, indeed, prove more far-reaching than economic developments. Changes in culture and social habits take longer than economic effects, are harder to quantify, and may be impossible to reverse. Central level officials, intellectuals and some provincial staff interviewed for this study express concern about "what will happen to people if they lose their traditions?" In contrast, local officials show more concern about impacts on the economy and environment and are less cognizant of the cultural risks involved.

All of these concerns are well-founded. Awareness, however, does not lead automatically to actions. Traditional-style education and awareness raising campaigns that may (or may not) have been effective in the immediate post-war period face a more uphill battle now, with competing messages from the market, television, and across borders. Language is also a key issue: educational messages or HIV-AIDS campaigns that are conducted only in Lao will have a difficult time reaching ethnic people at risk.

Moreover, even where social adjustment programs are effectively implemented, they may take years to show their impact. The economic corridors and regional economic integration, however, are not waiting. There is a serious time lag between economic change and social catch-up; this affects everyone in Laos, the more remote and more culturally separate ethnic groups most of all.

Clear connections can be drawn between economic integration and economic growth. But there is no automatic link to poverty reduction (UNDP 2001). The above case studies, especially from Ban Kang in Muang Phine, confirm these findings. Economic growth is indeed necessary and beneficial for a poor country such as Laos—if it is quality growth that reaches the poorest, namely ethnic communities. Based on this study's findings from Luang Namtha and Savannakhet, the potential benefit to ethnic communities from economic integration is immense, and this potential is already being partly realized in certain cases. At the same time, other communities are barely affected or left out. Economic gains must be balanced with social and environmental risks if all groups are to benefit from integration.

[1] According to UNDP (2001), a "conscious development approach" is needed to include ethnic cultures' different perceptions of development, various livelihood systems, and different languages.

Bibliography

Action Contre la Faim (2003). Reports on Resettlement in Long District, Luang Nam Tha Province, Lao PDR.

Alton, Charles and Houaphanh Rattanavong (2004). *Service Delivery and Resettlement: Options for Development Planning*, report to UNDP and ECHO.

Alton, Charles (2005). "Baan Had Nyao: First Rubber Village," chapter of unpublished study on rubber plantations in Luang Namtha.

ADB (2002). *Laos Country Strategy and Program Update 2003-05.*

ADB (2004). *Regional Cooperative Strategy and Program 2004-08: The GMS – Beyond Borders.*

ADB Review (2004). "Mekong on the Move: Impact of the East-West Economic Corridor." 12/04 issue.

Chazee, Laurent (1995). *Atlas des Ethnies et sous-ethnies au Laos.*

Committee for Planning and Cooperation – National Statistical Center (2002). *Poverty in the Lao PDR during the 1990s.*

----- (2004). Lao Expenditure and Consumption Survey (LECS 3), 2002-03.

Evans, Grant (1998). *The Politics of Ritual and Remembrance: Laos Since 1975* (Silkworm Books).

----- (1999). Introduction to *Laos: Culture and Society* (Silkworm Books).

----- (2003). "Laos Is Getting a Bad Rap from the World Media," article posted online at www.ffrd.org.

Jerndal, Randi, and Jonathan Rigg (1999). "From Buffer State to Crossroads State," in Evans, ed. *Laos: Culture and Society.*

Kakwani, Nanak et al (2001). "Poverty in Lao PDR," paper delivered at Asia and Pacific Forum on Poverty, Manila.

Leeber Leebouapao (2003). "Challenges and Prospects in Lao PDR's Economic Development," *NERI's Economic Review*, 1/03, pp. 14-23.

Lyttleton, Chris, et al. (2004). *The Road to Sing: Markets, Labor and Other Fruits of Development.* Rockefeller Foundation.

Ministry of Agriculture and Forestry (1999). *The Government's Strategic View for the Agricultural Sector.*

Ministry of Education (2000). Education Law of the Lao PDR.

Ministry of Labor and Social Welfare and UNICEF (2004). *Broken Promises, Shattered Dreams: A Profile of Child Trafficking in the Lao PDR.*

NGO Forum on the ADB (2004). *The ADB's Involvement in the Greater Mekong Sub-region.* Manila.

Saysomphone Phomvihanh (2003). "Economic Reform in Lao PDR: Opportunities and Challenges," in National Economic Research Institute, *NERI's Economic Review*, 1/03, pp 5-13. Author is chair of foreign affairs committee, National Assembly.

State Planning Commission (2001). *Participatory Poverty Assessment, Lao PDR.*

UNDP (2001). *Lao Human Development Report.*

Changing Livelihood Activities and Peasants' Living Strategies in Northern Laos: Case study of a paddy-based village in Namor District, Oudomxay Province*

Miki Matsuura**
Kyoto University, Japan

Summary

The market economy is rapidly taking root in Northern Laos, and rural livelihood activities and social structures are changing. In the study village in Namor District, Oudomxay Province, the villagers had long been engaged in paddy cultivation, livestock raising, and hunting and gathering, thereby establishing an almost self-sufficient economy. However, there was disparity among households based on rice sufficiency. This social structure was maintained through mutual cooperation between the deficit and the surplus households. Such a system, which existed in the village, can be defined as a "Social Safety Net."

However, consequent to the road repair in 2000, the village suddenly experienced many changes through interaction with the outside world—not only with new people, commodities, and information but also government promotions and agricultural development projects. The villagers have now begun to engage in new livelihood activities such as cash crop production, gathering NTFPs (Non-timber forest products), and non-agricultural activities. The cash crops produced and the NTFPs gathered are exported to Thailand, Vietnam, and China. An analysis of the fraction of households engaged in the new livelihood activities and their average cash incomes revealed that there is very little disparity between the deficit and the surplus households. This implies that any household can now earn a high income by engaging in these new livelihood activities. Along with changes in livelihood activities after the introduction of the market economy, the social safety net is also changing through the creation of a new income-based economic disparity among households in the village.

Key words: Laos, Livelihood, Market Economy, Change, Social Safety Net

I. INTRODUCTION

Laos has undergone extensive social transformation over time. After the French colonialism from 1893 to the 1950s and the Vietnamese war, Laos achieved complete independence in 1975, and made a fresh start as a socialist country. Shortly after, in 1986, the Lao Government introduced a New Economic Mechanism called "Chintanakhan Mai," marking a major shift from a planned economy to a market economy. Although Laos did not realize any significant gains from this shift initially, it managed to secure a seat in ASEAN and AFTA in 1997. The Forth Five Year Social Economic Development Plan (1996-2000) set a target of "shifting from a planned economy to a market economy and overcoming the LLDC status by 2020." This plan also emphasized the principles of agricultural development, sustainable food production, cash crop production, and stabilization of shifting cultivation (JICA: 2000). In the Lao economy, the agricultural sector accounts for 53% of the GDP, and 80% of the

* This paper is largely based on sections of a dissertation submitted to Kyoto University for the degree of Master of Area Studies in 2005. The survey was carried out when the author was associated with the National Agriculture and Forestry Research Institute.

** Graduate School of Asian and African Area Studies, Kyoto University, 46 Shimoadachi-cho, Yoshida, Sakyo-ku, Kyoto 606-8501, Japan. E-mail: matsuura@asafas.kyoto-u.ac.jp

population dwells in rural areas and is engaged in agriculture (JICA: 2000). Therefore, commercialization of the agricultural sector is essential for economic development. The market economy has made rapid inroads into rural regions and has brought about an extensive transformation in rural livelihood activities such as the introduction of cash crop cultivation and NTFP gathering for export to neighboring countries, namely, Thailand, Vietnam, and China.

Izikowitz (2000) conducted fieldwork from 1936 to 1938 in a village of Lamet, an ethnic minority primarily engaged in shifting cultivation. Izikowitz accurately describes their agriculture, social structures, kinships, and behavioral patterns. Subsequently, Iwata (1965) and Ayabe (1965), members of the "Southeast Asian paddy cultivation and ethnic cultural research commission," constituted by the Japanese Ethnographical Council, carried out fieldwork in villages north of Vientiane, focusing on cultural aspects such as kinships, religions, and relationships with other villages. Few intensive studies were conducted in the following years by foreign researchers because of political instability and difficulty in obtaining permission for research. Although several papers based on intensive field research were published after regulations were relaxed in the late-1990s (Yokoyama, 2004; Yamada *et al.*, 2004), there have not been any intensive studies till date focusing on livelihood systems and social structures in villages.

Therefore, this paper aims to clarify the changes in livelihood activities and social structures in rural regions of Northern Laos after the introduction of the market economy.

This study was conducted in a paddy-based village in Namor District, Oudomxay Province, (Figure 1) from November 2003 to October 2004. All the households in the village were interviewed at least twice. Data was also gathered during the daytime through participant observation by helping in agricultural work such as transplantation of rice seedlings, cultivation, production of maize, and gathering of forest products. Oudomxay Province comprises seven districts, namely, Xay, Laa, Gaa, Houn, Beng, Pakbeng, and Namor. It is situated south of the Yunnan Province of China, which shares its border with Namor District. National Road Route 1, which extends from Luang Phrabang to the Yunnan Province, passes through the Oudomxay province. The total population of Oudomxay province is 248,112 (94,694 women) and it covers an area of 15,370 km^2. The study village[1], located in the lowland surrounded by steep mountains, has 127 households and a population of 702 (364 women). The villagers identify themselves as belonging to the Yang ethnicity (the Thai-Kadai language group), which is a Lao-Lum group believed to have migrated from Beng District in the 1750s.

Until 2000, the study village did not have proper access to the market. The villagers had to walk for 6 to 7 hours to the nearest market in Namor or Yunnan Province. In 1979, the pedestrian path was widened to allow the passage of automobiles; however, the path deteriorated and became uneven because of poor maintenance. It was repaired in 2000; as a consequence, automobiles could reach China (Figure 2), and the access time to markets was reduced to 45 minutes by the community bus. The road repair not only made access to markets easy but also allowed commodities, people, information, and the market economy to be rapidly assimilated into the rural lifestyle.

Figure 1. Location of the study village

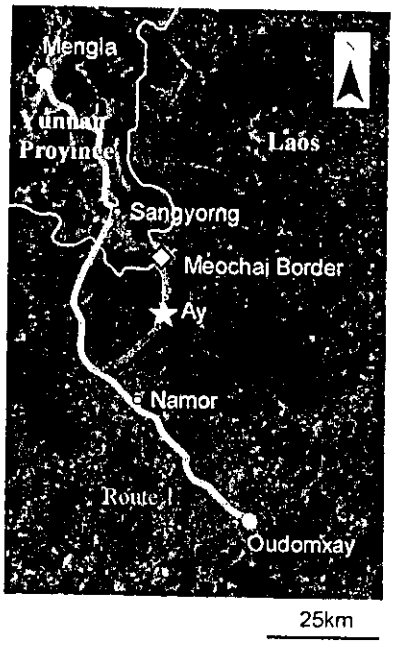


Figure 2. Road repair in the study village

2. LIVELIHOOD ACTIVITIES AND SOCIAL SAFETY NET PRIOR TO THE INTRODUCTION OF THE MARKET ECONOMY

2-1. Livelihood Activities and Rice Insufficiency

Agriculture is the primary livelihood activity in the study village; all the households are engaged in either paddy cultivation, livestock raising, or hunting and gathering for daily consumption. Since rice is the staple diet of the villagers, paddy cultivation emerged as the most important and fundamental livelihood activity. Customary ownership is well established, and 98% of the households own the paddy fields they cultivate. Cultivation is essentially carried out by individual households during the rainy season, which lasts from May to November. Since the primary purpose of cultivation was domestic consumption, the produce was rarely sold. Some households engaged in shifting cultivation only during the period of agricultural collectivization from 1979 to 1986 due to shortage of rice.

Livestock raising, such as rearing water buffaloes, cattle, pigs, ducks, chicken, and turkeys, was also an important livelihood activity. Water buffaloes were reared mainly for plowing and ritual ceremonies, cattle for ritual ceremonies, and pigs, ducks, and chicken for ritual ceremonies, consumption, and occasionally for sale.

In addition, fish were caught from nearby rivers or paddies for consumption, wild vegetables, such as edible plants and mushrooms, were gathered, and squirrels, mice, birds, and insects were often hunted for daily consumption.

Thus, the villagers' livelihood was, although not entirely, almost self-sufficient. Some households produced salt, which was sold to nearby villagers for French coins called "Man" or often bartered for chicken, ducks, or firewood. However, these livelihood activities were not given a high priority.

Despite the importance of rice cultivation, disparities existed among households with regard to rice sufficiency. Rice deficit in this case is defined as "the situation wherein the production of rice by a household does not satisfy its consumption requirements between two successive harvesting seasons." The percentage of households faced with rice insufficiency is shown in Figure 3. In 2003, 30% of the

households faced a rice deficit, whereas only 23% had a rice surplus. On the other hand, in 2004, 46% faced a deficit, while 25% had a surplus. For these two years alone, households facing a rice deficit accounted for 30–40% of all households. The long-term situation of rice sufficiency among households is reflected in their local nomenclature: households with rice surplus are referred to as "Luagin," those with rice sufficiency are called "Kumgin," and those facing rice deficit are referred to as "Kaatgin." Households were classified into the above three groups based on the hypothesis that livelihood activities influence rice sufficiency to some extent. Nine village officials familiar with the economic situation of all the households wrote the names of each household head on a separate card and after discussion, divided these cards into three groups one by one. The results shown in Table 1 indicate that 33% (42 households) had rice surplus (Surplus), 47% (60 households) had rice sufficiency (Sufficient), and 20% (25 households) faced rice deficit (Deficit).

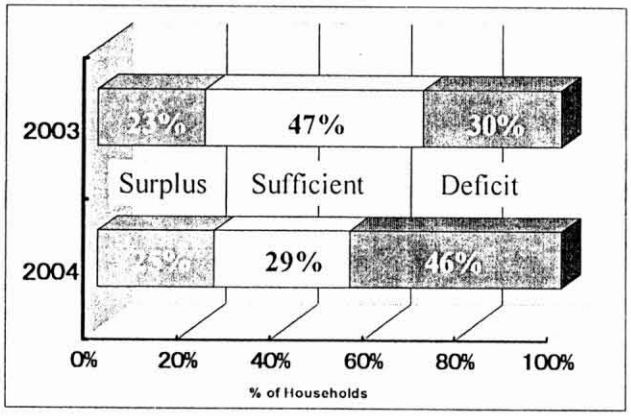


Figure 3. Rice insufficiency (2003-2004)
Source: Interviews of all households

Table 1. Classification of households on the basis of rice sufficiency

	Surplus "Luagin"	Sufficient "Kumgin"	Deficit "Khaatgin"	Total
Households	42	60	25	127
% of hoseholds	33%	47%	20%	100%

Source: Interviews of 9 village officials

This leads to the question of how the villagers survive without rice. The shortage of rice is not a recent phenomenon. According to an elderly villager, "20 of the 40 households faced rice deficit in 1975 because of a massive flood." He recalls, "the entire rice crop along the river was washed away." From 1979 to 1986, during the period of agricultural collectivization, 57 of the 60 households faced rice shortage. Till date, at least one third of all households have faced rice shortage every year. Thus, rice shortage is not considered as a critical condition leading to starvation, but a condition that has to somehow be endured.

2-2. Size of Paddy Fields

All the paddy fields officially belong to the government; however, villagers are entitled to use the land for cultivation. Ownership of use is well defined for every paddy field. The size of land owned by each household differs; while some own large paddy fields, others own small paddy fields. On the basis of the hypothesis that the size of the land owned would differ among the three groups,

eight households belonging to each group were interviewed regarding the size of the land they owned and the acquisition method (Table 2).

Table 2. Size of paddy fields and acquisition methods (ha)

	Serial	Household	Size of Paddy Fields	Inheritance		Reclamation	Purchase	Parental Support
				Paternal	Maternal			
Surplus	N01-14	TaoMon	6.2	2.9	2.2	0.1	1.0	Support
	N04-10	Suang	3.6	1.8	0.0	0.6	1.2	Support
	N02-07	Khampan	3.1	2.9	0.0	0.2	0.0	Support
	N03-01	Bunsamai	3.1	1.8	0.0	1.3	0.0	Support
	N01-03	Khampiew	2.7	2.5	0.0	0.2	0.0	Support
	N05-02	Aaichan	2.7	1.5	0.0	1.3	0.0	Support
	N03-03	LaaYorn	2.4	2.2	0.0	0.2	0.0	Support
	N03-02	Maiping	1.8	1.8	0.0	0.0	0.0	Support
Sufficient	N02-01	Wongduan	2.1	1.1	0.0	0.6	0.4	Support
	N01-06	AiYort	2.0	1.1	0.9	0.0	0.0	Independent
	N04-01	Paai	2.0	1.5	0.4	0.2	0.0	Support
	N03-06	TaoSii	1.8	0.0	1.1	0.0	0.7	Support (Wife)
	N08-14	Ungeo	1.8	1.1	0.0	0.7	0.0	Independent
	N03-07	MaiPan	1.3	1.3	0.0	0.0	0.0	Support
	N05-06	Karii	1.2	1.2	0.0	0.0	0.0	Support
	N03-12	Duansoang	0.9	0.9	0.0	0.0	0.0	Support
Deficit	N02-13	MaiMii	1.6	0.5	0.0	1.1	0.0	Support
	N07-01	PongNoi	1.1	1.1	0.0	0.0	0.0	Support
	N01-07	SukLaa	1.1	0.4	0.5	0.2	0.0	Independent
	N08-05	Bunchan	1.1	0.0	0.0	0.4	0.7	Independent
	N04-08	MaiLaa	0.9	0.9	0.0	0.0	0.0	Independent
	N05-11	Michantoon	0.9	0.4	0.5	0.0	0.0	Support (Wife)
	N02-03	LaaSii	0.5	0.0	0.5	0.0	0.0	Independent
	N04-09	N.Khampaa	0.4	0.0	0.4	0.0	0.0	Independent

Source: Interviews of 24 households

The results indicate that the "Surplus" group owns relatively larger pieces of land, ranging in size from 1.8 to 6.2 hectares, while the "Deficit" group owns relatively small pieces of land, ranging in size from 0.4 to 1.6 hectares. The size of land owned is determined by inheritance, which is, compared to reclamation or purchase, the most common acquisition method[ii]. The Surplus group acquired vast lands largely through inheritance, particularly from the paternal side.

Mr. Khapiew (age 60), head of one of the Surplus households and the second son among seven siblings, produces more than 1000 kilograms of rice annually. His parents' land of 6.5 hectares was divided among five siblings, as two past away at a very young age. Since Mr. Khampiew was the son who supported and lived with his parents, he inherited 2.5 hectares of his parents' land[iii]; the first, third, and the youngest independent sons and the daughter inherited 1.3, 0.6, 1.4, and 0.5 hectares, respectively. The villagers often claim that "Khampiew's household produces a lot of rice because he inherited large paddy fields from his parents."

In contrast to the case of Mr. Khampiew, Mr. Bunchan (35), the head of one of the Deficit households, faces a rice shortage every year. Born as the first son among two siblings, his parents gave away their entire 1.1 hectares of land to their second son, who supported them. Mr. Bunchan did not inherit any land because his parents' land was too small to sustain two households. Therefore, he had to purchase 0.7 hectares of land from his aunt and he reclaimed 0.4 hectares of unused land from the nearby forest.

The fundamental rules governing the inheritance system in the study village are as follows:

- Only sons can inherit paddy fields from their parents. The daughter cannot inherit land unless she and her husband are unable to make a living owing to the small size of the husband's land.

- The size of the land inherited by the son depends on whether he supported his parents. Sons who support their parents can inherit larger paddy fields as compared to those who are independent.
- A son who is planning to relocate to another place cannot inherit land. However, relocation subsequent to inheritance is permitted.
- If parents have only daughters, their paddy fields are divided among the daughters. The rules applicable to sons are also applicable to daughters.

This village inheritance system determines the size of the paddy fields inherited. Sons who support their parents inherit larger paddy fields, eventually becoming a part of the Surplus group, whereas sons who are independent inherit smaller fields, eventually becoming part of the Deficit group. How does the Deficit group make a living without sufficient rice? The living strategy of the Deficit group will be considered in the next chapter.

2-3. Living Strategies of the Deficit Households Rice Procurement

Following the harvesting period, the Deficit households procure rice by several methods. The following five basic methods were observed in the study village.

(1) Receiving

Households faced with a serious rice shortage of over 100 kilograms for a period of more than 5 to 10 months were likely to request rice from their uncles or aunts belonging to the Surplus group. Such households were not obliged to repay an equal amount of rice in cash, but to offer some labor work, such as transplantation of seedlings, planting, harvesting, transportation of construction timber, and carpentry work. This labor work was not equivalent, but worth much less than the value of the rice they received.

(2) Borrowing

Households faced with a shortage of up to 50 kilograms were likely to borrow rice from their parents or siblings belonging to the Surplus group without any interest payment. They were, however, obliged to repay the amount they borrowed the following year; however, they were exempted from repayment in case the amount was small.

(3) Purchase

The purchase of rice among households is a recent development. Households that did not have a good relationship with their close relatives belonging to the Surplus group sometimes purchased rice from distant relatives or unrelated households from the Surplus group.

The above three methods were at frequently used by Deficit households to procure rice. In addition to the above, rice was also procured through (4) purchase from neighboring villages or the market or (5) borrowing from rice banks, although the number of such households was very small.

Expansion of Cultivation Area

Although it is not a long-term solution, the procurement of rice is indispensable. Therefore, the Deficit households tried to expand their cultivation area by renting, purchasing, or reclaiming land in order to increase production. Only two Deficit households rented land from their parents or siblings belonging to the Surplus group. Others purchased or bartered paddy fields from relatives—aunts, uncles, and siblings—in exchange for water buffalos or reclaimed it with their own efforts. Paddy fields were generally rented or purchased only among relatives; hence, requesting to rent or purchase paddy fields from unrelated people was considered culturally "shameful." The first step in reclamation is to locate free land in forests and establish ownership. However, it is now difficult to locate free land in nearby forests due to the establishment of the system of advanced ownership.

Adoption

The adoption of children, which is referred to as "Luuk Gep" in the local language, is a common practice in the study village. Households having few sons generally adopt a boy from households with many sons. A boy child is often adopted from the Deficit households by relatives belonging to the Surplus group. The adopted son is entitled to inherit paddy fields from his foster parents, but not from his real parents. Mr. Porn (34) was born as the second son of Mr. SP. However, Mr. SP, who had several sons, had him live with his uncle in order to secure the allocation of small paddy fields. Mr. Porn was raised as a second son in his uncle's family. Therefore, he did not inherit any land from his real parents, but inherited 0.7 hectares of paddy fields from his uncle. The purpose of such adoption is assumed to be a mechanism to allow the remaining sons to inherit larger paddy fields while at the same time allowing the adopting households to secure someone to support them.

2-4. Function of the Social Safety Net

Disparity among households based on rice sufficiency existed in the study village before the introduction of the market economy. This disparity was caused by the size of paddy fields owned by the households in accordance with the village inheritance system. The Deficit households could sustain their livelihood through mutual cooperation with their relatives belonging to the Surplus group. The Surplus households helped the Deficit households by providing them with rice in exchange for a small amount of labor work; expanding the Deficit households' cultivation land through renting and selling paddy fields; and regulating the size of the paddy fields inherited through the adoption of Deficit household sons. These living strategies of the Deficit households and their relationships with Surplus households form the foundation of the social order of the village; this social order can be defined as a "Social Safety Net." This social safety net based on relationships between relatives that sustained the livelihood of the Deficit households was established long before the advent of the market economy (Figure 4).

Figure 4. Social safety net before the introduction of the market economy

3. MODERN LIVELIHOOD ACTIVITIES AND VILLAGERS' ADAPTATION

3-1. Cash Crop Production

Traditional Varieties

Describing their situation five years ago, the villagers say, "We wanted to sell our crops, but there was nowhere to sell them." Due to limited access to the market, agricultural crops were used only for daily consumption. However, after the road repair in 2000, middlemen from other regions regularly started visiting the village to purchase springs, garlic, and chilies. Mr. Peng (66), the head of a Deficit household, is one of the largest producers and sellers of springs and onions. He produced 500 kilograms of springs and garlic in 2002; of this, he sold 220 kilograms and retained 280 kilograms to be used for planting in the following year, and thereby earned over 2,000,000 kip. Since traditional varieties are used in the production of springs, garlic, and chilies, the production method remains the same, but requires less labor than improved varieties. Therefore, expansion of production is easy for all households, provided they own sufficient land.

Improved Varieties

Improved varieties have recently been introduced in the cultivation of maize, sugarcane, rice, and watermelon. Sugarcane was first cultivated in 2000 under the guidance of the District Agriculture and Forestry Office (DAFO), in collaboration with Chinese sugarcane companies. DAFO permitted these companies to expand their activities under the condition that they distribute Chinese varieties for free, offer advice on planting techniques, and purchase the entire harvest.

Maize and hybrid rice were introduced as part of the Joint Project[iv] between the Chinese and Lao governments in 2004. Consignments of seeds, chemical fertilizers, and pesticides were distributed free of cost to villagers. Based on their experience, the villagers were well aware of the local water and soil conditions and therefore, the varieties that would be suitable for their paddy fields. As a result of the villagers' apprehension to planting new varieties that they had never planted before, an average of 4.4 kilograms of the new seeds were planted, which accounted for a mere 5% of total seeds planted. Opinions such as "I was not sure whether it would suit my soil" and "I am afraid of a poor harvest" were frequently heard.

Watermelon production was pioneered by two Chinese agricultural instructors in 2003. They directly approached the village head to present their case for a trial production. Since watermelon production required long working hours and a large work force, only four households participated in the trial. Each household purchased nursery trees for 4 Jao[v]. Chemical fertilizers and pesticides were prepared by the Chinese agricultural instructors. The village head who agreed to the planting of watermelons says, "I wanted to plant something that would earn a lot of money. I had never planted watermelon before, and I was unsure if I would make a profit."

3-2. NTFP Gathering

NTFPs (Non-timber forest products) are exported to neighboring countries —Thailand, Vietnam, and China. NTFP gathering has a long history; a trading route has existed since the period of the kingdom of Luang Phrabang (Stuart-Fox: 1998). This trading route, however, does not extend up to the study village because the village is situated at a large distance from Luang Phrabang. The gathering of cardamoms was started only in 1986, wild orchids called "YaaBailai" were first gathered in 2000, Aga Wood, also called "Maiketsana," and the bark of the "Muak" tree were first gathered in 2002, and the gathering of the bark of the "Bong" tree commenced in 2003. These products were gathered not for daily use but for cash income through their sale (Table 3).

Table 3. NTFPs gathered in the study village

NTFP	Lao Name	Year Started	Period Gathered	Vegetation	Middlemen	Price	Market
Cardamom	Makneang	1985	Aug-Oct.	Fallow, Old Forest	Namor	8,000-12,000 kip/kg	Thailand/Vietnam
Aga Wood	MaiKetsana	2002	All Year	Old Forest	Namor	3,000-1,000,000 kip/kg	Thailand/Vietnam
Wild Orchid	Yaabailai	2000	Aug-Oct.	Old Forest	Villager	50,000 kip/kg	China
"Muak" Bark	Puak Muak	2002	Feb-Mar.	Old Forest	Villager	1,000 kip/kg	China
"Bong" Bark	Puak Bong	2003	Feb-Mar.	Old Forest	Villager	1,000 kip/kg	China

Source: Interviews by author

NTFPs Exported to Thailand and Vietnam

Cardamom and Aga Wood are the NTFPs that are gathered and exported to Thailand and Vietnam. From August to November, two types of cardamoms—red and green—are gathered mainly in the fallow forest. Since the residents of the study village do not engage in shifting cultivation, they are unable to gather a large amount of cardamom each year; therefore, cardamom gathering is not considered as a significant source of cash income. These cardamoms are purchased by middlemen from neighboring villages and transported to Oudomxay, from where they are exported to Thailand and Vietnam. The villagers say, "We don't know what cardamoms are used for in Thailand and Vietnam." Cardamom is said to be used as a medicine for stomach aches and bowel problems or as a seasoning in food (Lamxay: 1).

As mentioned before, Aga Wood was first gathered in 2002. The price varies depending on the part of the Aga Wood, with the most expensive part fetching up to 1,000,000 kip per kilogram. Since several households began gathering Aga Wood during the first year, it became scarce within two years. The gathered Aga Wood is sold to village middlemen and delivered to a factory in Oudomxay for processing, where it is boiled for several hours in order to extract its oil. The oil is sold to middlemen in Vientiane and is finally exported to Thailand, while wood shavings are sold to Vietnamese middlemen. It is said that this oil is further processed to produce perfumes or fragrances for export to Europe, and the shavings are processed as joss sticks for export to Japan.

NTFPs for the Chinese Market

The gathering of wild orchids, referred to as "Yaabailai," was started in 2000 by the households that visited Bohan, the region along the border between Laos and China, when they were asked by Chinese shopkeepers to gather a particular variety of orchid. It is gathered during the rainy season, which lasts from August to October. Although wild orchids were abundant in the first year, they have now become rare. These days, villagers search for them all day, but in vain. The gathered wild orchids are sold to village middlemen, who in turn sell them to Chinese shopkeepers in Bohan.

According to the village middlemen, the gathering of the bark of the "Muak" tree began in 2002 and that of the bark of the "Bong" tree started in 2003. Middlemen buy these barks from villagers and transport them by 10-ton trucks to the city of Shangyong in Yunnan province by crossing the Meochai border. Neither the villagers nor the middlemen are aware of their processing or usage in China. These barks are assumed to be used as an adhesive in joss sticks, lacquer, and paper sheets (Lamxay: 2001).

Six NTFPs were gathered in 2004. Barks of the "Bong" tree became popular because other NTFPs had become difficult to find after several years of gathering. Higher priority was given to earning cash income, which often led to the excessive gathering of these products. Despite the scarcity of these natural resources, villagers are optimistic that they will find other NTFPs in subsequent years.

3-3. Non-Farm Activities

Some households have started to engage in professions related to non-farm activities such as becoming middlemen and shopkeepers. Middlemen, as mentioned earlier, purchase NTFPs, livestock, and wood from villagers, transport them to Oudomxay or cities in the Yunnan province, and sell them to other middlemen. Twelve households in the study village were engaged in this profession[vi].

Mr. Moon (35) was the first to become a middleman in 1999. In his first year, he brokered wild orchids for the people in his village and from neighboring villages on behalf of his friend who belongs to the Lue ethnicity and lives in Shangyong city in Yunnan Province. In his second year, he brokered Cardamoms on behalf of his brother-in-law. In his third and forth years, he brokered Aga Wood on behalf of his brother-in-law's friend. In his fifth year, he was unable to continue with this profession on account of some injuries; however, in his sixth year, he resumed by brokering bark of the "Bong" tree. Apart from brokering NTFPs, he also brokered livestock and wood. He purchased ducks, chicken, and turkeys from villagers and sold them to his daughter who lives in Luang Namtha city. When he received information of a construction plan in Namor, he mobilized the villagers to cut and process wood from the forest and sold it to the construction company. Wildlife trading is currently prohibited, but Mr. Moon brokered wildlife for his Chinese friends before the prohibition came into effect. His current annual income from these trading activities exceeds 5,000,000 kip. He says, "It was very difficult to start from scratch. But I wanted to improve my standard of living. I was constantly looking for opportunities to make more money. What is important as a middleman is to know the market. A middleman must always be aware of what the market needs and what can be sold. I have relatives and friends in Oudomxay, Luang Namtha, and even in Yunnan Province. I get all my information from them."

Shopkeepers sell juice, snacks, candles, notebooks, and other small articles of daily use purchased from Oudomxay and Bohan. One household opened a shop in 1999, which has now expanded to a chain of ten. Opening a shop requires an initial investment. Mr. Bunsawan (26) opened his shop in September 2004. He received 9,810,000 kip from selling his four water buffaloes, cattle, and seven small pigs that he had raised over three years and spent 3,500,000 kip to open his shop. In order to set up his shop, he rented a place close to the roadway from his best friend. Apart from selling the usual goods, he sells dried meat and has also opened a small restaurant.

3-4. Households Engaged in Modern Livelihood Activities and Their Incomes

Rice cultivation, livestock raising, fishing, and gathering and hunting continue to be important; however, households have now started to engage in new livelihood activities such as cash crop production, NTFP gathering, and non-farm activities. Table 4 shows the percentage of households engaged in these new activities and their average incomes. With regard to cash crop production, 60–70% of all households engage in the production of springs, garlic, and chilies, while 30–60% engage in sugarcane cultivation. Over 70–80% of all households engage in maize production. A similar analysis cannot be performed in the case of watermelon production because only four households planted watermelons in 2004. Few differences can be observed among the Surplus, Sufficient, and Deficit groups with respect to the fraction of households engaged in production of commodities other than watermelon. In addition, the incomes of all three groups lie in the range of 100,000 to 400,000 kip. However, only the production of maize is observed to be low in the Deficit households[vii]. It is believed that this can be attributed to the lack of available labor due to Deficit households being engaged in reclaiming paddy fields.

In the case of NTFP gathering, few differences are observed among the three groups with regard to the fraction of households engaged and the average cash income. Over 80% of all households engage in the gathering of bark of the "Bong" tree and earn an income of approximately 200,000 kip. Similar results are observed for other NTFPs, although these are difficult to compare due to the passing of several years.

The fraction of Surplus households engaged in non-farm activities is greater than that of the Deficit households; 14% of surplus households work as middlemen and 19% as shopkeepers. In order to set up non-farm activities, an external network and an initial investment are required. The Surplus households have the opportunity to go to the market and interact with the outside world. In comparison, the Deficit households largely devote their time and energy to the procurement of rice, labor work, and the reclamation of paddy fields. Therefore it is difficult for them to establish a broad network outside the village.

Table 4. Percentage of households engaged and their average incomes

		Surplus		Sufficient		Deficit	
		Households (%)	Income (1000 kip)	Households (%)	Income (1000 kip)	Households (%)	Income (1000 kip)
Cash Crops	Spring/Garlic	60	363	58	197	64	420
	Chili	62	102	63	145	74	98
	Sugarcane	66	890	48	284	33	382
	Maize	84	399[a]	81	382[a]	76	165[b]
	Hybrid Rice	77	N/A	73	N/A	62	N/A
	Watermelon	4	9,062	2	2,500	4	1,875
	Total	83	1,230	86	537	92	504
NTFPs	Cardamom	17	178	12	86	16	36
	Wild Orchid	24	140	32	90	32	185
	Aga Wood	12	86	12	59	16	115
	"Muak" Bark	17	317	39	251	32	431
	"Bong" Bark	83	295	93	193	80	222
	Total	88	530	95	479	88	481
Non-Farm Activities	Middlemen	14	1,058	6	306	0	0
	Shopkeeprs	19	353	6	253	0	0
	Total	26	6,010	7	3,200	0	0

Source: Survey of all households

4. CONCLUSION

4-1. New Livelihood Activities and Villagers' Living Strategies

The villagers have long been engaged in livelihood activities such as rice cultivation, livestock raising, and gathering and hunting for daily consumption. Although disparity existed among households based on rice sufficiency, the social structure was well maintained through mutual cooperation between relatives from the Deficit and Surplus households. Following the road repair, the villagers suddenly gained good access to the market. Apart from new people, there was an inflow of new commodities and information into the village. For example, middlemen started to visit the village regularly, and eventually, some households adopted the profession of middlemen. In addition, cash crop production, promoted by the Joint Project between the Lao and Chinese governments, was started in the village. The villagers, who previously engaged in self-sustaining activities such as rice production, livestock raising, fishing, and gathering and hunting, started to engage in new livelihood activities such as cash crop production, NTFP gathering, and non-farm activities. Rice production continues to remain important; however, livelihood activities are shifting from self-sustenance based to cash-income based.

With the exception of non-farm activities, few differences were observed among the three households groups with regard to the fraction of households engaged and average income. This implies that irrespective of rice sufficiency conditions, some villagers actively engage in these new activities in order to earn cash income. Mr. Bunchan (35), the head of a Deficit household who did not inherit any paddy fields, started selling springs, garlic, maize, and watermelons in 2004, earning

2,000,000 kip. Mr. Bunsawan (26), who is the head of a Sufficient household and owns 1.6 hectares of paddy fields, sold his livestock in order to set up his shop. Mr. Bunsamai (34), the head of a Surplus household and the inheritor of 3.1 hectares of paddy fields, engaged in cash crop production apart from working as a middleman and a shopkeeper, and earned over 4,000,000 kip.

On the other hand, several households, such as that of Ms. Kham (40), who belongs to a Surplus household and owns a large 3.6 hectare paddy field, cannot fully engage in these new activities. Her household has a limited availability of labor due to the death of her husband. In the absence of male labor, she does not have the time for cash crop production or NTFP gathering and is forced to spend her time in rice cultivation. She does manage to gather some bark of the "Bong" tree, but this is insufficient to meet the educational expenses of her children. Similarly, Mr. MaiLaa (55), who owns 0.9 hectares of paddy field, faces a rice deficit for 7 months every year. He and his wife cannot engage in any of these new activities because of their old age. They sell small quantities of springs, garlic, and chilies produced for self-consumption.

As observed in the above examples, irrespective of rice sufficiency, some households have emerged that can engage in the new livelihood activities to earn cash income, while there are others that cannot.

4-2. Changes in the Social Safety Net

Changes in livelihood activities and villagers' living strategies were examined in the paddy-based study village in Northern Laos. Following the introduction of the market economy, the focus of livelihood activities changed from mere "consumption" to "earning income." The village began producing cash crops, gathering NTFPs, and engaging in non-farm activities. The new livelihood activities have created opportunities for all households to earn cash income. As livelihood activities change, the social structure also undergoes a change. Figure 5 is a diagrammatic representation of the changes in the social safety net. A new type of disparity, based on the cash income of the households and unrelated to rice sufficiency, has emerged. Since 2000, high-income households have started hiring low-income households for labor work by paying them wages. Almost all households currently own paddy fields; however, in the near future, it is anticipated that a new group of low-income households will emerge that would sell their lands and depend on labor wages or will rent land for cash crop production.

Figure 5. Changes in the social safety net

The functions of the social safety net are now undergoing a change due to the changes in livelihood activities. Interaction with the administration and international organizations and the scarcity of land resources are considered to give rise to a new social safety net catering to low-income households within the village; for example, the village headman would encourage the low-income households to produce cash crops and permit them to use the untilled land. The function of the social safety net within the village will be further strengthened in the near future.

Evaluating development of increased economic integration in the Greater Mekong Sub-region: The case of Lao coffee exports

[WORK IN PROGRESS; NOT FOR CITATION]

Authors:

Magnus Andersson
(Research Associate)
Stockholm School of Asian Studies,
Stockholm School of Economics,
Stockholm, Sweden
and
Thammasat Business School,
Thammasat University,
Bangkok, Thailand
4. Fl. Faculty of Economics,
Thammasat University,
Tha Prachan, Bangkok 10200
Thailand
Email: magnus.andersson@hhs.se
Phone: +66 2 354 1446 and +66 1 874 87 16
Fax: +66 2 244 8738

&

Andreas Lundin
(Research Associate)
Stockholm School of Asian Studies,
Stockholm School of Economics,
P.O Box 6501
113 83 Stockholm
Sweden
Email: andreas.lundin@ssas.bkk.org
Phone: +46 8 736 9000
Fax: +46 8 31 30 17

Abstract

This study seeks to empirically assess factor determinants of efficient access to export markets for coffee produced in Lao PDR by using a transaction costs analysis. The rationale for this study is the process of increased economic integration within the Greater Mekong Sub-region focusing on trade facilitation and cross-border movements between Thailand and Lao PDR.

The study presents a methodological proposal to estimate transaction costs within the value chain of locally produced coffee in Lao PDR in order to provide guidance on effectiveness in the increased

economic integration in the Greater Mekong Sub-region. The study is using household data from the Lao Expenditure and Consumption Survey (LECS) 92/93, 97/98 and 02/03, Lao Agricultural Census 1998/1999, and export data provided by the Lao Government to present the national production and export of coffee with focus on the spatial distribution of the output and the transaction costs within the marketing channel. In addition, in-depth interviews with coffee farmers and marketers are exploring the marketing channels of the export of Lao coffee.

The result of the empirical study indicate that the parts of the value chain involving cross-border transactions between Lao PDR and Thailand has experienced increased efficiency and up grading of the product from export of green unroasted beans to a branded product of roasted and milled coffee. Initiatives taken within the framework of the Greater Mekong Sub-region and bilateral agreements between Thailand and Lao PDR has provided better access to world markets for Lao products, whereas parts of the channel within the Lao domestic market has experienced an integration as a result of firms with capacity to keep the coffee within it's own in-house process.

Introduction

Coffee is traditionally an important commodity for developing countries and a substantial source of income for the rural population in these countries. Redistributional mechanisms of the profits are however relatively weak on both global and subnational levels. This make it imperative to study how local firms with own brands located in developing countries can develop strategies to participate on a market characterized by fluctuating world market price and with few transnational cooperations (TNC's) competing for market shares on a market with stable demand.

Value chain analyses might be a sufficient tool to capture the way in which local firms are linked and how they can develop and upgrade brands and capture market shares on the world coffee market.

Lao PDR is a developing country with a very insignificant position among coffee producing countries of the world but also among neighboring countries in the Greater Mekong Subregion. Coffee is traditionally growing in Lao PDR and this localized knowledge might be an important potential for the development of the Lao economy. This underexploited opportunity using local knowledge and products holds possibility to an improvement of weak private sector offering an alternative to the centrally planned and decided development path based on ideology rather than the economic rationale and local opportunities of pre-existing comparative advantage.

Value chain analysis

Division of labour is an underlying factor of trade of which the outcome is specialization and creation of competitiveness linked to the core competence of firms. Value chain analysis focuses on the flow of inputs and outputs between firms and value added created across the line of production from raw materials to the end customer.

Raphael Kaplinsky and Mike Morris (2000) argue a productive system is not only the set of activities leading to the production of marketable products (i.e. an input and output system), a system which often holds an aspect of governance, weak or strong, of collaboration and cooperation or dominance and submission. In particular, value chain analysis focus on identifying the key actors playing a critical role in the coordination of value added activities and the distribution of returns.

The value chain is an important construct for understanding the distribution of returns arising from design, production, marketing, coordination, recycling and after sales service. Essentially, the primary returns accrue to those parties who are able to protect themselves from competition. This

ability to insulate activities can be encapsulated be the concept of rent, which arises from the possession of scarce attributes and involves barriers to entry.

Value chain is not only a study of the division of labour but also a tool for understanding the decision making process and allocation of power within the value added activates. Essentially there is an element of exclusion and a division between high and low added activities. Higher returns are made from more intangible activities depended on soft factors such as marketing and/or managerial competence while low returns are made from tangible assets such as cheap labour and access to inexpensive raw materials. As a consequence, the involvement in a value chain holds various opportunities but also threats of trading on unequal terms and being locked out from possibilities of achievement of raising barging power from expansion towards higher value added activities (Raphael Kaplinsky and Mike Morris 2000 s.16f).

Standards are major characteristics shaping the relations between lead firms constituting the governance, and other participants. An international standard can act as a watershed between firms who have the ability to absorb and incorporate this knowledge in the value chain and the firms lacking resources to adept to such changes. Small firms without strong brands on a market can benefit from standards if they are able to respond to such demand as their products can get recognition on the market. Standards can for example involve product and delivery quality, but also concern more soft issues concerning environmental awareness or labour regulations.

Thus, a value chain consists of participants which can possess unequal amount of access to power and by that govern the chain. As agents they hold specific individual strategies, but often some agents have the power to shape the value chain to their optimal profit generation. This power is often found in either ends of the chain. In "producer-driven" chains we find that large firms often TNC's dictates coordination of the chain including power over linkages, forward as well as backward. On the other side we also have "buyer-driven" chains where power is executed by large buyers such as trading houses and large retailers. Their advantages lie primarily in effective distributional systems and advantages from a monopolistic position giving high bargaining power when negotiating with other chain members.

All members of the value chain seek a position aiming for maximizing profits of their activities. Besides mere cost-saving, there is a variety of profit maximizing strategies which individual firms can use to obtain a more favorable arrangement within the chain (Peter Gibbon 2000 s.4). There are four basic ways in which firms can pursue an upgrading of their role:

1 Process upgrading: concerning the efficiency of the in-house production by identification of less efficient parts of the internal processes or/and better connectivity in inter-firm relations.
2 Product upgrading: developing new, improving and differentiating products faster and than competing firms.
3 Functional upgrading: change or improvement of the marketing mix within the firm by outsourcing activities and taking responsibility for activities that hold high value added.
4 Chain upgrading: moving to a new value chain by a changing direction of production or markets. This can be done by production on a new product or finding new markets/buyer.

The world market of coffee

Major characteristics of coffee are that it has short-run inelasticy in both supply and demand and low barriers to entry. These factors give the commodity a vulnerability to production shocks and provide cyclical world prices.

There are between 25 to 100 different species of *Coffea*, where most commercially produced coffee comes from either *Coffea arabica* or *Coffea robusta*.

Arabica is grown at altitudes over 1000 meter, possess the highest quality and greatest flavour with famous aromatic characteristics, whereas robusta plants can grow on lower altitudes, have higher yields and are more resistant to diseases. Robusta contain twice as high caffeine as Arabica and

therefore often used to increase the caffeine content in espresso and as price is slower for production of instant coffee where quality of beans is less important.

The biggest coffee producing country in the world is Brazil accounting roughly 30 per cent of the total world production, followed by Vietnam with a production of 15 per cent of the total production, and third Colombia accounting for 10 per cent. Coffee is grown in 50 other countries mainly located in Central and South America, Africa but also small amounts produced in Asia .

Brazil procudes both Arabica and Robusta, whereas Colombia is famous for high-quality Arabica, and Vietnam for producing mainly Robusta. Vietnam largely evolved as a coffee producer within the framework of COMECON, but the breakdown of the International Coffee Agreement (ICA), a result of the drought and frost of Brazil, made rendered possible an advance on the world market. With a recent privatization of the agricultural sector (from 1986) and an advance outside the ICA, increased world market share of Vietnam considerably. (Bryan Lewin, Daniele Giovannucci, Panos Varangis 2004 s. 86)

Before engaging in the analysis of the processing we need to pinpoint some key factors, beside species, determining quality of coffee: cultivars; climate and altitude; soil; cultivation; harvesting and ex-farm processing; transit; roasting; retailing; and the means of coffee preparation. It is the fulfillment of these factors that decide the final quality of coffee but there has been a shift on the market caused both supply and demand factors.

Structural change of the world coffee market have had implication on the value chain of coffee. Raphael Kaplinsky identifies a paradigm shift where transfer of power has occurred, largely in line with the overall tendency of concentration of agro-food industry, from national and international marketing boards to TNC's involved in agro-food business. (Fitter and Kaplinsky 2001) The functional role of national and international coffee boards involved a participation in the chain ranging from cultivation up until second processing (starting with roasting). National coffee boards responsible for the marketing of domestic production of coffee kept power over parts of the value chain by supplying inputs on credit, free extension services and maintaining quality control. These boards ensure uniformed quality standards and recovered credits on the basis of export monopolies, coordination through control over prices for both capital inputs and outputs, in the latter case through setting prices on a pan-territorial and a pan-seasonal basis.

National producers of coffee were not included in the process of roasting as at this time consumer preferences normally favored blends of different national varieties implying second processing including roasting, milling, packing and marketing of the brands located within short time to end consumption. Secondary processing in developing countries only concerned meeting the local consumption. For national producers to upgrade into these processes, they would have to relocate to these markets themselves, or develop new technologies. With the collapse of international coffee-boards and the regulated market the coffee value chain experienced a shift in power, from a more or less producer dominated production to a buyer driven production. International traders and firms within agro-processing captured larger parts of the coffee value chain, and the flows of coffee which formerly were traded on a market were internalized. The paradigm shift by large brought following features on the world market of coffee:

1 An advance of cheap coffee in soluble (instant) form in new emerging markets.
2 New channels for higher quality and an expansion of niche markets.
3 Development of roasting rendering a possibility to make high quality coffee from robusta beans.
4 Development of higher efficiency in distributional systems giving lower working stocks at roasting, leading to a concentration of traders active in the supply chain of coffee.
5 Flexible processing of roasting providing ability to shift between coffee types in order to adept to change of prices and quality available on the world market.

(Lewin, Giovannucci and Varangis 2004 s. xiii)

The deregulation of the coffee market paved way for firms to create a governance structure which by and large involved all agents in the value chain. To a large extent producers have lost bargaining power and the retail prices of coffee reflects prices of marketing and packing rather than the price of the actual raw material. It has been suggested that unpredictability has a direct impact on marketing margins as prices becomes more volatile, those parts of the marketing chain with direct exposure to prices will attempt to raise their margins to compensate at the expense of farmers (Fitter and Kaplinsky 2001 s. 20).

However, the deregulation also provides opportunities for local producers to seek direct contact with end-markets i.e. retailers. The break down of the regulated world market together with emerging consumer preferences concerning taste and origin enabled upgrading strategies. A formation of new so called niche markets provided opportunities for producers to capture markets shares on increasingly differentiated markets for coffee, formerly difficult or impossible to utilize.

Niche markets are relatively small, but it is estimated that some 6-8% of coffee is traded outside the traditional chains. With differentiated coffee one can seek higher rents on social or taste preferences such as:

- Geographic origin
- Gourmet and other forms of speciality
- Organic aspects
- Fair trade aspects
- Eco-friendliness
- Private or corporate standards

((Lewin, Giovannucci and Varangis 2004 s 117)

In the light of these changes it is interesting to assess in what manner a small emerging coffee producing country like Lao PDR have adapted or pursued a role.

Lao PDR in search for integration with global markets

Economic reform in Lao PDR started in November 1986 when the New Economic Mechanism (NEM) was adopted and major steps towards transition from a central planned economy to a market economy were taken. Under NEM the Lao government promoted development of the private sectors, deregulated price and production controls and granted managerial and financial autonomy to state-owned enterprises. There are certain reforms implemented under NEM which are of special relevance to this study:

1 Price liberalization- complete price liberalization except for some key utility prices.
2 Agricultural reform- Liberalization of agriculture, including introduction of cash payments to farmers for their production and abolition of state monopoly over rice marketing.
3 Public enterprise reform- Increased autonomy for public enterprises and privatization of over 60 public enterprises.
4 Trade reform- Liberalization of internal and external trade such as simplification of tariff codes and elimination of most quantitative restrictions and special licensing requirements.
5 Exchange rate reform-Unification of a multiple exchange rate system.
6 Foreign investment policy reform which included liberal FDI policies with guarantees against nationalisation and permission to repatriate capital and profits were adopted 1988.

These reforms, together with AFTA (Asean Free Trade Area) membership, and the Lao PDR application for WTO membership (currently observer status), render the possiblilty to become active participants on the world market. Trade reform together with the exchange reform has created a less

complicated environment to export and import goods to/from the international market (Bourdet 2000), but as we will show, needs to be smoothened further.

The economic reforms since the late 1980s have improved the economy significantly, but the Lao economy remains heavily dependent on agriculture. Despite public initiatives to promote industry, agriculture only accounts for 51 per cent of GDP (ESCAP 2002: 61). Despite government efforts to upgrade the sector with special emphasis on the production technology, infrastructure network and human resources development (ADB, 2001b), 80 percent of the households rely on agricultural activities and 60 percent in terms of the workforce (NSC 2004).

A number of problems affect the profitability of the agricultural sector; one is the monoculture of rice, and as for exports of this commodity, as well as other export commodities, can the low rate of marketing be identified as an obstacle. Only 10 percent of the total rice production is marketed, and the generally low rates of added value together with monoculture creates a huge trade deficit when it comes to foreign trade, as food items such as noodles, sauces etc have have to be imported from the Thai consumer market. Thus, although the transition changed the structure of farming from subsistence agriculture to market oriented agriculture, the focus remain on the actual *production*; public institutions and farmers concentrate on the production and not on the *marketing* and *profitability*. The farmers are left over to sell the products without adding value. In addition, the extremely poor rural physical infrastructure with a low rate of all-weather roads, makes it difficult for farmers to reach the urban markets, let alone global markets.

Both NEM and the regional cooperation within the AFTA agreement are of course means to overcome the trade deficit, where total import runs up to as much as twice the total export. Table.. shows major export commodities and along wood products, garments, electricity, and motorcycles we find that coffee is an important export product which has gained in importance since the early 1990s.

Table 1. Lao PDR Exports by principal commodity

Commodity	**1985**	**1990**	**1995**	**1998**	**1999**	**2000**	**2001**
Wood	11	26	88	115	50	73	98
Electricity	26	19	24	67	91	112	106
Coffee	9	9	21	48	14	12	2
Germents	...	...	77	70	66	92	100

In Million US Dollar

Source: Key indicators 2003 ADB

Access to the world market is generally troublesome for landlocked countries, and in the case of Lao PDR, Thailand is the main transit corridor for third country trade. Table 2 shows the five border crossing points between Thailand and Lao PDR. The transit traffic through Thailand is handled by the Express Transportation Organization (ETO), a state owned enterprise under the direction of the Ministry of Transport and Communication, and three private companies: TL Enterprise, Ubon Sahatham Co. and RCL Co. ETO have roughly 30 percent of the market, according to an official at ETO. and table 3 shows the amount transit cargo transported them from the three major crossing points in Lao PDR through Thailand to third countries.

Table 2 International Border crossing points

Border crossing point in Thailand	Border crossing point in Lao PDR
Nong Khai	Thanaleng
Chiang Klang	Houey Xay
Nakhon Phanom	Ta Khek
Mukdahan	Savannakhet
Chong Mek	Wang Tao

Table 3 Transit cargo transported by ETO from major crossing points in Lao PDR through Thailand to third countries

From-To	1999 Volume of cargo ton)	2000 Volume of cargo ton)
Thanaleng-Thai-3rd countries	2,520.00	2,620.00
Savannakhet-Thai-3rd countries	567.93	1,350.00
Chong Mek-Thai-3rd countries	2,263.90	5,520.63

Source: ETO

Note: The figures do not include petroleum products.

The significantly increased importance of Savannakhet and Chong Mek may be explained by relatively recent improvements in road conditions in southern Lao PDR, and the completion of The second bridge over Mekong just south of Pakse facilitating traffic to Chong Mek-Wang Tao, but most likely the larger share of traffic is also a consequence of the rising trade with goods produced in southern Lao PDR. Agricultural products such as coffee have emerged as export products of the total export of Lao PDR.

Effective logistic systems are of crucial to participate in the modern global production. Cost and reliability of transport depend on an efficient road and rail network, access to efficient ports and an institutional environment, which facilitates the cross border movement. As already mentioned, freight forwarders are not allowed to choose their own operator, but only use those operators which are authorized and certified by the Thai Ministry of Transport and Communication. But there are more institutional bottlenecks in Lao PDR: In order to export goods from Lao PDR, either to the neighbouring countries or through one of them, the exporter or his logistic service provider must obtain an *Export Permit* from the Ministry of Commerce in Vientiane. The exporter (consignee) or his agent (for example the truck driver) has to provide the Customs at the exit point with the following documents:

- *Export Permit*
- *Commercial Invoice*
- *Packing list*
- *Certificate of Origin* (in order to export under GSP)
- *Phyto-sanitary certificate* (for goods originating from plants or animals)
- *Customs Document number 1*; *Export Declaration*

- *Customs Document number 2: Export Declaration for temporary Imports* (Garment producers who import yarn, fabrics and packing and re-export the product use this form)

This process of obtaining these documents takes about one to two weeks for firms located in the Vientiane Municipality, and firms outside Vientiane have to add time because the processing of the documents has to go through the provincial offices. Further, in order for commodities and goods to to reach the world market, they have to go through the Thai institutional framework. Movement of cargo through Thailand between Lao PDR and a third country is regulated under the Transit Transport Agreement, signed in 1978 and renewed annually, which regulates the right to obtain transit traffic only for organizations authorized by the governments.
All cargo in transit has to hold the following documents;

1 *a letter of authorization from the consignee*
2 *a consular letter from the Lao Embassy in Bangkok confirming the final destination of the cargo*
3 *Packing list*

All transit cargo of Lao origin to a third country, regardless of the point of exit from Thailand, has to be delivered to the Transit Warehouse located at the Port of Bangkok (in Klong Toey). Once landed here it is the responsibility of the Port Authority of Thailand (PAT) to deliver the cargo to the transit warehouse. For cargo with an entry point in any of the other Thai ports, for example Laem Chabang, the cargo must be moved under customs escort to the transit warehouse, at the expense of the consignee. Only once the Thai Customs have received all required documents, can the goods be moved to the port (or to Lao PDR in case of imports). All costs incurred in the Port of Bangkok and Laem Chabang on Lao transit goods, for example port terminal handling charges and container freight station charges, and are furthermore subject to Thai value added tax of 7 percent.

Lao Coffee

Coffee is a cash crop and the percentage of cultivated area used for cash crops in Lao PDR is roughly 5 percent (5.1 in 1998), to be compared with rice which accounts for 81.0 percent. Only 2.4 percent of the cultivated area is used for coffee (Sisouphanthong 2000:82), but its output accounted for 14.25 percent of the total export value in 1998, and there is a growing importance of the product. Cultivation is geographically concentrated to the Bolavens Plateau where it occupies two-thirds of the area used for cash crop cultivation (Sisouphanthong 2000:82). Bolavens Plateau is involves three provinces; Champasack, Salavan and Sekong Provinces, and Robusta dominates production (80%) followed by Arabica (15%) and Liberica (5%). The farmers prefer Robusta because the plant can be harvested for more years, and is considered a safer investment among the farmers, although Arabica offers a higher price and a rising demand on the international market (See table 4).

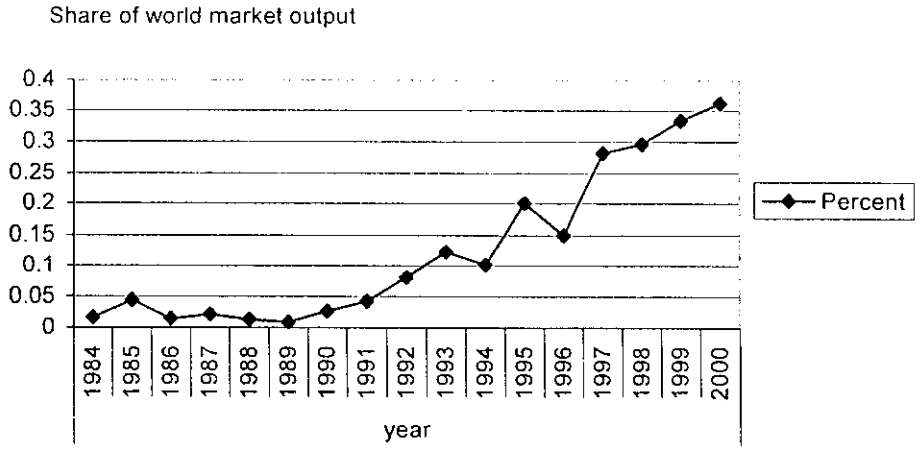
Table 4. Lao coffee export for 2001(unroasted)

Type of coffee	Quantity (tons)	Local price per (kip kilo)	World market price (US$ per tones)
Arabica	350	7000	1050
Robusta	13,695	3000	530

Source: Compiled from Industry Sources and Field Research

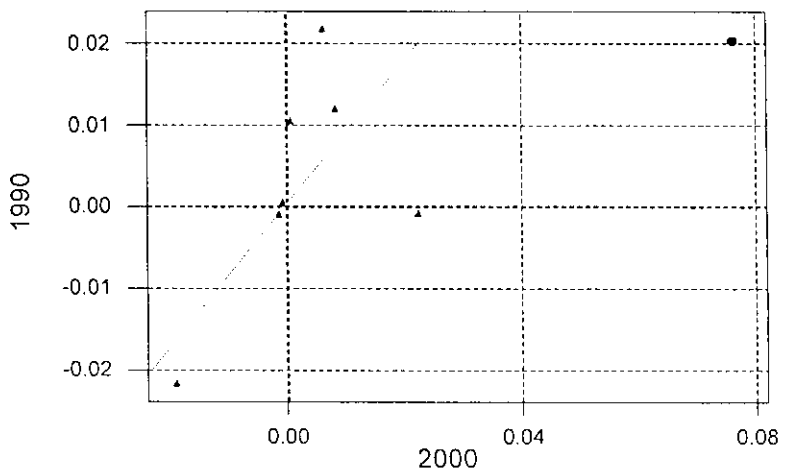
The three largest importers of Lao Coffee are Germany (23 percent), France (21 percent) and Japan (11 percent) (International Trade Centre, 1999a: 23). USA, the largest world importer of coffee (23.9 percent of the world market) make up a mere 1 percent of Lao coffee exports. Lao PDR exports coffee for a value of 23 Million US$, or 0.2 percent of the world market share, to be compared with Viet Nam's 540 Million US$ or 4.0 percent of the world market (year 1997). The growth of export however showed a strong growth in the period 1993-97,s 63 percent in Lao PDR, compared to 30 percent in Viet Nam during the same period ((International Trade Centre, 1999a), (International Trade Centre, 1999b)). Table 5 bellow shows us the share of Lao market output, with a dramatic increase of production and market shares.

Table 5 Lao Coffee's share on world market



The scatter plot in table 6 shows us the Revealed Comparative Advantage (RCA), which is a measurement of competitiveness, for a few selected sectors for which we have found that Lao PDR had exports during the two selected years. The index is derived by subtracting world coffee trade's share of total world trade from the share of coffee in Lao PDR exports.

Table 6. Plot of additive RCA index 1990 and 2000



Source: NBER world trade data

Two main outliers have been lifted out, export of clothes, which was very dominant and scrap metal. The demarcation lines drawn at value = 1 separates sectors which for which Lao PDR have a comparative advantage in from those that they have a disadvantage in. The 45 degree line is meant to visualize a constant status. Thus, sectors that we find in the upper right quadrant are sectors which Lao PDR has a comparative advantage in, and which has gained in strength. The observation marked with a dot in this corner consist of SITC code 07, and contains more or less coffee. It stands very clear that Lao coffee, despite the falling world market price during this time, has gained in importance in the world market.

The southern centre Pakse is the centre of Lao coffee exports. Located on the river Mekong, as well as on National road 13 and the second bridge over the Mekong River is it a gateway to the international border crossing points Chong Mek–Wang Tao (to Ubon Ratchathani, Thailand) and further to Bangkok Port or Laem Chabang Port. The Southern Lao PDR's generally poor infrastructure is a significant reason behind the dominant orientation towards Thailand, the provinces in the southeast corner of the country, on the border to Viet Nam, are characterized by isolation from domestic as well as subregional communication networks (Sisouphanthong 2000:155), and these provinces poor infrastructure infact serve as a buffer, constraining transport from Bolavens Plateau to the Vietnamese ports.

The value chain of Lao Coffee

The majority of the wholesalers and the coffee exporters in Lao PDR are located in Pakse. The interviewed export-firm was established in 1996, holds an office is in Pakse and is one of the largest coffee export firms in Champasack Province. It employs four people excluding the owner (a former government officer). Here follows a presentation of its downward and upward links and the transportation of coffee.

Foreign Customers

Though small, Lao coffee enjoys a very good reputation in the world market and is famous for its high quality. The main market for the firm is Europe, with Germany as the most important country. At the time of interview the firm had also direct contact with customers in Germany, Poland, France, Belgium and The Netherlands. Other exports were made not directly but through a middleman in Bangkok. No advertisement was made from the coffee exporter's side to reach new customers, and usually customers from Europe visit Pakse and establish business contact face to face. The exporter had no access to Internet, but did recognize the importance of email in order to facilitate marketing of the firm. Customer contacts were made via phone and fax, and orders from international customers were received by fax.

Table 7 shows the price of unroasted coffee for export made without involvement of a middleman in Bangkok.

Table 7 Market price of unroasted coffee

Year and month	Type of coffee	Price US$ per ton
2001 November	Robusta	380
	Arabica	970
2002 April	Robusta	530
	Arabica	1050

Source: Interview with Agricultural Product Development Co. Ltd.

However, with the involvement of a middleman in the supply chain, the price of Robusta beans rose to 700 US$ per tonne (2002 April). In addition, a middleman means the loss of the reduced tariffs covered by GSP, adding 75 US$ per tonne (export to EU and Poland) rather than 45 US$ per tonne under the GSP tariff (Interview with Agricultural Product Development Co. Ltd.). Hence, the GSP status and the absence of quotas are seen as important advantages for the Lao coffee export which explains an orientation towards the European customer base.

Suppliers

When the coffee exporter firm get their orders from customers they contact the wholesaler. The wholesaler contacts the coffee collector and gets lots of 3-7 tonnes of coffee after harvest. The coffee is exported in jute bags of 60 kilograms each, which is the standard packaging for exported coffee. However wholesalers' main task is to clear the coffee paperworks. In order to export coffee, the provincial government in Pakse have to issue a certificate of origin, without which one cannot take advantage of GSP or special tariffs for goods exported from less developed countries. This certificate is issued by the Ministry of Commerce and Tourism, Trade and Service, Champasack Province, who also decide means of transport and route of the goods, and it is the wholesaler's task to obtain this certificate. A second needed document that states phytosanitary status of the coffee is obtained from the Ministry of Agriculture. This document is the certificate of quality, stating humidity content and is obtained from the Ministry of Industry. The wholesaler cannot start to export by himself, even though he has the financial capacity to expand his business to cover the export, as he needs to use the exporter's contacts in order to obtain the needed certificates.

The agent and the coffee collector

Bolavens Plateau is located in a remote area where the roads are unpaved and sometimes inaccessible during the rainy season. Most coffee is collected by a pick-up agent who gets money from the coffee collector and pays the farmer in cash when he picks up the coffee. The pick-up agent buys the coffee shortly after harvest in 20 L metal buckets. The coffee collector needs the local knowledge from the pick-up agent in order to cover the whole coffee producing areas. Some wholesalers and exporters have their own pick-up agents, but this is not very common. Small farmers lack the means of transport and depend on the pick up agent. The low standard of the rural network makes the pick up process a time-consuming task. Local knowledge is an important component, and the coffee collector uses the village headman in order to establish contacts with the coffee farmers and secure the demanded quantity.

The small-scale structure of the farms, where the average yield is about 500-1000 kilo, makes it difficult to get economies of scale production-wise, but also transport wise. The minimum export order is 18 tons, equivalent to 1 TEU, which involves many producers and demands time-consuming transport on the unpaved rural roads in order to collect the coffee beans.

Farmers

The coffee production at Bolavens Plateau can be divided into three categories; coffee plantations with an area of 4-10 hectares; small farmers with a cultivated area of 1-3 hectares who mixes coffee cultivation with other type of crops, and finally the small farmer who has a variable area for coffee production as a source to supplement income when coffee prices are high. The typical coffee plantation is 1-3 hectares with an average yield per hectare of about 0.75 tonnes. As described above, the farmer do not access any market, but relies on a pick up agent.

Logistic service provider

Needed due to the complicated border procedure and Lao customs regulations at the international border crossing point at Chong Mek-Wang Tao, the exporter needs a logistic service provider in order

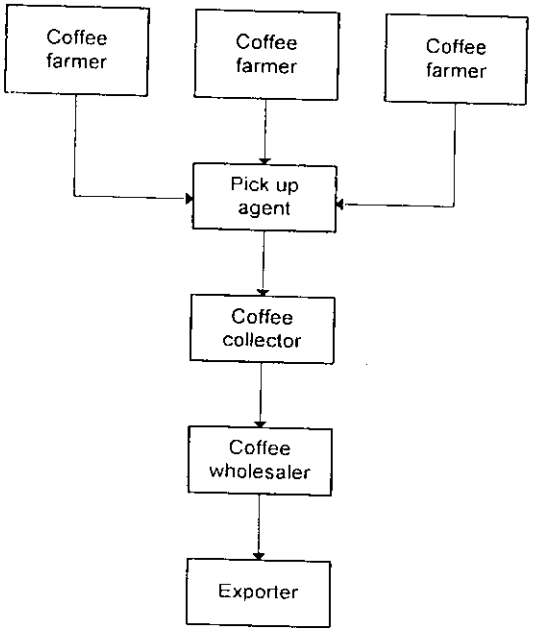
to send the coffee to the customer. However, as Lao trucks aren't allowed to go further than Ubon Ratchathani province in Thailand, the Lao logistic service providers are dependent on Thai counterparts. As Lao firms are not able to use their own means of transport to reach Thai ports, Thai logistic providers have a distinct competitive advantage. There is no Lao service provider who has capacity inside the company to serve the whole transport chain. This means that the degree of corporate interoperability is dependent on the Thai market for transport services.

Emerging upgrading of Lao coffee production

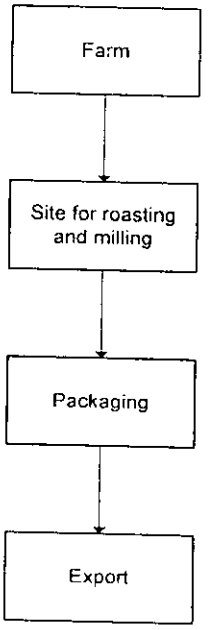
The firm analyzed in October 2002 is situated in the center of coffee production Pakse, Champasack Province in the southern parts of Lao PDR. At that time world market prices of coffee experienced dramatic fall causing hardships for all participants in the value chain of coffee. However, a development of the private sector in the Lao economy together with the above described structural changes of the world coffee market, with the dual change in changing consumer preferences deeply affected the demand for high quality coffee from various exotic origins as well as new emerging producers of low quality beans for supplying the increased demand for inputs to produce instant coffee and new differentiated coffee-products which has been developed by TNC's and global retailers. These overall tendencies are likely to have an impact on, and provide opportunities for marketing of Lao coffee. Since the start of NEM in 1986, liberalization and deregulation of the economy giving private business a role in explore local opportunities of pre-existing comparative advantage.

In conclusion, the conducted in-depth study from 2002 showed a short domestic value chain involving a minimal value added, where focus lie primarily in the role of the exporter of green unrosted beans and the competitive advantage was the GSP which provided quota and customs free access to the European market and other important markets for Lao coffee such as Poland.

Figure 1. Development of the Value chain of Lao coffee



Value chain of the unroasted Lao coffee export in year 2002



In house value chain of the emerging large Lao Coffee producers in year 2005

Source: Based on field studies 2002 and 2005

A field visit to Pakse was conducted in April 2005 with the objective to follow up and study the development of the Lao coffee production. Two large private firms were found to be involved in an emerging process with the purpose of up grading the coffee value chain. The most prominent feature found was that the fragmented character of the ownership of power in the value chain, which was so evident in the field study from 2002, had develop towards a concentration to larger firms. Before, transfer of ownership of the coffee caused transactions costs occurring each time the coffee changed value chain participant. This transfer from farmers to pick-up agents and wholesalers to exporters caused extra monetary costs, and low efficiency as the goods had to be transported to each new owner. A complex transfer, without adding real value to the product through marketing of the beans, was not giving any deeper linkages to the local economy. The scattered location of the production units together with poor rural infrastructure served as major constraints for sufficient quality controls, causing negative impact on the possibility to develop add value activities in the value chain as export markets demanded high quality and reliable deliveries. Figure 1 illustrate the shift from a value chain without add-value services, transfer of ownership of the goods to a in house value chain where one firm posses ownership of the coffee until the export of the final product sold under one brand ready for the final consumer on the exported market.

The observed development with two larger firms which have developed production of coffee with ownership of the major part of the value chain indicates possibly a paradigm shift in Lao PDR coffee production, and is a phenomenon which has had an evident impact on the marketing of Lao coffee on the global market. These both firms operate their own coffee producing farms, which means a control and power of the production and a possibility to secure quality control, a crucial aspect for all goods exported to the world market. Furthermore, the ownership of the production sites makes possible an elimination of the pick up agents whose provided services not necessarily bring time and cost savings in the production. With both growing and picking internalized, there are much greater opportunities of obtaining economies of scale, and in the end an agricultural modernization.

Traditionally coffee exports from coffee producing countries have meant exports of green cherries, as roasting and milling have needed a proximity to the final markets, a need based on both consumer preferences but also technical limitations which meant that final consumption (i.e. coffee drinking) should be made within a short time-span from roasting and milling. Progress has however altered this, and it is technically possible to roast and mill in the producing county. The two newly established coffee producers/firms sell their coffee both roasted and milled, under their own brands. Thus have they captured aspects of the value chain, which traditionally have been located outside Lao PDR. The branding is an especially important add value service, and taking advantage of the brand name "Lao coffee", and its reputation on the world market, is a very clear strategy to capitalize on niche markets. This branding with geography as competitive advantage is of course also a quite necessary means to penetrate a market in which consumer preferences concerning roasting and milling traditionally have been very strong and much more important than type or origin of the coffee beans. The emerging importance of niche markets for coffee on the world market is an opportunity the producers are exploring through investments in quality control and a capture of larger parts of the value chain and by that increase revenue and provide opportunities for the local economy.

Final discussion

GSP has offered a comparative advantage to Lao coffee, but it cannot in the long run be a base for sustainable growth. The international trend of the decreasing importance of states and governments as quality guarantors also clearly shows that there is a need to take actions in order to modernize and give the private sector more responsibility. In Thailand, Nescafe have established production of coffee, mainly soluble, but the firm grip and control over the raw materials indicates that the traditional chain in combination with the disappearance of quality guarantors does not provide a firm platform for international participation.

In the case of Lao Coffee, we have shown that the value chain was extremely complicated, involving many transactions resulting in expensive products and hindered real value to be added to the coffee. However, the liberalization of the economy in general and the agriculture in particular seems to have had effects on the coffee value chain, with emerging actors establishing direct control over coffee production and coffee sales, and embarking on relatively advanced niche markets which requires marketing. Lao PDR is still a small country in Coffee production, but as we have shown, there are shares to take, and Lao PDR do have a good foundation in coffee, with expertise and traditional markets.

Increased economic integration between the members of the Greater Mekong Subregion has giving the Lao private sector better access in terms of market expansion and better linkages to the global transportation networks primarily through ports and airports in Thailand. The observed upgrading in the coffee value chain in Lao PDR can serve as a good example of how further integration within the closes neighbor can facilitate the linkages to the world economy by deepened cooperation and facilitated development of transport infrastructure. In order to truly participate in building an international brand name, one need to communicate across space with a minimum of friction, or else products cannot become competitive.

Litterature

ADB (2003) Key indicators 2003

Asian Development Bank, (2001), Preinvestment Study for Greater Mekong Subregion – East –West Economic Corridor vol 1. Integrated report. Manilla and the competitive advantage was the GSP.

Bourdet, Y, (2000), The Economics of Transition in Laos – From Socialism to ASEAN Integration. Edgar Elgar Publishing

ESCAP (2002) Greater Mekong Subregion Business Handbook. New York

Lewin, Bryan, Giovannucci, Daniele, Varangis, Panos, (2004), Coffee Markets New Paradigms in Global Supply and Demand. *Agricultural and Rural Development Discussion Paper 3*. World Bank.

Fitter, Robert, Kaplinsky, Raphael, (2001), *Who Gains From Product Rent as the Coffee market Becomes More Differentiated*? A Value Chain Analysis. IDS Bulletin Paper

Gereffi, Gary, (1999), International Trade and Industrial Upgrading in the Apparel Commodity Chain, *Journal of International Economics* 48:1.

Gibbon, Peter, (2001), Aggro commodity chains:an introduction. *The Value of Value Chains*. IDS Bulletin Vol 32 No 3 July 2001. Edited by Gary Gereffi and Raphael Kaplinsky

Kaplinsky, Raphael, (2004), Competitions and the Global Coffee and Cocao value Chains. Paper presented for United Nation Conference for Trade and Development (UNCTAD)

(Kaplinsky Raphael, Morris Mike (2000). *A handbook for value chain analysis*. Prepared for the IDRC.

Lewin, Bryan, Giovannucci, Daniele, Varangis, Panos, (2004), Coffee Markets New Paradigms in Global Supply and Demand. *Agricultural and Rural Development Discussion Paper 3*. World Bank.

Mercat, Laurent, (1998), Preliminary Survey on Rural Road Impact Analysis on Local Communities. Rural Development Committee

Steering Committee for the Agricultural Census, Agricultural Census Office (2000) Lao Agricultural Census, 1998/1999

Sisouphanthong B, Taillard, C, (2000), Atlas of laos – Spatial Structure of the Economic and Social Development of the Lao People's Democratic Republic. Silkworm Books

Talbot, John M., (1997). Where Does Your Coffee Dollar Go?: The Division of Income and Surplus Along the Coffee Commodity Chain. *Studies in Comparative International Development*, Vol 32(1): 56-91.

Arresting Economic Development in the Lao PDR:
The Impact of Non-Tariff Barriers and Economic Rents imposed on the Cross-border Trade in Agricultural Commodities from the Lao PDR to Thailand by Border Officials

Krisada Pacharavanich, Titipol Phakdeewanich; Shane Tarr[*]

ABSTRACT

Farmers in the Lao PDR hoping to leverage access to cross-border markets in Thailand for a range of agricultural commodities they currently produce find that they are paid very low farm-gate prices. Traders and other intermediaries are forced into paying these very low farm-gate prices because of the exorbitant rent-seeking by customs officials on both sides of the border. Field investigations reveal that such practices are nearly half of the wholesale price paid. High volumes can offset these border rents but farmers in the Lao PDR have less incentive to produce for the export market when farm-gate prices are so low. The other way round this impasse is for traders to seek smuggling channels that bypass official border check-points but large quantities of agricultural commodities cannot enter Thailand via such channels. Such practices need not occur on quite the same scale given that Thailand in 2003 formally abolished tariffs on eight major agricultural commodities sourced from Lao PDR – and Cambodia and Myanmar – under its Economic Cooperation Strategy Plan of Action (ECPSA) as part of the broader ASEAN Free Trade Initiative – but the reality is quite different. This paper suggests why such practices continue and the deleterious impact on sustainable rural livelihoods in the Lao PDR and problems that agro-processors in Thailand are going to face in the future as a result. This paper suggests that it will be impossible to completely abolish economic rent-seeking practices on the border between Lao PDR and Thailand. Rather it argues that the enabling environment needs to be created to ensure existing economic rents are reduced to manageable levels. This will enable higher farm-gate process to be paid because there are higher margins at the necessary steps in the value chain thereby producing a "win-win" outcome for all stakeholders.

[*] For a copy of the full paper, contact Shane Tarr, Director, International Research Institute, Faculty of Management Science, Ubon Ratchathani University, <shanetarr@bus.ubu.ac.th>

Cross-Border Investment among Members of the Greater Mekong Sub-Region: Scope, Impact and Policies

Dr John Walsh,
Assistant Professor,
Shinawatra International University MBA Program,
16th Floor, Shinawatra Tower III,
Viphawadi Rangsit Road,Bangkok 10900, Thailand.
Tel: +66-2-949-2118 Fax: +66-2-949-2228
Email: jcwalsh@shinawatra.ac.th
Webpage: http://www.geocities.com/jcwalsh102
Weblog: http://www.jcwalsh.bravejournal.com
John Walsh, Shinawatra International University, May 2005

Keywords: crossborder investment; labour market development

Abstract

The mechanisms and processes of international business are comparatively well-established both in the case of two developed countries and also in terms of an economic unit from a developed country investing in a lesser developed country (LDC). However, the impact of formal cross-border economic investments between LDCs is not so well-known. Examples of cross-border investment from the Greater Mekong Sub-region (GMS) provide important evidence for understanding these processes and how to improve the distribution of their benefits. Vietnamese investment in Laos has been characterised variously as fraternal assistance as part of a special relationship or else as part of an attempt to create an economic as well as an ideological hegemony. Similar concerns have been voiced over Thai investment in Cambodia, for example, as the riots that rapidly broke out at the beginning of 2004 seemed to demonstrate a level of resentment directed at the Thai companies involved. Yet it appears clear that a substantial amount of the cross-border investment involved has promoted increases in the skills and competencies in local labour markets, as well as increasing local incomes. Using a variety of case study material, this paper will investigate the tensions between the positive and negative impacts (both real and perceived) that cross-border investments have stimulated. It is concluded that investment is broadly advantageous to host economies and policy implications are drawn from this.

Introduction

The prospects for greater economic and social integration in the Greater Mekong Sub-Region (GMSR)[1] frequently rest upon large-scale governmental and Non-Governmental Organisation (NGO) co-operation and interaction. These projects occasionally founder on issues such as lack of political will, technical capacity, physical and legal infrastructure or the unanticipated intervention of stakeholders who had not initially been involved in decision-making processes. By contrast, entrepreneurial private sector investment is planned to thrive even in the absence of all forms of official support or assistance, although failure is also common. In some cases, the absence of official support actually acts to stimulate private investment. However, it is more common for assistance to be sought from at least one

[1] GMSR is defined in this paper as the states of Thailand, Myanmar, Cambodia, Laos and Vietnam. Reference will not be made to the Yunnan Province of China in this paper, although it may properly be argued that it is an integral part of the region.

sponsoring organisation. For example, Vietnamese investment in Laos has been considerably enhanced by the official co-operation between the two governments, although there were low levels of investment in addition to that, much of it unofficial and informal in nature.

Private investment can benefit a host country in a number of ways. Firstly, it provides some employment and increased income for people employed by the investing firm or who act as its supplier. Secondly, it encourages better labour and business practices among the local firms and individuals – after all, if the investing firm did not have some form of advantage over local actors then it would not be in a position to invest there successfully. Thirdly, it generates various positive externalities that can provide benefit to the local economy. Externalities are effects that are not directly related to a decision taken by the investing form but are in some way stimulated by them. Examples include a boost in public expenditure on education or research and development (R&D) to help suppliers to provide inputs of the required quality to the investing firm. Despite these possible benefits, inward investment has attracted a poor reputation among many people because of the belief that investing firms are involved with extracting resources from the local economy and may be given unfair advantages which are not extended to local actors. When, as in the case of the GMSR, cross-border investment takes place in a volatile and mistrustful atmosphere, then private business can soon find itself a target for the resentful. Riots in Cambodia resulting from false rumours about inflammatory comments, for example, soon saw rioters burning down Thai-owned businesses. More recently, bombings in Rangoon were also in part aimed at a Thai trade fair, although it is not clear whether this was a deliberately selected target. This paper considers cross-border investment in the GMSR in the context of this volatile environment. A discussion of the motives and impact of foreign direct investment (FDI) will be followed by an analysis of the constraints inhibiting more investment. A case study of Vietnamese investment in Laos will be used to highlight some of the main points raised in previous sections. A conclusion discusses the policy implications of FDI and the stances that each government has adopted towards inward investment.

Overview of FDI in the GMSR

The leading investors in Vietnam are Japan, Taiwan and South Korea. Previous research has suggested the link between the size and number of investment projects in Vietnam and the originating country of the investing firm (Byun and Walsh, 1998). It is clear that psychic distance remains an important issue in terms of investing in Vietnam, as also is first mover advantage. Political issues have also been influential in this case, most noticeably with respect to the belated restoration of business connections with the USA (see Table 1).

Country	Cumulative Investment to December 31st, 2000 (US$000)	*Cumulative Investment to December 31st, 2002 (US$000)*
Japan	1,537,035	2,922,333
Taiwan	2,056,443	2,060,646
South Korea	462,421	1,502,999
China	41,529	1,228,811
Singapore	791,517	955,623
Hong Kong	611,960	933,289
Thailand	218,437	306,356
Malaysia	185,819	215,932
Laos	4,500	4,500
Cambodia	1362	80
Total	11538400	13788254

Table 1: *Cumulative Invested Capital of Selected Foreign Partners by Country and Region in Vietnam, 2000 and 2002;* **Source:** *General Statistics Office, 2004, pp.278-80.*

The investment figures for Cambodia are, as would be expected, much lower than those for Vietnam (see Table 2).

Countries	FDI contribution	FDI for Expansion projects
Malaysia	US$1,862,432,053	US$8,893,939
Taiwan	US$492,869,349	US$26,451,039
USA	US$434,201,401	0
China	US$267,064,156	US$9,641,653
Hong Kong	US$235,576,214	US$6,075,655

Table 2: *Leading Nations for Investment in Cambodia (accumulated amounts, 1994-2001);* **Source:** *Invest in Cambodia,* http://www.investincambodia.com/trends_in_fdi.htm.

A recent report by the International Monetary Fund notes that the peace accord and trade agreement with the USA in 1994 led to a surge in inwards FDI as investors saw opportunities in tourism development, especially concerning the Angkor Wat complex, as well as textile manufacture for export. The construction sector was also a significant magnet for investment since so much of the physical infrastructure had been damaged or destroyed by the years of war. A subsequent phase of investment was aimed at logging. However, the logging projects were of such scale and with such little regard for sustainable development of the environment that the government was prevailed upon by the aid giving community to draw up and implement a plan appropriately to regulate and control the logging industry (IMF, 2004).

However, the initial burst of enthusiasm subsequently declined owing to a combination of weak governance and rule of law, which contributes to a culture of bribery and corruption, together with high energy costs and the small size of the domestic market, which lowers the attractiveness of the business environment which the means the business infrastructure in terms of market research, advertising, legal services, high quality local inputs and similar resources (*ibid.*).

The investment figures for Laos demonstrate the importance of the Thai-Lao relationship and also highlight both the role of the USA there and the absence of a similar role in Vietnam. A large proportion of FDI in Laos is aimed at the infrastructure and research extraction sectors. A significant amount of the former sector is connected with the provision of international aid and development and this is increasingly used, worldwide, to privilege firms from the donor country.

Country	Number of Projects	Investment in US$
Thailand	261	2,934,039,988
USA	47	1,490,767,402
South Korea	35	634,040,507
Malaysia	21	292,448,547
China	73	87,294,982
United Kingdom	19	69,659,200
Taiwan	36	67,495,836
Vietnam	22	13,871,851
Cambodia	1	100,000
Myanmar	1	50,000
Laos' Share		1,283,019,699
Total	809	7,065,749,911

Table 3: *Investment in Laos Summary by Country (selected);*

Source: *Permanent Office of the Foreign Investment Committee, as of March 2000,* http://www.laoembassy.com/news/investment2000.html.

It is noticeable, as observed above, that the contribution from Laotian organisations is comparatively low, representing less than 20% of the total. With such a low proportion of the ownership, it is very difficult for Laotian employees and firms to gain access to managerial skills and to transfer needed technologies into the domestic economy. In the earlier example of Malaysia, inwards FDI was encouraged by Dr Mahathir Mohamed, especially from East Asian countries such as South Korea, in the hope that it would lead to the transfer of advanced technology to Malaysian firms entering into relationships with the investing firms and in the spirit of Asian unity. This plan foundered when it became clear that the Korean firms did not have any advanced technology to offer but were relying then on replicating production methods adapted from firms of other countries. In the case of Laos, much lower levels of technology would still be suitable for transfer, not least of which are standard managerial competencies and communication skills.

Foreign Investment in 2002 (US$m)	**49.2**
Foreign Investment in 2003 (US$m)	95.3
Leading Investors:	
UK	27.0
Thailand	22.0
Malaysia	18.2
Hong Kong	15.8
Singapore	6.1
Other	6.2

Table 4: *Foreign Investment in Myanmar, 2003 and 2004;*
Source: *Ministry of National Planning and Development figures, reported by Forbes (September 6th, 2004), at:* http://www.forbes.com/business/healthcare/feeds/ap/2004/09/06/ap1531080.html.

The investment figures for Myanmar demonstrate the continued importance of the former colonial power of Britain in the economy and also the role of neighbouring Thailand and Malaysia. China does not appear in this table, although there are many rumours that its role is much more important than is acknowledged, especially in terms of the military sector.

The British influence is both pervasive and structural in nature. At the time of colonisation, Burma had an essentially medieval economy with small cottage industries sufficient to provide basic local needs. The British instituted a laissez-faire free trade regime that caused growth in the local agricultural sector, in which there were comparative advantages to be obtained, while stunting the local industrial sector. Overseas firms were able to locate their activities in Burma and bring in labour from India, China and elsewhere (Chit So, 1999). The result was that the great majority of the benefits of this economic development was kept from Burmese hands and Burmese people were denied the opportunity to participate in advanced economic activities. Indeed, certain ethnic minorities such as the Karen were privileged as part of the divide and rule system and also in part because American missionaries had converted large numbers of Karens to Christianity.[1] Subsequently, the entrepreneurial abilities and ambitions of most of the Burmese people have been stifled by unsympathetic government and government ownership has dominated the industrial sector. These factors reduce the attractiveness of the Burmese economy for foreing investment.

[1] This 'betrayal,' as well as that of fighting on the side of the British in WWII has meant that the Karens have been subject to repeated forms of suppression and abuse under the current regime.

Inwards FDI figures for Thailand demonstrate that it has a much more developed economy than that of the other GMSR countries. This is in terms of both the scale of the investment, which is much larger than that of the other countries (83,036 million baht is approximately 2 billion dollars, for example) and also in scope, since the majority is contributed by the world's leading economies rather than by neighbours with lower psychic distance and transaction costs.

(unit: million baht)	2002	2003	2004
Total Investment	203,720	74,552	83,036
Total Foreign Investment	145,920	50,778	49,786
100% Foreign Investment	87,417	9,923	13,880
Japan	54,786	31,774	22,144
Taiwan	9,514	9,634	2,659
Hong Kong	4,236	574	975
Korea	1,466	219	100
Singapore	11,276	3,924	1,794
PRC	55	5	1,212
Malaysia	2,187	3,292	1,219
USA	26.977	2.389	1,964
European Union	43,817	10,337	8,894

Table 5: *Start-Up Foreign Investment Projects in Thailand, 2002-4;* **source:** *Board of Investment (BOI) figures, downloaded from:* http://boi.go.th/english/download/statistics_foreign_investment/28/FDIINV04.pdf

The prospects for overall FDI in Thailand are mixed with opinions varying from the optimistic to the pessimistic, depending in part on underlying assumptions concerning oil prices and the world economy (Chatrudee, 2004). This too helps demonstrate the degree to which the Thai economy has become integrated into the global economy rather than the local one.

Investment from External Sources

It has been observed that trade links many states with many other states while investment links few states with many states. That is, investment flows from a small number of developed states into a much larger number of developed and less developed states. This situation is changing now as, increasingly, lesser developed states are able to make overseas investments of their own. Reasons why this is happening include the improvements to information technology that enable international business to be conducted much more conveniently before, hugely increased access to relevant and timely information, increase in the number of cross-border agreements reducing barriers to investment and the decrease in psychic distance, partly caused by the preceding reasons.

Psychic distance attempts to measure the conceptual distance between people in different countries. Cultural similarities, information and governmental systems all contribute to this conceptual distance and the means to abridge it. Countries such as the USA, which seems to be well-known and understandable because of the way that films, television programmes and other cultural institutions and media creations, are closer to people than countries which are comparatively secretive and remote. This indicates that psychic distance can differ according to which it is considered: many Thais, for example, feel they know the USA well enough to do business there while much fewer Americans would feel the same way about Thailand. Psychic distance has generally narrowed over recent years as a result of the combination of increased international travel and migration and, consequently, the ability of businesspeople to acquire and sustain relationships with important contacts overseas.

For a combination of all of these reasons, it is apparent that it is increasingly less onerous for firms in developing countries to establish investment projects overseas, albeit necessarily at a low level on most occasions.

Motivations for Cross-Border Investment

There are, in essence, two principal motivations for undertaking cross-border investment. The first is to gain access to a new market. The second is to gain access to new resources, including labour, raw materials or enhanced capital flows through tax holidays or incentives to locate activities in the overseas country. Since markets in the GMSR are comparatively small, cross-border investment designed to take advantage of them will also generally be small scale in nature. Manufacturers of consumer goods, for example, will normally find it more efficient to continue to manufacture in existing facilities and export the goods overseas. However, as previous research has shown (Reid, Walsh and Yamona, 2002), this practice can be problematic when parallel or grey importing take place, as it has been shown to occur in Myanmar, for example. Faced with such loss of income, firms might decide to place an overseas agent or office to control better the sale of their goods. This would be a form of cross-border investment but one which is comparatively easy to change in terms of location or intensity. Cross-border investment, especially but not universally at the lower levels of investment value, can be very fluid in nature and the level of commitment may vary in response to environmental change or be proactive in predicting it. This is a different situation from those people who are permanently resident overseas and whose ability to be flexible in connection with their livelihood is necessarily limited.

The role of government in encouraging the positive aspects of FDI and mitigating the negative effects remains a controversial one. Some, arguing from a laissez-faire microeconomics point of view, believe that government should do as little as possible to change economic conditions other than to remove regulations and to lower taxes. Others, more rooted in the real world, observe that significant government investment is required to create a legal, physical and business infrastructure and that this has had considerable success in promoting and sustaining FDI. While it is not always a sufficient condition for success, government intervention is certainly a necessary condition, as the extreme case of the Sinuiju development zone in North Korea demonstrates (French, 2005).

Determining what form that government intervention should take can be a complicated affair, although the transfer of effective solutions internationally has enabled a more useful consensus to be formed. Dunning (1997) has summarised the situation in this way:

> *"... create and effectively communicate to their constituents a distinctive and challenging economic vision .... Ensure that the institutions responsible for translating that vision into reality are both willing and able to adjust to the changes required of them by a learning and innovation-driven economy ... ensure that the availability, quality and cost effectiveness of general purpose inputs match up to the standards of their global competitors ... create and sustain an institutional framework and ethos that facilitates a continuous upgrading of the resources and capabilities within its jurisdiction ... do everything to encourage and nothing to impede the formation of micro-regional cluster development." (Dunning, 1997, pp.114-31).*

Many of these policy prescriptions appear somewhat different in the less advanced business environment of the GMSR. There is little, for example, in the way of innovation to be obtained from investment in Laos or Cambodia, apart from developing new uses for unique bio-agricultural resources to be found in those countries. Further, the degree of education required to bring potential employees up to the required level to become valuable employees is comparatively very basic compared to what would be required in the more developed world (see, for example, Table 6).

	Males		Females	
Level of Education	No. of Persons	%age	No. of Persons	%age
No formal education	2,427	2.7	10,876	11.0
No extra qualification	55,570	60.8	66,638	67.4
Lower vocational	10,013	11.0	9,420	9.5
Middle vocational	12,747	14.0	6,427	6.5
Higher vocational	5,961	6.5	2,137	2.2
College, university	1,757	1.9	581	0.6
Other	240	0.3	74	0.1
Not stated	2,652	2.9	2,712	2.7
Total	91,367	100.0	98,865	100.0

Table 6: *Urban Population by Professional and Technical Education and Gender, 1994;* **source:** *1994 ULFS (Urban Labour Force Survey) data in Asian Development Bank (1996), p.52.*

Quite to what extent these various investments will benefit the hosting economy rather than the localising firms is also a complicated issue to resolve.

Case Study: Vietnamese Investment in Laos

On August 28th, 2004, the President of Laos, Khamtay Siphandone, praised the close co-operation between his country and neighbouring Vietnam, citing the traditional friendship, special solidarity and comprehensive co-operation between the two (VNA, August 28th, 2004). This co-operation has involved the creation of a substantial number of jointly funded and built projects that are mostly aimed to improve the infrastructure of Laos. Many Lao students have also been awarded scholarships to study in Vietnam. These and other initiatives have had the effect of increasing the influence of Vietnamese institutions over Lao society. This process is viewed by some as a deliberate attempt to subordinate Laotian interests to Vietnamese interests. However, this view has been strongly contested. By examining the nature and extent of joint co-operative efforts, it should be possible to shed some light on the degree to which this contested view is justified.

The American War in Vietnam had many effects, some unintended and some unwanted. One of these was the creation of a socialist state in Laos which was then fraternally joined with the socialist state of Vietnam. This brought about a wholly new phase in the relations between the two states, which have historically been estranged and often unfriendly, despite the often intensive interactions between people from the two nations. Now, the future seems to hold a new era of Lao-Vietnamese co-operation that is causing many people to believe that the influence that will be wielded over Laos by Vietnam is unwelcome or, even, hegemonic.

Vietnam occupies the long coastal strip that joins southern China, close to Hainan island, all the way to the Mekong delta, in the extreme south of mainland Southeast Asia. It is a narrow strip of land with mountain ranges, the Annamite cordillera, dividing it from the interior of the continent. Although Vietnam is composed of a wide variety of different ethnic groups, they have been united over the course of centuries in both the resistance to Chinese domination and acceptance of Chinese cultural practices and institutions. By contrast, Laos, to the west, occupies a landlocked region of mostly thickly forested mountains over which some four and a half million people are rather sparsely spread. Laos too contains a wide variety of ethnic minorities and only about 60% are members of the Tai family of peoples of which Laos are the main component. Historically, the Chinese had little interest in penetrating this interior region and kings and princes in the various city-states that have been established in Laos have been mostly concerned with the Khmers to the south and the other Tai princes to the west and the north.

Consequently, relations between Laos and Vietnam were rarely of crucial importance, although they had their fair share of the warfare that has been endemic to mainland Southeast Asia throughout all of known history. Vietnamese mandarins tended to follow the belief that the kingdom of Vientiane and its administrative units came under Vietnamese rule and that formal treaties were based on secure border institutions. However, it is wise to be cautious about attributing too much formality to these relations. In general, most of the important activities in Laos are concentrated towards the Mekong river border to the west (Jerndal and Rigg, 1999).

The main transport and communications links in mainland Southeast Asia are arranged east to west rather than north to south (although rivers flow that way) and the main connections between Vietnam and Laos historically have been caravan routes following that pattern. These caravan trails not only join major destinations in Laos such as Vientiane and Louang Phrabang but also smaller centres such as Savannakhet, close to the route between Hue and Khon Kaen in Thailand, Pakse on the route to Nakhon Ratchasima, also in Thailand and Xamneua where the trails to Vientiane and Louang Phrabang meet (Bounthavy and Taillard, 2000, p.153).

Although the Tai are in a minority in Vietnam, there are nevertheless significant communities of Sipsongchutai, as they are called and they are to some extent integrated into the wider Vietnamese society (Pattiya, 2002).

Foreign Direct Investment (FDI) is the process whereby economic units in one country make investments in land, plant or personnel in another country. It is an alternative (or supplementary to) entry modes such as exporting and alliance creation (such as licensing and franchising). The decision to undertake FDI compared to any other business activity depends upon various factors, including the ability and desire to enforce control over the cross-border economic activities and the legal regime in the host country which may or may not permit ownership of land by foreign people or the repatriation of profits. Hosting FDI provides the opportunity for both positive and negative impacts for the local economy. It commonly improves the local employment situation and helps in the upgrading of the skills of the local labour market (and the national labour market when workers migrate internally to take up employment opportunities), as well as possibly helping improve local supply chain capacity and quality. However, there are occasions on which the investing firm intends to compete in terms of low-wage and low-skilled labour and in these cases the benefits of the investment nearly are almost entirely redirected overseas. Indeed, the incentives that the hosting government may have provided to encourage the inward FDI may have been wasted in this case, as the anticipated improvements to the local economy do not accrue.

During the American War in Vietnam, the presence of around 75,000 members of a North Vietnamese 'secret army' enabled the Pathet Lao to secure control of the country, which was then re-established as the Lao Peoples' Democratic Republic, in the same process that also happened in Cambodia. This process necessitated a fair amount of re-education and political education and Laos was ill-prepared to cope with this, given its low level of population and the poverty of the educational sector and the economy generally. Gradually, Vietnamese were brought in to hold crucial positions and to train Laotians, both in Laos and Vietnam and, consequently, their influence on the political and cultural life of Laos grew. This was often manifested in unexpected but still important ways (Evans, 1999). Many Laotians apparently felt that this level of influence became excessive – 'apparently' because suppression of free speech makes it difficult to know exactly what the people of the country really think. Nevertheless, it would not be very difficult to believe that a people with such a long history would resent the overshadowing of its self-determined future by the protective wing of the older brother. It also poses an ideological issue since the self-determination of the Lao peoples, supposedly provided by the socialist system, is precluded by the Vietnamese hand.

By the end of the war, Laos had effectively been divided into three zones, although these were unofficial and porous in nature. The area around Vientiane, where most refugees had gathered, was the most well-off part of the country, the provinces in the south were most affected by war and bombing

and the provinces in the north which had become part of a free or liberated area. The new Pathet Lao government was obliged to unite the country under one rule while addressing the urgent need to feed the population. The new ideology required that this be achieved primarily through internal means. This was particularly difficult to achieve for a small population denuded by the exodus of the majority of its intelligentsia and their subsequent replacement by northern region peasant-soldiers.

The Lao-Vietnamese relationship was explicitly one of client-patron, which is apparent from analysis of Lao support for all Vietnamese diplomatic pronouncements (Stuart-Fox, 1996, p.143). The relationship was of benefit to both countries, not least because it stabilized Vietnam's lengthy and potentially vulnerable western border.

As a result, the current spate of new development projects that seem to herald a new era of even more economic co-operation between the two countries are also considered by some to be further evidence of Vietnamese influence. An example is the road bridge connecting Xiengkhoang province in northern Laos with the Vietnamese province of Nghe An, together with the planned construction of a two-storey immigration and customs building, at a total cost of around USD5 million (VNA, April 4th, 2005). Is this evidence of Vietnamese power or simply one neighbour helping another with an area of infrastructure that will benefit both of them? An additional co-operative project is the relationship between Noi Bai airport in Vietnam and Wattay airport in Vientiane. This relationship has included technical advice and assistance in operations and security issues and is projected to be expanded in scope until 2010 (VNA, March 30th, 2005).

Policy Stances towards Inward FDI by GMSR Governments

All of the governments of the GMSR have explicitly instituted policy regimes to encourage inward FDI as well as economic reform of various sorts. From Vietnam's *doi moi* campaign to the less explicable pronunciations of Myanmar's State Peace and Development Council, laws are in place to regulate such investment. This does not mean, of course, that laws are always policed and adjudicated swiftly and transparently. However, the regulations and agreements instituted by the Association of South East Asian Nations (ASEAN), as well as various bilateral and multilateral trade agreements entered into by the governments, mean that experience and capacity have been added to enable better decisions to be made and administration to be organised.

In the case of Laos, the government of the Lao People's Democratic Republic followed socialist policies of economic and social development from its rise to power in 1976 until the mid-1980s. At this point, it began to enact more market-friendly measures under the overall policy of the New Economic Mechanism (NEM). The NEM included measures aimed at macroeconomic stabilization, structural adjustment and liberalisation. Legal and administrative reforms have been enacted with a view to facilitating FDI. The 1988 Law on Foreign Investment was supplemented by the 1994 Law on the Promotion and Management of Foreign Investment. This provided for the country one of the most liberal regimes of the region, with few sectors reserved for Laotian organisations. Joint ventures with overseas firms are now encouraged although, initially, State Owned Enterprises (SOEs) were reluctant to join such agreements (EAAU, 1997, p.243). The first articles of the Law demonstrate its scope and intent:

> "Article 1: The Government of the Lao people's Democratic Republic encourages foreign persons, either individuals or legal entities, to invest capital in the Lao People's Democratic Republic (hereinafter "the Lao PDR") on the basis of mutual benefit and observance of the laws and regulations of the Lao PDR. Such persons hereinafter shall be referred to as "foreign investors".
>
> Article 2: Foreign investors may invest in and operate enterprises in all fields of lawful economic activity such as agriculture and forestry, manufacturing, energy, mineral extraction, handicrafts, communications and transport, construction, tourism, trade, services and others.

Foreign investors may not invest in or operate enterprises which are detrimental to national security, the natural environment, public health or the national culture, or which violate the laws and regulations of the Lao PDR.

Article 3: The property and investments in the Lao. PDR of Foreign investors shall be fully protected by the laws and regulations of the Lao PDR. Such property and investments may not be requisitioned, confiscated or nationalized except for a public purpose and upon payment of prompt, adequate and effective compensation (Presidential Decree No.23, 1994)."

The very small size of the domestic market in Laos has proved to be a negative impact

Volatile Environments

Relations between the people of the GMSR are generally volatile, suffering from rapid and dramatic changes of mood and intensity. Volatility is intensified by general lack of knowledge about people from other countries and the low levels of education that facilitate intolerance. Few cultural artifacts such as cinema films, songs or television programs manage to cross borders, although this varies in border areas, while people rarely learn each other's languages. A research project investigating the perception of Laotian people towards Thais and Thailand, for example, showed that 53% felt Thailand was a friend more than a foe and only 23% that it was a good friend. A majority of people concluded that Thais were wont to look down upon Lao people (Khien and Adisorn, 2002). Meanwhile, Thais felt that migrants in Thailand, primarily from Myanmar and Laos, should be paid less for the same work than Thai workers. On average, migrant workers should receive 125 baht per day (close to the national minimum regional daily rate) and Thais 163 baht per day (ARCM, 2000).

In the last few years, riots and looting have broken out in Cambodia and Laos, criticising as a result of false rumours the actions of Thai people said to have traduced the local people in one way or another. A recent spate of bombing in Rangoon, the capital city of Myanmar, was darkly attributed to Thai involvement. Low-level border clashes continue on a more or less daily basis but go unreported away from the immediate areas. These events can flare up with considerable speed and die down just as quickly but damage can be lasting and certainly reduced confidence, which is a critical determinant of the level of investment.

Future Prospects and Conclusion

For FDI to continue to grow, then there is a definite need to improve the physical, legal and business infrastructure within the host economies. This can only be achieved with additional resources and, therefore, suggests that additional sources of funds will be required. Whether these may be generated internally or imported in one form or another remains to be seen. There is certainly a need to improve the quality of the labour market in each country.

Investment among countries within the GMSR is increasing but from a low base and at a slow pace. Firms within Laos and Cambodia, in particular, lack the organisational ability, resources and competencies necessary to plan and execute cross-border investment. They also lack a competitive advantage that would provide a rational basis for considering such an investment. The same situation is true of Vietnamese business which has yet to develop products or services that can be competitive at the international level. The competitive advantages to be obtained from products such as Vietnamese food and café culture have to date been obtained by overseas firms which have managed to learn the relevant technologies and exported them without the benefits flowing back to Vietnam in large amounts. The Pho Hoa international restaurant and franchise chain, for example, was started in San Jose in the USA in 1983 (Pho Hoa Corp., 2005, downloaded from: (http://www.phohoa.com/company.html). This issue will intensify as the rush by some international private sector organisations to patent as intellectual property the natural resources of Southeast Asian nations, including various forms of plant and vegetable products. The rush to enforce more stringent intellectual property as part of free trade agreements with the USA in particular must be handled with

great care and skill and, preferably on a multilateral basis, to ensure that this does not become too great a burden. ASEAN itself will need to increase its technical capacity to deal with these issues.

Inter-GMSR investment differs from inwards FDI from the more developed countries in terms of both scale and also scope. At the moment, the inter-regional investment offers better opportunities for transferring competencies and skills to the local economies but this is largely because of the comparatively low technical levels by which both host and originator operate. For state to restrict themselves to this level of business would mean they would be condemned to less advanced standards than their competitors and, indeed, to fall further behind.

References

Asian Development Bank, Labour Market Issues: Lao People's Democratic Republic (ADB, 1996).

Asian Research Centre for Migration, Shortage of Labourers in Thailand in 2000 (Bangkok: Institute of Asian Studies, Chulalongkorn University, 2000).

Bounthavy Sisouphanthong and Christian Taillard, Atlas of Laos: Spatial Structures of the Economic and Social Development of the Lao People's Democratic Republic (Copenhagen and Chiang Mai: Nordic Institute of Asian Studies and Silkworm Books, 2000).

Byun, Hyun-Young and John Walsh, "Strategic Investment Policy in South-East Asia: Korean Firms in Vietnam," *Pacific Focus*, Vol.13, No.1 (Spring, 1998), pp.99-124.

Chatrudee Theparat, "Riding the Global Upward Trend," *Bangkok Post 2004 Year-End Economic Review* (December, 2004), p.16.

Chit So, "Industrial Development and Reforms in Myanmar," in Minoru Kiryu, ed., Industrial Development and Reforms in Myanmar: ASEAN and Japanese Perspectives (Bangkok: White Lotus Press and the Sasakawa Peace Foudation), pp.123-56.

Dunning, John H., "A Business Analytic Approach to Governments and Globalization," in John H. Dunning, ed., Governments, Globalization, and International Business (Oxford: Oxford University Press, 1997), pp.114-31.

East Asia Analytical Unit (EAAU), The New ASEANs: Vietnam, Burma, Cambodia and Laos (Barton: Department of Foreign Affairs and Trade, 1997).

Evans, Grant, The Politics of Ritual and Remembrance: Laos since 1975 (Chiang Mai: Silkworm Books, 1998).

Evans, Grant, "Apprentice Ethnographers: Vietnam and the Study of Lao Minorities," in Grant Evans, ed., Laos: Culture and Society (Chiang Mai: Silkworm Books, 1999), pp.161-90.

French, Paul, North Korea: The Paranoid Peninsula (London and New York: Zed Books, 2005).

General Statistics Office, The Real Situation of Enterprises through the Results of Surveys Conducted in 2001, 2002, 2003 (Hanoi: Statistics Publishing House, 2004).

Gunn, Geoffrey C., Theravadins, Colonialists and Commissars in Laos (Bangkok: Wite Lotus Co. Ltd., 1998).

International Monetary Fund (IMF), Cambodia: Selected Issues, IMF Country Report No.04/331 (October, 2004), downloaded from: http://www.imf.org/external/pubs/ft/scr/2004/cr04331.pdf.

Jerndal, Randi and Jonathan Rigg, "From Buffer State to Crossroads State: Spaces of Human Activity and Integration in the Lao PDR," in Evans, ed. (1999), *op.cit.*, pp.35-60.

Khien Theeravit and Adisorn Semyaem, Thai-Laos Relations in Laotian Perspective (Bangkok: The Institute of Asian Studies, Chulalongkorn University and The Thailand Research Fund), translated by Soravis Jayanama.

Luther, Hans U., Socialism in a Subsistence Economy: The Laotian Way: An Analysis of Development Patterns in Laos after 1975 (Bangkok: Chulalongkorn University Social Research Institute, 1983).

Pattiya Jimreivat, "Culture and Tradition of the Tai People in Sipsongchutai: Maintenance, Revitalization and Integration into the Present Vietnamese Society," in Hayashi Yukio and

Aroonrut Wichienkoo, eds., Inter-Ethnic Relations in the Making of Mainland Southeast Asia and Southwestern China (Bangkok: Amarin Publishing, 2002), pp.147-65.

Presidential Decree No.23 of the Government of the Lao People's Democratic Republic, "Law on the Promotion and Management of Foreign Investment in the Lao People's Democratic Republic (April 21st, 1994), downloaded from: http://www.laoembassy.com/news/download/llna940314.html.

Reid, David McHardy, John Walsh & Ma Yamona, "Quasi-Legal Commerce in Southeast Asia: Evidence from Myanmar," *Thunderbird International Business Review*, Vol.43, No.2 (March-April, 2001), pp.201-23.

Stuart-Fox, Martin, Buddhist Kingdom, Marxist State, Studies in Asian History No.2 (Bangkok: White Lotus Co.Ltd, 1996).

Tran Van Quy, "The Quy Hop Archive: Vietnamese-Lao Relations Reflected in Border-Post Documents Dating from 1619-1880, in Mayoury Ngaosrivathana and Kennon Breazale, Breaking New Ground in Lao History: Essays on the Seventh to Twentieth Centuries (Chiang Mai: Silkworm Books, 2002), pp.239-59.

Vietnamese News Agency, "Lao President Hails Lao-Viet Nam Co-operation" (August 28th, 2004), downloaded from: http://www.vnagency.com.vn/NewsA.asp?LANGUAGE_ID=2&CATEGORY_ID=29&NEWS_ID=115652.

Vietnamese News Agency, "Laos Opens Vietnamese-Funded Bridge to Traffic" (April 4th, 2005), downloaded from: http://www.vnagency.com.vn/NewsA.asp?LANGUAGE_ID=2&CATEGORY_ID=33&NEWS_ID=145459.

Vietnamese News Agency, "Vietnamese, Lao Airports' Co-operation" (March 30th, 2005), downloaded from:http://www.vnagency.com.vn/newsA.asp?LANGUAGE_ID=2&CATEGORY_ID=29&NEWS_ID=144815.

I am greatly indebted to Denis Johnson and his work for the archive-laonews internet newsgroup.

Stakeholders' Perspective on Logistics in the Greater Mekong Sub-region

Ruth Banomyong*,
Ritthironk Nipawis,
Paitoon Varadejsatitwong,
Vouravis Veerakachen**,

Thammasat Business School
Thammasat University, Thailand

ABSTRACT

The developing economies of the Greater Mekong Sub-region (GMS)[1] have shown that they have become increasingly linked into the global economy through trade, investment credit, and technology. Adequate transport and communication facilities play a vital role in their economic recovery and development. In recognition of the benefits of this regional integration, the countries of the GMS are co-operating to implement a number of initiatives to reduce physical and non-physical barriers to trade and transport.

This study seeks to obtain the perspective and perception of key stakeholders on critical logistics issues as well as their views on the ways and means to address the issues. This study also intends to link the formal institutional environment with the individual stakeholder perspective and perception of critical issues and by that identify critical points related to logistic solutions in a cross-border environment. This study utilizes a participatory approach, developed by UN-ESCAP[2], which is known as the anthology methodology. The results show a clear discrepancy in terms of perceived benefit between relevant stakeholders.

1. INTRODUCTION

The developing economies of the Greater Mekong Sub-region (GMS) have shown that they have become increasingly linked into the global economy through trade, investment credit, and technology. Adequate transport and communication facilities play a vital role in their economic recovery and development. In recognition of the benefits of this regional integration, the countries of the GMS are co-operating to implement a number of initiatives to reduce physical and non-physical barriers to trade and transport.

Trade and investment initiatives require closer co-ordination of transport and communication infrastructure, which implies the removal of barriers so as to facilitate movement. An interconnected infrastructure network will accelerate trade and introduce efficient transport and communication facilities across the GMS. This will reduce trade transaction cost in the GMS. The flow of goods information and services within and cross borders must be ensured in the most effective way. Bottlenecks in small segments could lead to congestion, late delivery, increase in costs and ultimately loss of future contracts. Transport in the GMS must be considered as a critical sector to enhance regional economic growth and integration. As an economic sector, transport (i.e., by improving

* banomyong@thammasat.net; ** vouravis_v@ucom.co.th

[1] Cambodia, Lao PDR, Myanmar, Thailand, Vietnam & China (Yunnan province)
[2] United Nations-Economic & Social Commission for Asia and the Pacific (UN-ESCAP)

efficiency and reducing costs) is an essential contributory ingredient to international competitiveness. "An integrated transport system is a prerequisite for the competitiveness for goods"[1].

A number of initiatives have included the first Thai-Lao Friendship Bridge and the rehabilitation of roads in member countries of the GMS. There are also a number of other initiatives underway such as: the development of the East-West Economic Corridor (EWEC), which is being developed to create a direct land route from Danang in Vietnam to Mawlamyine in Myanmar (which include a second Thai-Lao bridge linking Mukdahan and Savannakhet); and the construction of a road through the northern provinces of Lao People's Democratic Republic, which will provide a direct land route from Kunming in China to Bangkok in Thailand.

In the area of trade and transport facilitation, countries of the sub-region have developed a GMS Cross-Border Transport Agreement. They are currently negotiating the 20 annexes and protocols to the Agreement; this process is expected to be complete in 2005. In addition to these initiatives, there is a need to develop efficient logistics systems in the sub-region in order to increase its competitiveness when accessing regional and global markets.

In recognition of the importance of such logistics systems, the Third Ministerial Meeting on the ASEAN-Mekong Basin Development Cooperation (AMBDC) held during 8-9 October 2001 in Chiangrai province (Thailand) considered a number of issues related to the whole cross-border trade chain, including public markets, export promotion institutions, bonded warehouses, border warehouses and the location of border warehouses.

As a follow-up to the Ministerial Meeting, the Ministry of Commerce in Thailand organized a workshop where UNESCAP presented an outline for a study that addressed logistics issues in the sub-region. Of particular importance in this study is the consideration of how to move towards a "borderless" GMS and the identification of how increased economic and regional integration would influence the logistic systems in the sub-region.

2. PURPOSE OF THE STUDY

The objective of this study is to find ways on how to improve the sub-region's competitiveness through improved logistics planning and development. In return, this increase in competitiveness will reduce poverty and improve the overall quality of life for the people in the Sub-region. Comprehensive logistical systems, which are efficient, reliable and cost effective, are currently in the developmental stage throughout most of the Sub-region and there is a demand for a study based on the stakeholders perceptions' on cross border trade and logistics system.

This study seeks to obtain the perspective and perception of key stakeholders on critical logistics issues as well as their views on the ways and means to address the issues. The specific output of the study is described hereunder:

Stakeholder analysis of cross border logistics systems in the GMS

This part of the study intends to link the formal institutional environment with the individual stakeholder perspective and perception of critical issues and by that identify critical points related to logistic solutions in a cross-border environment. In this study a participatory approach, known as the "anthology methodology", was used. This methodology was developed by UN-ESCAP and its purpose has been to examine:

A. Stakeholders' perspectives and perceptions of critical issues and by that identification of critical points related to logistic solutions in a cross-border and transit environment with special emphasis on the function, demand, and location of distribution centres, warehouses

[1] Integrated Implementation Programme for the ASEAN Plan of Action in Transport and Communications (1997).

and/or inland clearance depots. The context of the study is the existing and future environment concerning cross-border and transit activity in GMS countries with special focus on Cambodia, Lao People's Democratic Republic and Thailand. The following groups of respondents were identified for this study.

- Policy makers/Government officials (regulators/enforcers);
- Shippers/Consignees/Traders (intermediary service, linking producer with market);
- Transport service providers; and
- Industrial and agricultural sector.

Relevant stakeholders of the above groups were interviewed at the following border crossing locations:

- Chiang Kong-Houayxay (Thailand/Lao People 's Democratic Republic)
- Chiang Saen (port on the Mekong)
- Mae Sai-Tachilek (Thailand/Myanmar)
- Aranyaprathet-Poipet (Thailand/Cambodia)
- Nongkhai-Vientiane (Thailand/Lao People 's Democratic Republic)
- Mukdahan-Sawannakhet (Thailand/Lao People 's Democratic Republic)

B. These stakeholders were asked questions related to:

- Identification of the principal problems, constraints and their causes related to border trade and transit trade when applicable.
- Identification of possible strategies to address the said problems and making proposals on possible actions to implement solution strategies in order to reduce constraints within the system.
- Possibility of establishing public border warehouses to facilitate cross border trade in the GMS.

The presentation of this report will be separated into two main sections. The first section will present an overview of the general situation, issues and responses provided by the stakeholders. This section is divided into three parts: (1) the identification of principal problems and their causes related to border trade; (2) The identification of possible strategies and how to implement them in order to address the said problems; and (3) the possibility of establishing public border warehouses to facilitate cross border trade. The second section will present more detailed analysis of stakeholders' statements for each of the areas visited as well as statements from central agencies.

3. GENERAL FINDINGS

Table 1, hereunder is providing details of the respondents by their group and survey location.

Table 1: respondents' details

Location	Policy	Service Providers	Traders	TOTAL
Aranyaprathet-Poipet	4	4	7	**15**
Mukdahan-Sawanakhet	4	2	8	**14**
Nongkhai-Vientiane	4	3	5	**12**
Maesai-Thachilek	2	-	8	**10**
Chiangsaen	1	5	13	**19**
Chiangkhong-Houey Xay	1	6	14	**17**

Location	Policy	Service Providers	Traders	TOTAL
Central	8	-	-	8
TOTAL	24	16	55	95

In total, 95 stakeholders were interviewed during November and December 2003 and early January 2004 in the pre-selected provinces and border points. The study team delivered the interview protocols to all stakeholders. Stakeholders' responses and viewpoints are summarized, presented and discussed here below.

I. Identification of principal problems and their causes related to border trade

A number of problems related to border trade were identified during the interviews with key stakeholders in all the provinces visited as well as with central agencies in Bangkok. One of the key themes that arose during the interviews with all stakeholders was a lack of clear understanding in terms of rules and procedures related to border trade and how border trade differed from international trade. This lack of understanding both at the provincial and national level has created a "gap" in terms of understanding the realities of border trade between GMS countries. One respondent even stated very clearly: "border trade is not transit trade!"

It was noticed during the field survey that many border trade rules were considered cumbersome for local exporters and importers, in particular small-scale traders who did not appreciate the bureaucracy involved. They felt that the system was not suitable for micro and small businesses. The perception of outdated and complicated import/export rules and regulations in the GMS countries is prevalent among the key stakeholders but the question remains whether outdated rules are better than no rules at all. GMS countries own trade policies must first be clearly defined, in particular those related to border trade, as there is no harmonization yet of border trade policies within the GMS. This is an area where substantive coordination and cooperation is critical.

Complicated and incoherent import/export and transit tax system has been identified as a principal problem for border trade. This is particularly true when the points of views of all traders are taken into account. It seems that tax rate within the study area are highly arbitrary, depending on the officer in charge of the import/export process or the bilateral situation between the two trading countries. This is clearly the case when border trade between Thailand and Lao People's Democratic Republic is explored. The stakeholders' general feeling is that there are no standardized procedures and no standardized tariffs for border trade. However, a nationality bias has been observed where the blame has mostly been directed to the other trading partner country. It is possible that this complicated tax system is one of the causes for the proliferation of contraband or smuggled goods, as the borders between countries in the GMS sub-region are long and highly permeable. Some respondents were bold enough to suggest that this incoherent import/export and tax system favours corrupt practices.

There is also a perception that there is no recognized standard in terms of how to conduct border trade. Stakeholders consider that border trade is different than from traditional international trade. This creates numerous problems for the traders, as for each border trade transaction they feel that the rules are continually changing. This is also reflected in the sentiment that traders and service providers do not have enough knowledge on how to conduct border trade properly. This problem really relates to the fact that there is no harmonization of border trade practices, be it in terms of business transactions or cross border procedures. Clear border trade policies or harmonized border trade legislation could help provide a framework on how to conduct border trade within the GMS.

An interesting issue is that there is a persistent feeling of mistrust between Burmese, Laotian and Cambodian traders and the Thai traders. From the interviews, certain stakeholders were quite vocal in their mistrust of Thai traders. They felt that Thai traders usually take some advantage during border trade transactions. This may or may not be relevant to the fact that certain types of Thai products are currently being boycotted in Myanmar, Lao People's Democratic Republic and Cambodia. It is of

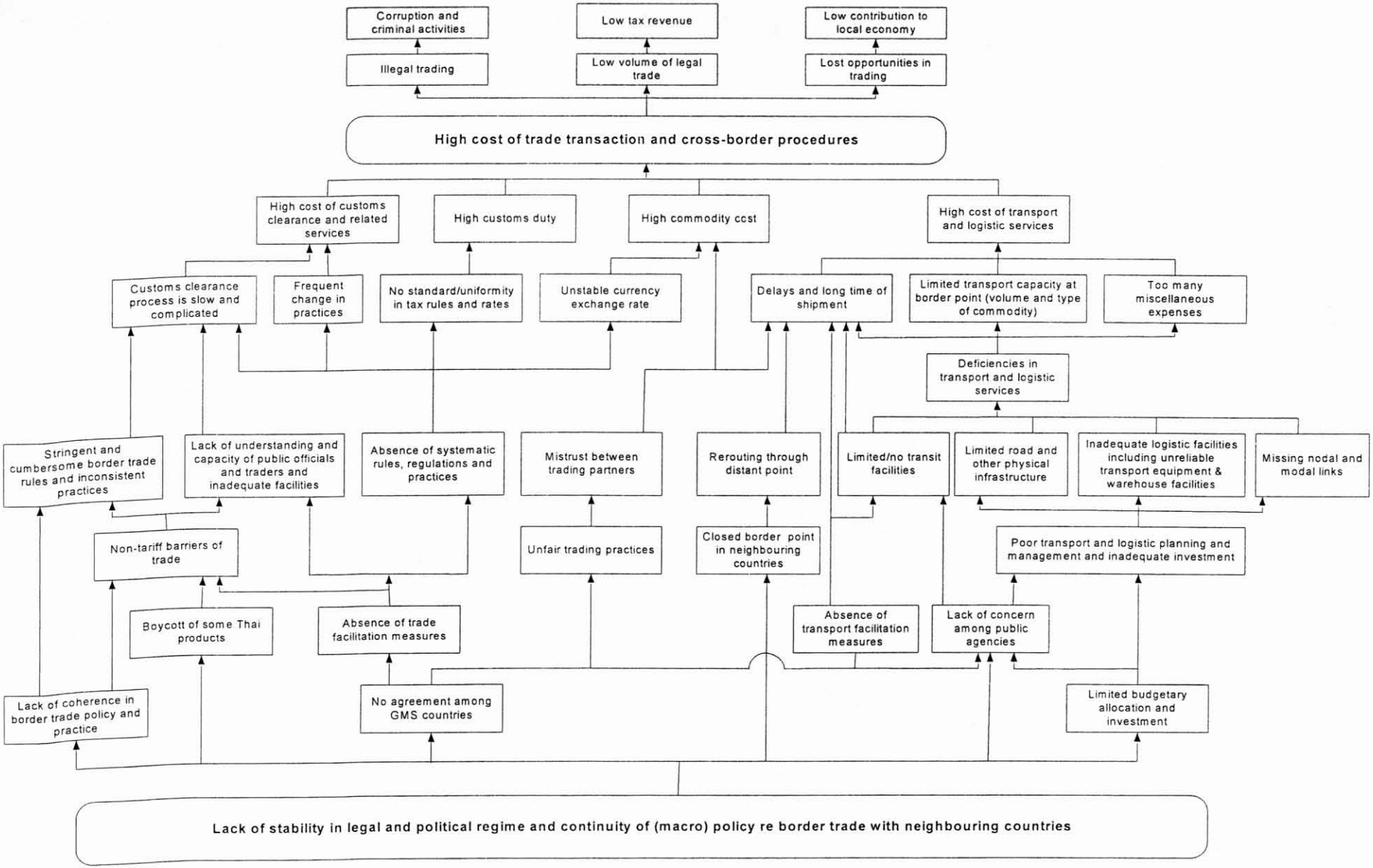
course important to discern that not all of the Thai traders are unworthy of trust but it is possible that many of these Burmese, Lao and Cambodian traders have had bad experiences with Thai border traders.

Fluctuation in currency exchange rate is considered as another major problem. The Thai baht is a freely convertible currency but there are problems related to the exchange rates of the Lao kip, the Myanmar kyat or the Cambodian riel. The rates are continuously changing and there is also a difference in terms of exchange rates between the official rate and the 'black' market rate. This makes it difficult for traders to set up their selling prices. One easy way to circumvent the problem is to use just one currency for border trade in the region. In practice, the Thai baht is currently the 'de-facto' currency for border trade in the region but this places an increased burden on Cambodian, Lao and Burmese traders on the other side of the border. There is a possibility that in the near future the Chinese yuan will become the currency for trade in this sub-region as the Chinese traders are willing to trade with Lao and Burmese traders and be paid in the currency of both countries. At present, since most of the border traders have to source their product from Thailand, they have to pay in Thai baht and are subject to their currencies' fluctuation against the Thai baht. Thai traders are not willing to accept the currencies of neighbouring countries.

Lack of infrastructure is appraised by all the stakeholders to be a major constraint for border trade. From the stand point of the stakeholders, lack of adequate road, bridges, warehouses or facilities is seriously hindering the capabilities of the countries to integrate their economic system. At the provincial level, this lack of facility and infrastructure seriously limit the capacity of border trading posts in terms of types of goods that can be transported and also in terms of volume. It is possible that the lack of infrastructure is related to the low level of volumes of goods traded across borders. However, in Nongkhai province, Thailand, the level of infrastructure is considered acceptable with the usage of the Thai-Lao friendship bridge as a gateway to and from Lao People's Democratic Republic. Figure 1, hereunder, is a schematic cause and effect diagram that incorporates most of the general problems involved in border trade in the GMS.

The lack of standardized border trade procedures and weak infrastructure linkage is hindering the development of the GMS logistics system. The purpose of any logistics system is to be able to satisfy customers while controlling or even lowering all the costs involved. The infrastructure linkages is the backbone of logistics development in the GMS but this upgrade of infrastructure must be done in conjunction with the facilitation of trade and transport services to create an effective and efficient integrated logistics system within the GMS.

This cause and effect diagram clearly demonstrates the relationship between the numerous factors that are considered problematic in the case of border trade. The issues are in fact inter-related and must be appreciated from a holistic perspective. Not one of the problems can be or should be taken out of context as a proposed solution may become misleading. An integrated approach is needed in order to solve the problems. This integrated approach should combine solutions to the 'hardware' infrastructure aspect with the solutions to the 'software' rules and regulation aspect.



Source: Author

In summary, the problems involved in the development of logistics system for cross-border trade are mostly related to the import/export processes of the countries in the GMS. There still exist high levels of arbitrary taxes for traded goods and a lack of harmonized procedures for cross border trade. Financial security in terms of trading is also lacking with strong currency fluctuation and no specialized or dedicated services for cross border payments. Infrastructure is also considered a constraint but the impact may seem less important due to the relatively low volumes involved. This may be true for now but in the near future with the implementation of free trade areas (FTAs) in the sub-region; infrastructure will become as critical in the facilitation of the movement of goods across borders as the harmonization of border trade rules and regulations. There is a very strong potential for expansion of border trade after FTAs are in place and this will probably lessen the need for contraband trade as tariffs and non-tariffs barriers will be eliminated in the GMS.

The identification of possible strategies and how to implement them in order to address the identified problems

The interviewed stakeholders agreed that the most effective way to lessen the impact of border trade related problem is to set-up joint cross border committees at the national, provincial and at the district level too. Some of these committees are already in existence but it seems that their activities and output should be more clearly defined. In order to reduce the 'gap' in terms of understanding the border trade rules it is important to create two-way communication channels among the parties involved. These communication channels must include national as well as local governmental agencies, service providers and border traders. The public and the private sector in each country must work together in developing the agenda of each joint cross border committee. The traders themselves considered this public private partnership approach critical. Improved collaboration among stakeholders is the desired outcome from these consultative bodies.

It is also important to give authority to negotiate border trade agreements to provincial or district level agencies. The process of decentralization will help local governmental agencies to make decisions and take action immediately without referring first to a central governmental agency. If decentralization is not possible at this stage then the establishment of a single agency or assigning the responsibility to an existing agency that deals with border trade issues at the provincial or district level can be a solution. This single agency will be the sole agency involved with all the documentation or paper work needed for cross border trade, similar to a one stop service for border traders.

Some stakeholders discussed the possibility of implementing special rules and regulations just for border trade. These rules and regulations should be flexible and adapted to the need of the border traders as usually the scale of their operations are relatively small. If special rules or regulations cannot be implemented, then a relaxation of existing rules could be a solution. But, this relaxation will only cover border trade and not transit trade. Ideally, the border areas should become special economic zones where free trade is the norm. This will lessen the need for rules and regulation and will make the GMS truly "borderless". All the respondents, however, did not share this vision. Some respondents were very clear in their need for borders to protect their homeland from outside threats.

It was also proposed that a fix or pegged exchange rate be utilized in order to limit the effect of currency fluctuation but this solution does not seem feasible. Fixed exchange rate will only fuel the development of 'black' market exchange rate. The problem of exchange fluctuation cannot be dealt with just by rules or regulation as exchange rates are linked to numerous factors that are not always controllable.

Human resource development, especially capacity building in terms of understanding the mechanism of international trade is proposed as a solution to the problem of lack of knowledge of stakeholders involved in border trade. This might be done in relatively quick manner, as it does not require high level of financial investment. Special training programs could be comprehensively targeted for state officials, service providers and traders.

An upgrade in infrastructure, in particular physical links across border are considered important to the facilitation of cross border trade. Without this improvement in infrastructure it will be difficult to facilitate the movement of goods across border. Linkage roads, bridges are seen as the integrators that will help expand border trade. The problem with infrastructure upgrade is the source of funds as many countries in the GMS have limited financial capacity. Borrowing for infrastructure linkage upgrade may not be financially sustainable in the long run.

In summary, stakeholders proposed numerous solutions to the facilitation of border trade and the improvement of the regional logistics system. Some of the solutions were practical such as the establishment of joint border trade committees to look at procedural barriers or to implement a public-private dialogue among the stakeholders involved. However, some of the other solutions were not as practical such as the fixing of exchange rates. Nonetheless an interesting solution is the fact that in the future all countries in the GMS would belong to the same free trade area and that will automatically have to facilitate all types of trade between member countries. The question of suitability of establishing public border warehouses was then put forward to all stakeholders for the improvement of the regional logistics system and border trade facilitation.

The possibility of establishing public border warehouses to facilitate cross border trade

Almost all of the stakeholders interviewed felt that it was suitable to establish border warehouses in their own area in order to facilitate cross border trade. The only exceptions were respondents located at the Thai-Cambodian border who felt that the establishment of a border warehouse was not necessary. The main reason given was the relative proximity of the border to Bangkok, the establishment a border warehouse would, according to them, only increases cost, waste time without any particular benefits.

The biggest suitability problem may be with Chiangrai province where respondents of each border crossing area (3 areas) declared the suitability of their area for the establishment of border warehouses. It seems very unlikely that trade flows for each individual border crossing will be sufficient to justify the establishment of a border warehouse for each crossing but this shows the intent of the local community of wanting to improve trade in their area.

An interesting viewpoint is that the most vocal supporters for the establishment of border warehouses were governmental officers or local district officers. They felt that it was a sensible way to support the development of cross border trade in their respective area, whereas the private sector was usually more skeptical about the idea. Many traders were afraid that the establishment of border warehouse in their area would increase their cost. Most of these traders also mentioned the fact that they had their own storage area and that the trading volumes did not justify the need to build a dedicated cargo storage facility. Transport service providers were less wary of border warehouses than the traders. This is probably due to the fact that they can pass on any cost increase on their customers. If border warehouses were able to increase the service providers' service level then they would not feel any objection towards their establishment.

In their belief, governmental officers considered that the establishment of a border warehouse in their area would help accommodate the future expansion of trade in the region. However, the impact of border warehouses is dependent upon the upgrading of border links. If the infrastructure is not ready, then it will be difficult to justify the establishment of these border warehouses, as border crossing will still remain difficult. In terms of priority, establishing border warehouses is not the most critical issue that will help facilitate cross border trade.

These border warehouses should not be just warehouses but also act as distribution centres as well as customs checkpoints. The stakeholders would like their border warehouses to provide value-added services compared to the traditional warehousing functions. These services can be related to re-conditioning, re-packaging of goods or even services related to goods inventory management. If these value-added services could be offered border warehouses would then be able to generate more revenues and create new employment opportunity for the local people.

It is believed that the establishment of border warehouses would accelerate hub status for the area involved. Local district officers mostly share this belief and would like the warehouses to

be located in their area. But, a chief area of concern is the cost involved in using border warehouses. The traders and service providers believed that having to go through a border warehouse would definitely increase their transaction costs. Some traders even felt that establishing border warehouses would only benefit big businesses at the expense of small local traders.

Nonetheless, the majority of respondents considered the establishment of border warehouses to be useful to the economic development of their border area. District officers believed that the local community would benefit from a more systematic method of conducting border trade through the use of warehouses. This will help traders and service providers to control their cost and facilitate inspection by governmental agencies involved in import and export process. This perception is interesting as some local traders felt that they would not get any direct benefit from the establishment of border warehouses but they still supported the idea because they thought that it would benefit their area as a whole.

Location issues appeared to be very nationalistic. Stakeholders wanted the border warehouses to be solely located in their area. The point of view of Lao stakeholders should be taken into account, as they believed that establishing border warehouses on the Lao side would bring more benefit than on the Thai side. Cambodian also shares similar beliefs. It was not within the scope of this study to decide which location was the most suitable but the issue of a "borderless" GMS would definitely affect the location of the border warehouses. Thai stakeholders suspect that with a "borderless" GMS the location of warehouses would be in neighbouring countries due to the lower cost of land and labour. The issue of borders would therefore disappear.

A limitation in this study was related to the concept of "borderless". Governmental officers did understand the concept very clearly and could foresee its impact. However, it was much more difficult to explain the concept and its possible impact to traders and service providers. The concept of "borderless" might be something that is a bit too far away from local people's preoccupations. During the interviews, when the concept of "borderless" was explained, many respondents still considered that the establishment of a border warehouse was still of utmost importance but acknowledged that the location may be dependent upon other factors such as the freight flows, the level of infrastructure linkages and ease of access.

In summary, except for private stakeholders on the Thai-Cambodian borders, most of the respondents were favourable to the concept of establishing border warehouses to facilitate border trade and improve the regional logistics system. The strongest support for the establishment of border warehouses came from governmental/local officers. However, it was also acknowledged that border warehouses offering basic warehousing services were insufficient. Border warehouses should be able to provide other types of value-added logistical services such as single window customs inspection or the repackaging of products.

4. GENERAL CONCLUSIONS

Overall, most of the policy makers were in favour of the establishment of public border warehouses/distribution centres to facilitate cross border trade and improve the region's logistics system. They considered that the establishment of these facilities as a critical link in upgrading the regional infrastructure and to facilitate trade. However, the decision related to the location of these facilities still needs to be confirmed as a GMS "with" or "without" border would surely have an impact on the location decision.

The private sector, as a whole, does not seem to be particularly enthusiastic about the idea of establishing a public warehouse. They are afraid of the likely increase in costs and time in using these facilities. They also believe that these facilities would only serve the interest of big businesses. If the GMS really become borderless, the Thai private sector thinks that these facilities would move to neighbouring countries due to the lesser cost involved in their operations.

However, many of them do believe that the establishment of public border warehouses/distribution centres would be of great value to their local community in terms of local economic development. A greater concern for local traders and service providers is for the improvement in linkage infrastructure between neighbouring countries. They believed that these

improvements would greatly improve cross border trade and the regional logistics system. Nevertheless, infrastructure improvement is necessary but not sufficient to facilitate border trade. Rules and procedures related to border trade must be harmonized.

The biggest threat for Thai stakeholders is from the influx of Chinese made products, which are significantly cheaper and are competing very strongly with Thai made products. This issue is not directly related to the study but shows the concerns of the Thai respondents who are afraid of losing their dominant market share in the GMS. Respondents from other countries do not see a threat from the influx of Chinese products as many of them consider these products to be of lower quality. However, respondents in Lao People's Democratic Republic and Cambodia think that it is good that there is competition between the products of Thailand and China.

Infrastructure & Regional Market Development: Is The Greater Mekong Sub-Region Viable?

Clifford T. Russell (cliff.russell@soas.ac.uk)
University of London SOAS
Ph.D. Economics Program[1]
Copyright 2005, All Rights Reserved.
cliff.russell@soas.ac.uk

Abstract

In the early 1990s, the Asian Development Bank (ADB) and others christened a new subregional development group, described both by contiguous land borders and a common riverine link. In all, six countries and one province defined the scope for the developmental initiative, targeting more than US$ 1 trillion in hard and soft infrastructure investments. Over time, prominent economic research reinforced this stylized belief that infrastructure features prominently in sub-regional market growth potential. In one widely acknowledged study, researchers attributed much of Africa's poor economic performance to weak infrastructure.[2] Moreover, market data bears witness to the significant cost differential of emerging market logistics; distribution accounts for 30-40% of production costs in developing countries vs. 5-10% in developed countries.[3] While large infrastructure projects have been staple components of conventional development ideologies, the actual viability of this infrastructure strategy for the GMS subregional market should be fully explored. The author's research demonstrates that while the GMS sub-regional concept is empirically valid, the primary beneficiaries of transport infrastructure development will be trans-border entities. Furthermore, the research suggests that the net effect of infrastructure investment and its impact on trade are best assessed using a combination of agglomeration models derived from spatial economics and competition analysis from industrial organization research. Therein, the author proposes the Differentiated S-Curve, a new methodology for evaluating returns to infrastructure applied to the GMS regional market economy. The merits of this approach are contrasted with traditional gravity models projecting trade as a function of income, population, and various qualitatively indexed parameters. Finally, the research illustrates the impact of infrastructure choices on development strategies pursued by various GMS economies. While industrial trade flows are certainly relevant to the sub regional calculus, infrastructure's role in agricultural development and the prominence of historical commodity flows cannot be ignored. For most of the region's entities, the relationship between transport infrastructure and agricultural development may be of greater significance in trans-border dynamics than sub-regional integration, for both growth and distributional reasons. Additionally, since the effects of sub-regional liberalization and development will be asymmetric across the region's entities, the impact of trans-border infrastructure and sub-regional market dynamics must be fully considered in view of each country's particular developmental circumstances.

Copyright 2005, All Rights Reserved.
cliff.russell@soas.ac.uk

INTRODUCTION

In the early 1990s, the Asian Development Bank (ADB) and others christened a new subregional development group, described both by contiguous land borders and a common riverine link. In all, six countries and one province defined the scope for the developmental initiative, targeting more than US$ 1 trillion in hard and soft infrastructure investments. Several dozen major

[1] Faculty References: Professor Anne Booth (ab10@soas.ac.uk) and Professor Ben Fine (bf@soas.ac.uk).
[2] 2 Limao and Venables, p. 451.
[3] World Bank data.

transportation projects dominated the Greater Mekong Sub-Region (GMS) proposal. The projects broadly supported ADB's "growth corridor" concept, with no fewer than five corridors linking regional capitals and land-sea routes. [1] Overall, the GMS architecture supported ten major transnational road improvement projects, each traversing several countries before ending in seaports or provincial hubs. While institutional development and economic cooperation initiatives were included, the overall GMS initiative was fundamentally recognized as a massive transportation infrastructure endeavor based on a sub-regional market rationale.

ORIGINS OF THE GMS CONCEPT

From a regional integration perspective, the GMS grouping began and continues as a subset of the larger ASEAN resurgence whereby ASEAN transitioned from its security-related origins to a more broadly-based economic and political organization. As ADB's GMS strategy was unveiled in the early 1990s, Vietnam, Laos, and Cambodia were re-emerging in the international arena after three decades of conflict in the Indochina Wars, and the subsequent economic isolation from western trading blocs. Thailand's boom was well established, continuing an impressive decade of GDP growth and modernization. Myanmar, on the other hand, had just begun its disengagement following accession of military leaders in the late 1980s.

Throughout the 1990s, a wave of foreign direct investment (FDI) ensued as both ASEAN and the GMS group liberalized, complemented by optimistic pronouncements for sub-regional and regional integration prospects. The original ASEAN Five eventually became the ASEAN Ten, including the entire GMS subset except for Yunnan, China. While all received injections of foreign investment capital, it is hardly surprising that the larger GMS economies garnered the majority of FDI flows (Figure 1). Steadily increasing FDI growth among the GMS countries, however, was impacted by the East Asian economic crisis later in the decade (Figure 2).

Figure 1. Composition of FDI Flows in the GMS 1991-2001 (Source: ADB)[2]

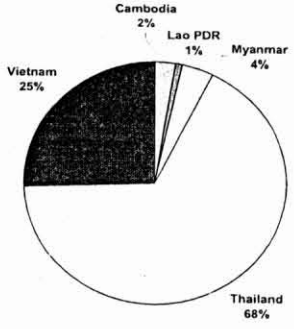
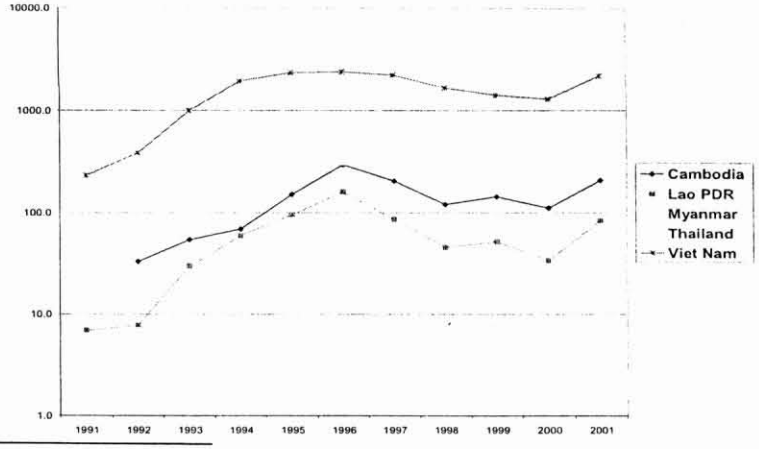


Figure 2. FDI Flows in the GMS 1991-2001 (Source: ADB, US$ millions)[3]



[1] ADB, Oxfam GMS descriptions. http://www.oxfammekong.org/text_pages/oas.html. GMS=Cambodia, Laos, Myanmar, Thailand, Vietnam, and Yunnan, China.

[2] ADB FDI dataset, by approved projects, US$.

[3] ADB FDI dataset, by approved projects, US$.

Recovery from the economic crisis of the late 1990's coincided with powerful new forces confronting the GMS. The World Trade Organization's global liberalization protocols are already impacting export possibilities, and competitive forces from large, low-cost economies such as China and India threaten directly the sub-region's cost competitiveness. Moreover, industry restructuring trends symbolize the evolving character of FDI and intra-industry trade: vertical specialization, value chain disaggregating, and process re-engineering constitute cornerstones of newer export-led foreign investment strategies.7 Despite these challenges, optimists believe that coordinated GMS infrastructure development, combined with further subregional liberalization will reshape the nature of trade possibilities for the region's countries.

REGIONAL INTEGRATION: SETTING THE STAGE FOR INFRASTRUCTURE

In traditional economic theory, regional economic integration facilitates trade among geographically proximate entities. At its idealized result, integration overcomes man-made borders and renders trade "borderless." Market-based effects of integration include reducing costs to market for producers and providing new markets closer to home for domestic producers. On the consumer side, integration should produce greater product variety and lower costs via inter-firm competition. Integration can also overcome market fragmentation, where limited market size may inhibit firms from reaching minimum efficient scale. In short, the neo-classical view of regional integration tells a familiar story of new markets, scale economies, and comparative advantage. In fact, one study in Southeast Asia concluded that scale effects alone could reduce costs of production by 10-12% by consolidating production facilities.[1]

The generation of scale economies differs, however, under endogenous growth models.The endogenous growth hypothesis centers on the belief that scale economies result from research and development, process innovation, and imported goods variety. As a result, the success of regional trade agreements depends in part on the ability of integration to develop intraindustry trade. In ASEAN's case, empirical evidence has yet to convincingly demonstrate such results. Researchers in one study of industrial growth in the Philippines, Malaysia, and Indonesia found very small, mostly negative cross-industry scale effects.[2]

Scale effects aside, complementarities among economies also figure prominently in considering integration's potential. Countries with different resource endowments, industry specialties, and agricultural conditions will logically have greater potential gains from integration than countries whose producers compete for the same export markets. Moreover, regional integration is not always successful at quickly promoting regional trade. Even today, ASEAN itself remains highly fragmented economically, with intraregional trade falling 19% in the first decade of integration. Researchers cited sub-scale markets, lack of consistent product standards, and unpredictable policy implementation as three major concerns among investors and executives. By contrast, the South American MERCOSUR pact achieved intraregional trade gains of 67% over an equivalent time period.[3]

Often characterized by the scope and depth of its protocols, regional integration occurs in varying forms. Shallow integration, addressing only trade in specific manufactured goods, leaves other elements of national economic policy unchanged. While goods may transcend boundaries, separate labor and immigration regimes leave borders intact for movement of people and services. In practical terms, if production moves across borders as a result of integration-driven scale effects, employment associated with that production will not normally follow. At the macroeconomic level, shallow integration also keeps monetary policy and currency issues under control of respective governments. While expansive in scope, GMS integration meets this criterion; integration directed primarily at trade in manufactured and agricultural goods. For governments of the region, shallow integration appears to offer the best of both worlds. Through preferential trade areas, harmonization

[1] Farrel, p. 25- 35
[2] Madani, p.23
[3] Schawarz and Villinger, p.40 -41

of standards, and various economic incentives, expanded trade is possible without sacrificing control of monetary and immigration policy. Yet history suggests that integration rarely produces universal gains; shallow integration can have significant consequences for immobile labor markets affected by competitive forces. Promoting regional linkages, moreover, produces vulnerability as well as opportunity. At the macroeconomic level, the same synergies that enhance regional trade among partners can also generate faster contagion when adjacent or nearby economies falter. Regional exports can be quickly affected, while rest-of-world trade may be relatively unhindered. During the 1998 Asian crisis, Cambodia's garment industry continued to prosper due to the US and EU destination of its products. Alternatively, wood-related industries were severely impacted, where the price of second grade timber fell by more than 50% in ten months.[1] Moreover, regional integration and liberalization expose domestic firms to foreign competition; domestic players incapable of meeting such competition may suffer, with potential displacement and employment effects in the home market. Regional components of foreign direct investment are also affected by upturns and downturns. Myanmar and Laos both experienced significant contractions in FDI during the Asian crisis, with FDI declining 30-80% in those countries between 1997 and 1999.[2]

Finally, the political and social aspects of regional integration often impact the economic configuration of integration schemes. Countries of varying developmental stages and economic size are grouped together, with one or more natural leaders emerging. In the GMS case, researchers frequently point to the prominent roles of Thailand and China in advancing various sub-regional initiatives. In Thailand's case, development of that country's Mekong Basin area has been a developmental priority for many decades given its status as the country's poorest region.[3] For China, support of Mekong regional initiatives also predates the GMS designation, whereby border trading points were authorized for its land-locked Yunnan Province in 1984 and subsequent Chinese western regional developmental plans explicitly endorsed GMS participation.[4] Leadership aside, smaller economies in integration schemes may have even higher stakes in the regional outcome. Land-locked countries such as Laos may benefit from multiple sea-lane access possibilities under the GMS scheme. In addition, smaller economies may derive much higher shares of total trade from regional partners, as is the case historically for both Cambodia and Laos (Table 1).

Table 1. 1995 Sub-Regional Share of Imports and Exports (IMF)[5]

	Exports: % Share	Imports: % Share
China-Yunnan	2.1	1.5
Cambodia	50	46
Laos	52.9	73.5
Myanmar	14.3	46.8
Thailand	5.9	3.2
Vietnam	5.8	11.6

BORDERS AND INCENTIVES

Regional integration discussions aside, a large body of evidence suggests that a substantial portion of regional trade occurs across geographically contiguous borders. In fact, with more than a

[1] Sophal, p.4.
[2] ADB, T&I, p.7.
[3] Park, p.267.
[4] Masviriyakul, p.304.
[5] Dataset in Than, p.49.

decade since the end of regional hostilities, direction of trade estimates confirm that the GMS continues to be primarily a trans-border phenomenon in terms of physical trade. In addition, observers suggest that unofficial cross-border trade may equal or exceed these levels. Using two different measures of trade (freight and value), Tables 2 and 3 illustrate the consistency and predominance of border trade over the last decade.

Table 2. 1993 Recorded Freight Among GMS Countries (Thousands of Tons, ADB-GMS)

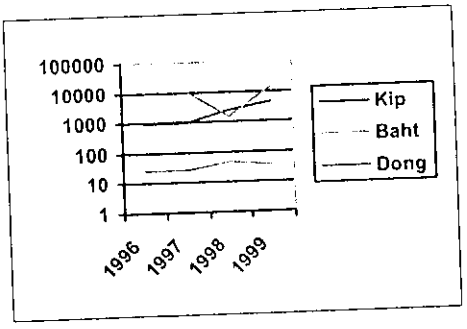
	Yunnan	Vietnam	Cambodia	Laos	Thailand	Myanmar
Yunnan		7		17	11	843
Vietnam	5		17	122	59	
Cambodia		28		10	76	
Laos	13	170	2		223	4
Thailand	2	57	15	149		106
Myanmar	420			1	186	

Table 3. 2003 Direction of Trade Among GMS Countries (Value, US$, IMF)

	Cambodia	Yunnan	Laos	Myanmar	Thailand	Vietnam
Cambodia	---	na	na	na	11	431
Yunnan	1	---	10	246	19	63
Laos	na	5	---	Na	55	64
Myanmar	na	28	na	---	158	na
Thailand	381	10	386	351	---	627
Vietnam	78	9	37	na	276	---

The dominance of border trade is hardly surprising. Different manufacturing and natural resource endowments of the various countries provide significant incentives for import-export. For example, vehicles and machines are exported in significant quantities from Thailand to its eastern neighbor, while the Lao side provides primarily natural resource exports. Except for trade between Thailand and Vietnam, however, crossing multiple borders to capture those incentives requires logistics and communications that appear beyond the region's present capabilities. Beyond these intuitive complementarities, borders provide ready opportunities for arbitrage in cross-currency terms. Figure 3 illustrates divergent currency patterns among the various countries during the Asian crisis (nominal logarithmic).

Figure 3. Nominal Currency Movements Among GMS Border Countries: Laos, Vietnam, and Thailand (IMF 2000)



Such differences in real exchange rate regimes create variations in US dollar cross-rates that generate real price differentials across borders. Researchers speculate that the impacts of such exchange and price differentials most affect light manufacturing and agro-industrial products due to localized pricing regimes. Commodities with rest-of-world price determination are thought to be less susceptible.[1]

Despite these trans-border incentives, regional development based on cross-border flows cannot ignore economic issues within the respective countries' own geographic boundaries. With some exceptions, economic activity still has difficulty crossing man-made borders, even in developed countries. For example, Canadian provinces export twenty times more output to other Canadian provinces than to the United States. That deterrent effect of borders has also been captured by researchers attempting to correlate borders with distance. In one study, crossing one border was found equivalent to adding 1700 miles to the journey required to market.[2]

TRANSPORT INFRASTRUCTURE IN A REGIONAL MARKET ECONOMY

For regional integration purposes, some level of infrastructure is essential to support the desired expansion of trade. Therein, the central questions involve determining which infrastructure is best suited to achieve those gains, and identifying a coherent implementation framework consistent with the overall development strategy. Within that dialogue, infrastructure is broadly construed, encompassing "hard infrastructure" elements such as transport, power, water, and communications, and "soft infrastructure," such as institutional reform and trade mechanisms. In fact, conventional definitions of infrastructure have evolved to reflect a systemic foundation of shared apparatus within a society, often associated within a prominent government role. With that expanded aperture, infrastructure provides:

- √ "An underlying base or foundation especially for an organization or system."
- √ "The basic facilities, services, and installations needed for the functioning of a community or society, such as transportation and communications systems, water and power lines, and public institutions including schools, post offices, and prisons."[3]

For economic development, the various infrastructure components define mobility, costs, and constraints within the economic system. Several characteristics are important. First, infrastructure normally constitutes the majority of public capital within the society, utilized by groups of varying income and need. Next, some elements of infrastructure are often considered public goods, conferring benefits to the society exceeding the value to any particular user. Within that context, the traditional model throughout history has been government funding, operation, and oversight. Only recently has private sector participation regarding funding and operation become

[1] ADB T&I, p.19.
[2] Fujita, Krugman, and Venables, p. 239.
[3] http://dictionary.reference.com/search?q=infrastructure

commonplace; oversight remains a government role. Last, many infrastructure components have long gestation and development periods. A typical transport project may require 3-5 years for completion, and coordinated planning is essential; infrastructure decisions have consequences extending well into the future. This long-life cycle also implies that at any given point in time, an economy's infrastructure endowment may be relatively fixed compared with other more mobile assets such as labor, direct investment, or portfolio flows.

While any missing or deficient element of infrastructure may constitute a potential critical path constraint, the focus for regional market integration is often transport. Moreover, as a core issue in development economics, transportation occupies an appropriately significant position among potential determinants of country growth horizons. While important enough on sectoral grounds alone, transport directly defines prospects for many other sectors in the economy, and thus deserves special consideration within the development debate. Inland manufacturers, for example, may face factory to port costs which actually exceed transoceanic freight charges. Wage rate competitiveness may be negated by transport costs, eliminating or reducing existing comparative advantage. For domestic market producers, transport impacts not only production location, but also firm structure and integration strategies. Limited transport opportunities are among the factors which may drive horizontal firm development. Additionally, scale economies can be difficult to achieve given limited markets for production of each output type. Within an intermodal transport system, scale effects figure prominently; costs decrease significantly with shipment size since more economical modes may be utilized for larger shipments.

Moreover, for agricultural economies, transport infrastructure and costs define market possibilities. In Cambodia, for example, nationwide rice surpluses are nonetheless accompanied by regional shortages and significant price variations, in part due to transport system weaknesses. The country had previously been among the region's exporters, with rice constituting nearly onethird of total foreign exchange in the 1950's. The provincial transport situation also has welfare effects, granting virtual monopsony market power to rice millers and distributors. High transport costs mean peasants frequently have only one local buyer, and additional harvests often generate insignificant marginal revenue since export markets cannot be feasibly accessed.[1]

In a broader context, transportation functions as a subset of the entire logistics equation, defined as the physical, technical, and institutional process by which goods move to market. This is the case in both agricultural and manufacturing sectors. Total transport costs necessarily include related transactions such as licensing, customs, and handling in addition to the direct fees associated with product movement. Moreover, time-in-transit and associated inventory costs often figure prominently. For developing countries, the aggregate logistics impact can be significant. Some estimates place logistics costs at 30-40% of total production cost in developing countries, compared with an average of 5-10% in developed economies.[2] Despite these costs, ambiguities persist regarding the manufacturing sector's perception of transportation constraints. In Cambodia, only 8% of firms in a recent study viewed transport as a major constraint.[3] Even facilitation issues, such as customs and trade regulations, ranked well below other concerns such as regulatory policy uncertainty and anti-competitive practices.

From a competitive standpoint, foreign direct investment can play a dominant role in the transport sector, particularly in terms of infrastructure. The sector embodies several characteristics which make domestic development particularly difficult to sustain without protective regimes. The multi-modal nature of transport produces pronounced scale economies for both shippers and conveyors. Large quantities shipped by water or rail are often more economical by a factor of 10 than shipments by road or air. The container revolution of two decades ago further reinforced that differential, with integrated multi-modal firms now dominating the industry. Transport equipment is also highly capital intensive, forming significant barriers for firms in developing countries lacking robust financial resources or proven industry track records. Moreover, researchers report a "super-

[1] Boreak, p.1- 3.
[2] De Castro, p. 1 – 19.
[3] World bank, PICS Dataset, Cambodia.

class" of sponsors, bankers, and investors dominate the infrastructure arena on a world-wide basis, with significant consequences for competition in the sector.[1]

THE INFRASTRUCTURE DEBATE

While widespread liberalization and large infrastructure projects have been staple components of the previous development ideologies, the precise cause and effect of infrastructure in the trade equation is less clear. As even the casual observer recognizes, the world-wide demand forecast for infrastructure is enormous. "Developing countries in East Asia alone need to spend more than a trillion dollars over the next five years in roads, water, communications, power, and other infrastructure to cope with rapidly expanding cities, increasing populations, and the growing demands of the private sector," says a new study released in March 2005 by the Asian Development Bank (ADB), Japan Bank for International Cooperation (JBIC), and the World Bank.[2]

At the macroeconomic level, many policymakers argue that better infrastructure is associated with increased trade and productivity, which then drives economic growth and income. At the microeconomic level, enhanced infrastructure should produce productivity gains and cost advantages to the firm. In both cases, prominent economic research reinforces the stylized belief that infrastructure features prominently in economic growth.[3] Yet the net effect of infrastructure investment and its impact on trade are far from absolute. First, infrastructure must deliver some tangible economic benefit for this relationship to be valid. Typically, that benefit is attributed to reduced transport costs, improved productivity, and increasing returns to scale for firms. Whether any of those factors unambiguously results in increased trade and regional market development is another matter. Finally, the linkage between regional integration and infrastructure must also be clarified. Infrastructure without reciprocal trade advantage is often a bridge without traffic, and the actual ability of infrastructure to facilitate trade rests with a number of accompanying assumptions. Without scale economies, comparative advantage, or some other driving force supporting international trade, cross-border flows will never materialize.

THEORIES AND MODELS: INFRASTRUCTURE, TRADE, AND TRANSPORT

For a variety of reasons, early economists preferred to largely submerge transport costs and infrastructure in several convenient assumptions when creating models of regional trade. While acknowledging that distribution costs did affect prices, those costs were typically incorporated through product absorption enroute to market. One of the most colorful examples of this "zero transport costs" approach involved oxen eating grain enroute to market, and supply reduced according to the distance traveled. The transport cost dialogue, however, was critical in the study of regions and markets, since transport factors would determine intuitively the market's outer boundaries. Various models of land use, agricultural development, and urban economics all incorporated either an explicit or otherwise implied role for the centrality of transport costs in the regional equation.

Despite those humble origins, geography, transport costs, and trade determinants now figure prominently in the economic growth debate. Geographical and spatial explanations for trade patterns focus on increasing returns and specialization explaining large portions of international trade, eschewing the traditional comparative advantage model.[4] Moreover, the spatial approach also offers insights into patterns of regional agglomeration. Path dependence suggests that once a location of economic activity is established, its endurance is encouraged by gains from concentration. Thus the role of infrastructure in supporting trade and regional growth is directly linked to patterns of spatial development.

Industrial geography offers yet other explanations for trade patterns focusing on the evolving character of international market development. Therein, internal economies of scale and

---

[1] Estache (2000) p. 96.
[2] 23 Asian Development Bank News, 16 March 2005.
[3] Limao and Venables (2001) as a widely known example.
[4] Fujita, Krugman, and Venables, p. 2-5.

scope have given way to forces of market uncertainty and technological change. As production processes are externalized, a strong emphasis on transactions costs remains and advantages to agglomeration persist.[1] This process-focused view of international trade patterns has much in common with conventional views of the new global production system, where vertical specialization, value chain dis-integration, process re-engineering have fundamentally changed the nature of industrial development.

Modeling transport, infrastructure and trade has traditionally been accomplished via two methodologies, computed general equilibrium (CGE) and gravity models. In the CGE (neoclassical) version, the transportation sector is included in the model, while infrastructure is primarily relevant as an indirect productivity or cost determinant. As such, changes in transport costs are reductions in sector cost or improvements in productivity. Assumptions include cost minimization behavior across sectors, mobile factors, and zero profits. Most importantly for our purposes, CGE models include the ability to project benefits of regional integration across varying sectors of an economy or between two trading partners. In a study of economic integration benefits among Arab countries, the results of shallow integration were projected using a CGE model. For Egypt and Tunisia, gains from *Arab regional integration* were asymmetric, with GDP improvement of 2.05% for Egypt and losses of -0.02% for Tunisia. *EU integration* for both countries produced the opposite result, with gains of 0.9% and 5.0% for Egypt and Tunisia respectively.[2] Despite the utility of those findings, researchers acknowledge the limitations of CGE models in correlating differences in integration results with any particular parameter. While trade-supporting infrastructure may play a role, those effects cannot be separated from effects such as inherent economic self-sufficiency and home-market effects.

Gravity models, however, allow direct specification of infrastructure variables. By projecting trade as a function of income, population, and various qualitatively indexed parameters, the linear regression produces trade elasticities precisely associated with the desired infrastructure component. Dummy variables are added for particular features such as borders, infrastructure, common language, or whatever specific characteristic the researcher wishes to identify. Using variables termed Distance, Common Border, Landlocked, and Islands, one prominent effort found that by decreasing infrastructure quality from the sample's mean to the 75th percentile, transport costs increased by 12% and trade volumes decreased by 28%.[3] The infrastructure variables utilized an index of road network density, paved roads, rail stock, and telephones per capita to measure infrastructure quality. Extending the model to assess levels of Sub-Saharan Africa trade, the study again linked higher transport costs and lower than expected trade volumes with poor infrastructure.[4] For later discussion, it is critical to note that these studies attribute the connection between infrastructure and trade to reduced transport costs, rather than productivity or scale effects.

To incorporate broader measures of logistics, other gravity applications have included efficiency and non-technical specifications. One prominent study selected E-business usage, regulatory environment, customs environment, and port efficiency as indicators of trade facilitation. The findings were dramatic, forecasting a 21% possible increase in intra-APEC trade flows from improving facilitation capacity, with nearly 50% of the advances deriving from port efficiency gains.[5] Other permutations of gravity models have included variables for webhosting, standards, and telephone costs in their attempts to better capture determinants and limiting factors of regional trade. While useful in directly linking the infrastructure and efficiency mix to trade gains, the gravity models typically utilize large cross-country data sets. Therein, subtleties of a particular regional configuration may be difficult to capture.

At the sub-regional and bilateral level, the interaction between regional integration and infrastructure become more location dependent and benefit from different modeling approaches.

---

[1] Martin and Sunley, p. 269-273.
[2] Konan, in Galal and Hoekman, p. 84.
[3] Limao and Venables, p. 451. Wilson (2004), p. 2.
[4] Limao and Venables, p. 471.
[5] Wilson (2004), p. 2.

Taking a differentiated view of infrastructure is useful, contrasting those infrastructure elements which broadly support rest-of-world trade (e.g. airports and ports) with those more directly linked to bilateral flows (e.g. highways between capitals). An important enhancement to that approach considers levels of infrastructure investment in both coordinated and non-coordinated environments between bilateral trading partners. Using simultaneous equations to model tariff and investment decisions, one such model predicts that without coordinated investment schemes, countries will typically under invest in regional infrastructure relative to rest-of-world assets.[1] This differentiated view of infrastructure, combined with the interdependence of infrastructure investment decisions, forms the basis for subsequent modeling methodologies applied to specific sub-regions such as the GMS.

While gravity and computed general equilibrium models are clearly useful in providing broad support for infrastructure's role in trade and growth, each is limited when applied to the sub-regional arena. Data availability alone is an issue for both models in the GMS case, though further research and new datasets may eventually allow empirical application of these models at some future date. In addition, purely quantitative models lack some illustrative value in presenting the overall performance of various infrastructure components due to the difficulty in disaggregating correlations, relationships, and differentiated effects. As a result, the theoretical approach which follows proposes assessment of infrastructure via a combination of agglomeration concepts derived from spatial economics, and competition analysis techniques from industrial organization research. The outcome is a differentiated, non-linear view of productivity and trade gains from infrastructure.

SPATIAL CONSIDERATIONS AND THE INFRASTRUCTURE S-CURVE

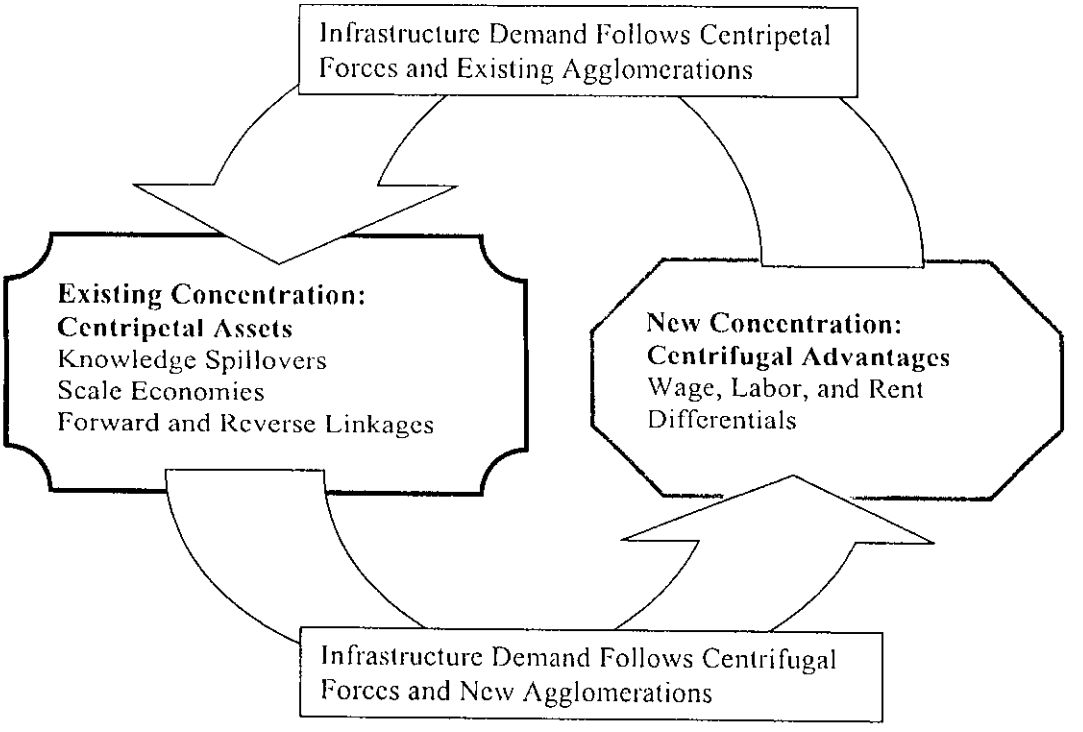
Within a specific geographic or spatial region, the primary purpose of infrastructure is to provide foundation and mobility for economic activity. Therein, each spatial region exhibits different inertial properties based on its developmental characteristics:

- Regulatory Regime and State Enterprise Presence
- Competitive Environment (Barriers, Monopoly Rights)
- Composition and Direction of Economic Activity (Internal or External)
- Technology and Labor Productivity Basis
- Regional and Rest-of-World Economic Integration Regimes
- Geographic Limitations

Spatial forces support a demand view of infrastructure, where the inherent potential of infrastructure investments to support trade depends directly on patterns of regional agglomeration or concentrations of economic activity. Forces favoring agglomeration are typically expressed as centripetal or gravity-based. This phenomenon is also linked to the lock-in effect, where concentrations of economic activity maintain geographic consistency over time. Alternatively, new concentrations occur when significant changes in cost or wage regimes cause alternative locations to increase dramatically in their attractiveness (Figure 4). An example from China illustrates the pull effect of new concentrations: Wuhan China's Central Business District, built on the site of a former military airfield, projects investment of US$ 4.8 billion over 15 years. Wuhan's competitive advantages include a 40-60% labor cost differential from other major Chinese cities, 40,000 local university graduates per year, and rents at half rates of China's top tier cities.[2]

[1] Bond, p.29.
[2] Chen, p.63 – 73.

Figure 4. Spatial Forces and Infrastructure Demand[1]



Among the critical issues in evaluating the relative strengths of these opposing forces are the mobility of firms and factors of production. As earlier described, shallow integration schemes typically do not allow cross-border transfers of labor, and migration restrictions inhibit incentive effects of rent or wage differentials. In essence, lack of labor mobility fundamentally changes the agglomeration equation; border concentrations represent a sort of spatial compromise where transient labor mobility remains possible. Underscoring that limitation, the Chinese regional agglomeration example indicated above would not exist in a trans-border environment without fluid labor and liberalized immigration controls.

Over time, agglomeration and lock-in effects are dynamic processes in terms of functionality, as well as expansion-contraction. Many cities begin as transport hubs or trade points, but evolve later into concentrations with other primary roles such as banking or finance. In the end, the challenge in incorporating spatial perspectives with infrastructure development is in predicting the near-term resolution of opposing agglomeration forces in each region. Agglomeration can produce a need for infrastructure, but sometimes infrastructure itself makes the new agglomeration possible. That is precisely the reason for our departure from traditional gravity models of infrastructure-trade causation, and the adoption of a new conceptual framework.

THE DIFFERENTIATED INFRASTRUCTURE S-CURVE

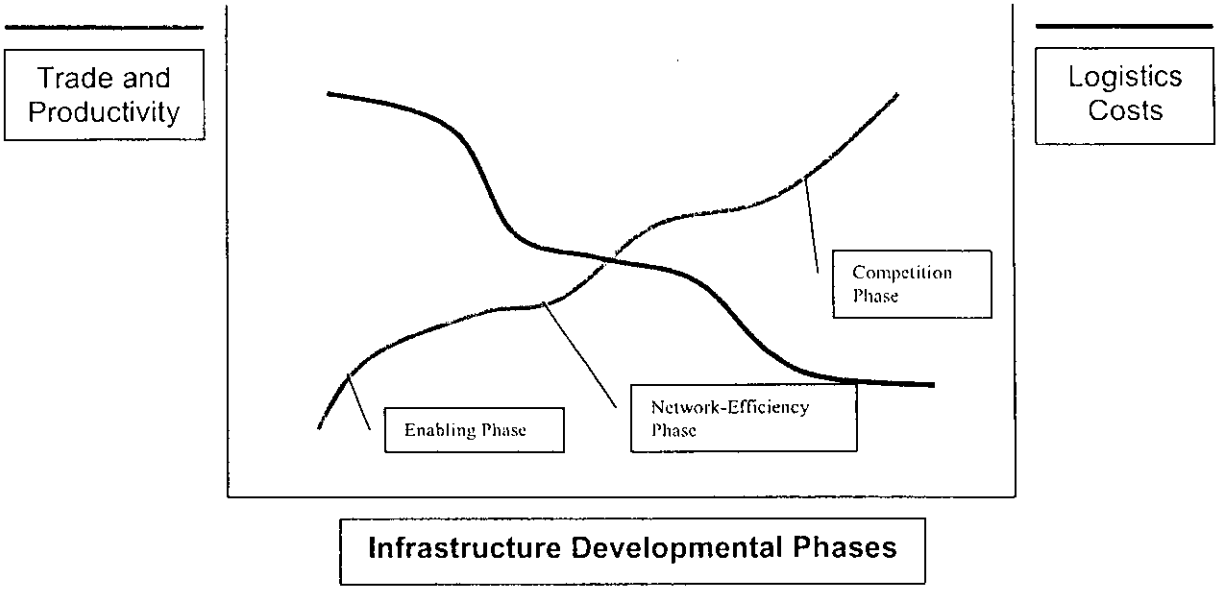
The approach now turns to adoption of a sequential methodology for evaluating returns to infrastructure. Rather than using gravity models to depict linear correlation of infrastructure with growth over long periods, the Differentiated S-Curve seeks to identify specific accelerated productivity and trade gains associated with differentiated phases of infrastructure development (Figure 5). A non-linear form has several intuitive advantages. First, as noted earlier, infrastructure development is rarely symmetric, but rather characterized by large injections at various points in the economy's trajectory. Public finances and private sector investment vary with business cycles, and long-term projects introduce major network additions only when completed. Despite those distinctions, the S-Curve approach is not inconsistent with the gravity formulations; it differs in approach and timing. The S-Curve focuses on the hypothesized geometric gains in trade and productivity that occur in particular phases of infrastructure evolution, rather than on cross-section

[1] Spatial summary characteristics, Fujita, Krugman, and Venables, p. 346. Diagrams – Russell.

or time-series correlations of trade with specific infrastructure variables.

To summarize, the S-Curve postulates that returns to infrastructure investment will exhibit non-linear properties depending on the country or region's phase of infrastructure development and existing infrastructure endowment. The corollary hypothesis is that logistics costs will decline in phases with infrastructure investment, regulatory reforms, technology assimilation, and competitive evolution. These logistics costs decline concurrently with trade and productivity gains, encompassing both direct and indirect costs of distribution. For example, when modern infrastructure is absent, productivity and trade returns will be greatest in primary infrastructure provision (e.g. providing a sea-lane to a land-locked country). Diminishing returns to additional primary infrastructure will be present when such endowments already exist; only a differentiated second and third phase of infrastructure development will produce another round of accelerated gains.

Figure 5. The Differentiated S-Curve



The S-Curve incorporates elements of both hard and soft infrastructure, spatially oriented to a particular region. The curve can be produced in aggregate for the spatial region, or with separate curves for a particular industry or sector. For example, manufacturing processes which rely more heavily on logistics or specific transport regimes will be more sensitive to the S-Curve evolution than will more locally generated and marketed outputs. Similarly, a region's trade orientation should also affect curve shape; trans-border trade dominated regions should have greater response to infrastructure investment. Finally, the region's initial conditions and spatial configuration impact the origin and shape of the curves.

As depicted above, the S-Curve methodology suggests that productivity and trade gains from infrastructure occur in three distinct phases. In the initial Enabling Phase, gains are scale and productivity oriented. New market access and major transport cost efficiencies drive this initial accelerated gain. Construction of an inter-province highway system or completion of a river bridge represent typical components of the phase. Evidence to support existence of such accelerated returns was demonstrated in a comprehensive study of US road building in the 1950s and 1960s, where road construction accounted for a large portion of public capital formation.[1] The research concluded that productivity gains were positively correlated with the major US interstate road construction period, but that a later decline in road stock expansion was associated with a significant productivity slowdown. In addition, the study claimed that this initial surge was a one-time occurrence not likely to be repeated by simply increasing road stock again. That hypothesis was confirmed by comparing productivity results from vehicle-intensive industries (most likely to benefit from road stock growth) with less transport-oriented industries. Finally, the differentiated returns to infrastructure suggested by this research lend support for one of the other S-Curve

[1] Fernald, p.619.

hypotheses above; that different industries and sectors will exhibit divergent curve properties varying with infrastructure dependency.

With evidence suggesting that the first round of gains cannot be repeated by replication of the same hard infrastructure, second and third phase gains must come from fundamentally different sources. In the S-Curve model, it is soft infrastructure improvements such as trade facilitation measures or external linkages that generate the next round of accelerated growth. Termed the Network-Efficiency Phase, this portion of the curve postulates that previously unavailable network connections or significant process enhancements drive second phase gains. An example of this phenomenon may be construction of a road that links a rail hub and seaport combination to the spatial region's core manufacturing center. Technology may also play a role in this second phase, whereby electronic data interchange or major transport reliability improvements generate substantial gains in the supply chain. These improvements could typically include reduced supplier uncertainty or lower inventory costs due to better logistics performance. Once such gains are exhausted, another differentiated development is needed. As a result, the S-Curve's third phase is competition focused, usually involving fundamental changes in the market structure of infrastructure and services providers. This Competition Phase has perhaps the greatest focus on direct cost reductions, through introduction of competitive behavior and price liberalization among transport firms and infrastructure providers.

THE S-CURVE APPLIED TO A GMS CORRIDOR

While the GMS sub-regional effort encompasses a broad range of economic, institutional, and social components, none is more prominent than the Corridor Concept. In general terms, the corridors are predicated on road links connecting distant seaports or regional concentrations, often crossing several borders in the process. For our discussion, the Corridor Concept is especially relevant since it targets specific infrastructure linkages to achieve results in a specific geographic region. Distinct from earlier "growth triangle" models which addressed cooperation less precisely, the corridors are explicitly not exercises in regional integration. Rather, the corridor is designed as a transport artery; the expected beneficiaries are provinces and countries for whom such an artery may facilitate new trade opportunities.

As an example, the GMS *East-West Economic Corridor* extends from its western node at awlamyine, Myanmar, through central Thailand and southern Laos, to an eastern culmination at Danang, Vietnam. It is essentially a grand sub-regional road scheme, since no other transport modes are available or anticipated along such a route. Therein, comparative advantage and scale effects dominate the rationale for the corridor. Using indices of comparative advantage, ADB researchers identified a number of industries possessing comparative advantage in Thailand, Laos, and Vietnam. Among the 25+ categories examined, the study suggests significant crossborder trade potential for Laos in mineral products, Thailand in electrical machinery and plastics, and Vietnam in footwear and clothing.[1] The study also cites the intensity of intra-industry trade in various sectors as evidence of potential scale returns. Various categories of natural resources and unskilled labor intensive activities were correlated with substantial intra-industry activity, particularly in Thailand and Vietnam.[2]

Seen from the S-Curve methodology, much of the Corridor initiative clearly resides within the Enabling Phase. Most productivity and trade gains would derive from creating primary infrastructure, and the initial case for cross-border trade is reasonably made, based on comparative advantage and empirical data regarding cross-border trade over the last decade. The key question is whether this Enabling Phase infrastructure initiative possesses the spatial inertia to produce subsequent phase gains. Small manufacturing enterprises dominate the corridor's industrial base, and producing accelerated gains for firms of this type lie at the heart of the corridor's viability. Looking forward, Network-Efficiency Phase initiatives also are contained within the GMS trans-border transit agreements, covering proposals such as improved customs and facilitation procedures.

[1] ADB T&I, p. 13.
[2] ADB T&I, p. 15.

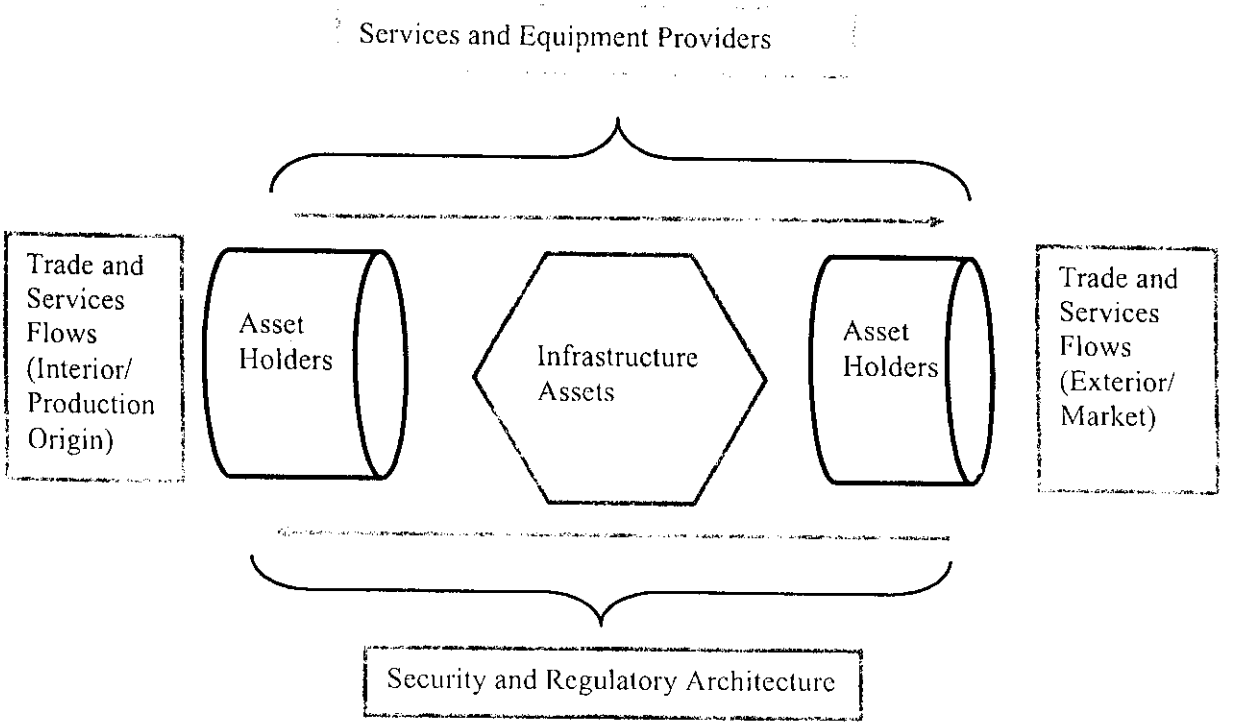
These second phase gains would include streamlining physical transit possibilities from northeast Thailand to Vietnam's port at Danang via Laos. Past restrictions have required trans-loading of cargoes at the Thai-Lao border, and future adoption of single vehicle clearances in a streamlined network could result in utilization of Danang for Thai cargoes destined for East Asia and North America. In the other direction, access to more frequent container vessels in Thai ports for Vietnamese and Lao cargoes may also provide network efficiencies for exporters.

When feasible, Competition Phase gains in the corridor will necessarily focus on establishing competitive regimes surrounding providers of both infrastructure and logistics services. Monopolies, investment limitations, and various limits to competition often inhibit potential returns from infrastructure development. According to our S-Curve characterization, competitive improvements will drive third phase direct cost reductions in both infrastructure provision and services. To better illustrate the scope of such competitive evolution, we introduce the concept of the Infrastructure Bundle, the synergy of structures, assets, and services whose combined function is critical for third phase development.

PERFORMANCE OF THE INFRASTRUCTURE BUNDLE

In general terms, the infrastructure bundle consists of four principal components: physical infrastructure (e.g. airports, rail track), primary asset holders utilizing the infrastructure (e.g. airlines, shippers), services and equipment providers for physical providers and asset holders, and security and regulatory architecture encompassing each component. Each component of the bundle represents a particular competitive regime, and mature development of those structures is normally associated with the presence of significant competition. For physical infrastructure, that normally includes alternate transit routes or price competition by providers, either geographically or across different transport modes. In the asset holder arena, mature competition entails liberalization not only of price-setting, but also removal of entry barriers such as foreign ownership provisions and monopoly rights. For services and equipment providers, incentives and maneuvering room must exist (via fewer competitive restrictions) for private firms to create specialization efficiencies. Finally, the regulatory and security architecture must be relatively constraint-free, as deficiencies in each may constitute barriers that inhibit competitive phase gains. Figure 6 depicts the interdependencies of the Infrastructure Bundle.

Figure 6. The Infrastructure Bundle



THIRD PHASE INITIATIVES: ENHANCING COMPETITION WITHIN THE BUNDLE

Unbundling, or separation of various infrastructure elements into independent holdings,can reduce investment risks for private sector firms and allow specialization and/or competitive advantages within functional or geographic sections of infrastructure provision.[1] It allows smaller investment size and is politically more feasible in that government is not seen as selling an entire sector to one buyer. Vertical unbundling, separating provision of services from physical assets (rail stock from track ownership and maintenance), stops at a point where shared resource economies exist that would be economically inefficient to duplicate (e.g. runway or rail track). Horizontal unbundling, providing geographically distinct concessions, may introduce or preserve intra-regional competition (e.g. freight and passenger rail separation, different operators at a country's two ports). Countries or regions with significantly unbundled infrastructure regimes generally represent more competitive environments.

In varying degrees, unbundling creates opportunities for competition and private sector investment capital, and infrastructure-based investments are not limited to physical assets. Private sector participation in occurs in a variety of firms supporting operation of the bundle:

- Asset holders involved in transport provision – shippers, logistics providers, airlines, and other transport firms.
- Services providers such as infrastructure security firms. Post 9/11 certification requirements of the International Civil Aviation Organization (ICAO) and International Shipping and Port Security (ISPS) regimes drive major infrastructure security enhancements in both physical and support assets.
- Specialist peripheral firms providing key operations and management functions. Unbundling of transport value chains provides specialization opportunities for many firms in de-regulating environments.

As unbundling progresses, increased competition results in further specialization. Firms then may seek growth horizontally rather than vertically and increasingly adopt core business strategies focused on geographic expansion. Firms target specific components of the value chain, thus dis-integrating the chain into highly specialized components, or "slivers" of the infrastructure services pie.

FINANCING INFRASTRUCTURE – PRIVATE SECTOR PARTICIPATION

Having identified a methodology that describes accelerated returns from infrastructure investment, the discussion inevitably leads to financial considerations. Typically, that dialogue focuses on the most expensive portion of the bundle, primary infrastructure for the Enabling Phase. With more than $US 1 trillion in GMS infrastructure investments contemplated, it is abundantly clear that neither host governments nor donor funds will meet GMS requirements without extensive private sector participation. As the evidence below suggests, governments have integrated private solutions with remarkable speed. With liberalized investment regimes, private participation in infrastructure concessions has increased dramatically in the last 15 years:[2]

- Between 1985 and 1999, approximately 1006 new transport infrastructure projects were planned or financed, worth US$ 575 billion. About 50% were toll roads, 25% were railways, and the rest were airports and seaports. Developing countries accounted for 70% of the planned transport projects.
- Between 1990 and 1997, Latin America and East Asia accounted for 90% of all transactions and 94% of all investment commitments.
- More than 30% of all railway services around the world are now privatized.

The 1998-99 Asian crisis affected infrastructure privatizations in at least two primary areas:

- Equity and debt capital were reduced and transport demand slackened.

---

[1] Estache (2001), p. 96.

[2] 38 Statistics and summary, Estache (2001), p. 85-92.

- Lenders now require (and get) higher levels of equity in projects than in the pre-crisis era.

Private sector participation in transport infrastructure takes four general forms:

• Divestiture - Sale of public assets to the private sector. Public asset sales often involve restructuring or absorption of some portion of a state enterprise.

• Greenfield Projects - New investment projects commissioned or authorized by the host government undertaken by a private sector owner - heavily dependent on the design of the government's sectoral unbundling.

• Operation and Maintenance Contract - A private sector entity contracts to manage primary functions of the infrastructure asset, but does not provide investment capital.

• Concession - An assignment by government to operate, maintain and develop a specific infrastructure asset, without ownership transfer to the private sector. Often contains required investment levels, but less politically charged since the state retains ownership.

INFRASTRUCTURE AND POLICY

Despite the emergence of private sector participation, financing options for comprehensive infrastructure schemes typically involve some combination of state-sponsored financing, aid-based donor participation, and private sector mobilization. Therein, government budget constraints, donor restrictions, and private sector incentives each enter the policy dialogue with both limitations and opportunities. Underlying the financing question is another set of decisions involving precisely which infrastructure will be supported. With finite resources, choices must be made among infrastructure's differentiated components: regional vs. rest-ofworld, and trans-border vs. domestic allocations. Construction of Vietnam's My Thuan Bridge in the Mekong Delta illustrates this dilemma. The trans-Mekong bridge was built with Australian aid and primarily Australian contractors, and consumed nearly the entire Australian aid budget for Vietnam during the bridge's construction. While the bridge would clearly improve transit times among neighboring provinces by relieving vehicular ferry congestion, some questioned the large allocation toward just one project. Those commentators opined that aid targeted toward farm-tomarket links instead (such as bridges across canals) would have increased the overall economic and social benefit of the aid package.[1]

The counterpoint from a government perspective, however, is that donors command significant leverage in the aid process. Utilizing contractors from the home country is commonplace, and large, highly visible projects are sometimes seen as attractive evidence of a donor's achievements. In addition, donors often prefer projects with clean deliverables where the results of their financial contribution are clear and measurable. Distribution of small, widelydispersed infrastructure aid greatly increases the complexity of the undertaking. Moreover, some would argue that governments are better suited to evaluate and fund their own community-level infrastructure, and thus use of donor funds for trans-border infrastructure is entirely legitimate. Last but not least, donors are frequently the last recourse for projects which the government cannot fund and the private sector will not support.

Even for government-funded infrastructure, the allocation outcome is complex. In practice, infrastructure decisions result from an institutional process within host governments since different governmental ministries and departments often control different pieces of the infrastructure package. For example, the Transportation Ministry may control ports, airports, trucking, and railways, while road construction and maintenance may rest with the Construction Ministry. [2] Successful infrastructure development in the institutional context requires sequencing, budgetary alignment, and common vision among the various players. Adding one or more bilateral partners for trans-border decisions increases the institutional complexity of the process, and the value of coordinating mechanisms such as the GMS Ministerial Committee becomes quite evident. The institutional process also figures prominently in the overall infrastructure bundle's performance. Export products

[1] Osborn, p.252.

[2] For example, this remains the case in Iraq per the author's personal experience. A number of variations exist elsewhere.

may require interface with five to ten different governmental organizations, each having policies that affect some portion of the bundle's composition, efficiency, and cost structure.

Since all of the Mekong economies are heavily agricultural, the question of sectorspecific infrastructure allocation deserves special attention. From a social welfare perspective, a case can be made that investments in domestic agricultural infrastructure may be as important to rural livelihoods as large trans-border projects. While both investment types may stimulate productivity and reduction of transport costs, the difference is in prioritizing resolution of domestic constraints. Put another way, it may be those domestic deficiencies, not trans-border infrastructure that are primarily responsible for limiting agricultural trade expansion. While trade benefits may accrue from both types of allocations, neither will be as effective if constraints remain in the other realm.

For Cambodia, the previously described challenges of the rice marketing system reflect these domestic infrastructure constraints. While export potential exists, the country's damaged roads and poor communications place farmers in a weak competitive position, limiting distribution flows and suppressing rural incomes. Furthermore, domestic infrastructure problems are not confined to smaller economies of the GMS. In Thailand's northeast Mekong basin region, high transport costs and logistics inefficiencies in the sugar cane industry still handicap export potential and suppress rural incomes. Inefficiencies are present at each level of the supply chain, resulting in productivity losses that could be reduced by targeted infrastructure investments of modest proportion. Research by Thai economists suggests that distribution costs could be reduced by 25-40% by construction of loading stations nearer farms, eliminating sub-scale shipments and partially alleviating mill congestion.[1]

CONCLUSION: TRANS BORDER ENTITIES – THE PRIMARY BENEFICIARIES

For an infrastructure-based regional market strategy, viability will depend directly on the validity of the underlying assumptions. As a result, the presentation herein has focused on delivering a ethodology which acknowledges traditional views of infrastructure's contribution to trade and regional integration, but offers new perspectives on the means through which accelerated returns to such investments occur. Further research will subject the S-Curve to empirical testing and validation using cross section data before ultimately being applied to the GMS corridor concept.

Yet even at this stage, existing data on sub-regional trade flows demonstrates the dominance of trans-border relationships in the GMS equation. While infrastructure will engender new regional trade opportunities, the consistency of trans-border rather than sub-regional flows will likely persist. In that regard, the trans-border trade phenomenon represents a logical spatial compromise at this stage of the sub-region's development. Though sub-regional by intent, GMS infrastructure will primarily benefit entities with contiguous geographic borders.

While industrial trade flows are certainly relevant to the sub-regional calculus, infrastructure's role in agricultural development and the prominence of historical commodity flows cannot be ignored. For most of the region's entities, the relationship between transport infrastructure and agricultural development may be of greater significance in trans-border dynamics than sub-regional integration, for both growth and distributional reasons. Additionally, since the effects of sub-regional liberalization will be asymmetric across the region's entities, the centrality of trans-border infrastructure within the sub-regional market context must be fully considered in view of each country's particular developmental circumstances.

References

Asian Development Bank (2001), *Preinvestment Study for the Greater Mekong Sub-region East-West Economic Corridor*, Volumes 2-7: Manila.

Asian Development Bank News, 16 March 2005.

Bond (1997), "Transportation Infrastructure Investments and Regional Trade Liberalization," Penn State University Department of Economics.

[1] Chetthamrongchai, p. 31-39.

Booth (1988), *Agricultural Development in Indonesia*, Allen and Unwin: Sydney.
Boreak (2001), "Constraints on the Rice Marketing System," *Cambodia Development Review*, Vol. 5, Issue 2.
Carrere & Schiff (2004), "On the Geography of Trade: Distance Is Alive and Well," *World Bank Policy Research Working Paper 3206.*
Cambodia Development Review, author unknown (2003), "Why Are Cambodian Banks Reluctant to Lend to SME's?" *Cambodia Development Review*, Vol. 7, Issue 3.
Chetthamrongchai, Auansakul, and Supawan (2001), "Assessing the Transportation Problems of the Sugar Cane Industry in Thailand," *Transport and Communications Bulletin for Asia and the Pacific*, No. 70, 2001: UNESCAP, Bangkok.
Chen and Penhirin (2004), "Marketing to China's Consumers," *McKinsey Quarterly – China Today*, Special Edition.
de Castro (1993), "Sub-Saharan African Transport Program: Transport and Trade Logistics," *World Bank Working Paper 4, SSATP.*
Dodsworth, Chopra, Pham, & Sushido (1996), "Macroeconomic Lessons from the Transition Economies in Indochina," *IMF Working Papers.*
Estache (2000), "The Rise, Fall, and Emerging Recovery of Project Finance in Transport," *World Bank Working Paper 2385.*
Estache (2001), "Privatization and Regulation of Transport Infrastructure in the 1990s," *The World Bank Research Observer*, Vol. 16, No. 1.
Farrell, Remes, and Schulz, "The Truth About Foreign Direct Investment in Emerging Markets," *McKinsey Quarterly*, 2004, Vol. 1.
Fernald, "Roads to Prosperity? Assessing the Link Between Public Capital and Productivity," *The American Economic Review*, June 1999.
Fine, Lapavitsas, & Pincus (2004), *Development Policy in the Twenty-First Century: Beyond the post- Washington Consensus*, London: Routledge.
Fujita, Krugman, and Venables, (1999), *The Spatial Economy: Cities, Regions, and International Trade*, Massachusetts Institute of Technology: Cambridge.
Galal and Hoekman, eds. (2003), *Arab Economic Integration: Between Hope and Reality*, Washington: Brookings Institution Press.
Limao & Venables (2001), "Infrastructure, Geographical Disadvantage, Transport Costs, and Trade," *World Bank Economic Review*, Vol. 15.
Madani (2001), "Regional Integration and Industrial Growth among Developing Countries: The Case of Three ASEAN Members," *World Bank Research Group.*
Martin (2000), "Trade Policy Reform in the East Asian Transition Economies," *Achieving High Growth: Experience of Transitional Economies in East Asia*, ANU Conference.
Martin and Sunley (1996), "Paul Krugman's Geographical Economics and Its Implications for Regional Development Theory: A Critical Assessment," *Economic Geography*, Vol. 72, No. 3.
Masviriyakul (2004), "Sino-Thai Strategic Economic Development in the Greater Mekong Sub-region," *Contemporary Southeast Asia*, August 2004: ISEAS.
Osborne (2000), *The Mekong: Turbulent Past, Uncertain Future*, Allen and Unwin: St. Leonards, Australia.
Park, Kuia, Keong, Khin, and Peng (2003), "The Post-Crisis Role of Thailand in the Greater Mekong Subregion," *Journal of the Asia Pacific Economy*: Routledge.
Rebelo (1992), "Landlocked Countries: Evaluating Alternative Routes to the Sea," *Transport No. OT-2 Working Paper*, World Bank.
Schwarz & Villinger (2004), "Integrating Southeast Asia's Economies," *McKinsey Quarterly*, Vol. 1. Sophal, Savora, Sovannarith (1998), "Impact of the Regional Economic Crisis," *Cambodia Development Review*, Vol. 2, Issue 2.
Subraiman (2001), "Transport and Logistics: Forming Sub-Regional Links," *World Bank Research Group.*

Than (1997), "Economic Co-operation in the Greater Mekong Sub-region," *Asian Pacific Economic Literature*, ISEAS.

Wilson, Mann, & Otsuki (2002), "Trade Facilitation and Economic Development: Measuring the Impact,"*World Bank Research Group.*

Wilson, Mann, & Otsuki (2004), "Assessing the Potential Benefit of Trade Facilitation: A Global Perspective," *World Bank Policy Research Working Paper 3224.*

World Bank (2003), *Cambodia Investment Climate Assessment*, Annex III.

The Role of the GMS in ASEAN and the ASEAN-China FTA

Kevin King
Khon Kean, Thialand
Kevinthek@hotmail.com

When the ASEAN-China FTA takes effect in July, 2005 it will create a trade zone of 1.7 billion people with a total economic production of $2 trillion. There is already heated debate regarding whether ASEAN or China will benefit more and how it will affect trade between the region and the US and the EU. Another concern is how it will impact the four less developed countries in the region: Cambodia, Laos, Myanmar and Vietnam (CLMV) and what effect if any these four countries will have on the free trade area.

These four less developed countries along with Thailand and the Yunnan province of China constitute the Greater Mekong Subregion (GMS). The GMS is a subregional grouping of the riparian countries around the Mekong River (called the Lancang River in China). In 1992, with the sponsorship of the Asian Development Bank (ADB), the six countries formed a regional grouping for the purpose of promoting cooperation and development. Over the past 13 years or so, the ADB has promoted a number of infrastructure projects clustered around "economic corridors" along with programs relating to health, tourism and facilitating trade among member countries. It outside the scope of this report to discuss in detail the achievements of the ADB GMS project, but suffice to say there have been a concerted effort at greater economic cooperation and a developing sense of a shared destiny.

Geographically, the GMS comprises a link, or linchpin, between the more developed ASEAN economies and China. In this regard, it is likely that the Mekong countries will be at the center of the various economic changes that the FTA will surly bring. In order to get a clearer picture of the possible outcomes, first will take a look at the Free Trade Area agreement itself and a closer look at how each country in the GMS views it's place in the FTA and strategies they may have for reaping the most benefits from it.

The GMS in ASEAN

Geographically, the GMS consists of the northern rim of Southeast Asia. Economically it contains some of the least developed countries in the world and in transition. Politically, the governments are among the least democratic in the region; some governments are relatively recent formations – at least in their current forms.

When the GMS project began in the early 90's, CLMV were not members of ASEAN. Whether this is a consideration at the time, I cannot say, but one effect of the regional grouping on theses LDN, may have been to prepare them for entry into ASEAN. ASEAN even has its own development program for these countries: ASEAN Mekong Development Cooperation began in 1996. The stated purpose was to promote sustainable development in the region and improve linkages between ASEAN and the countries of the Mekong region.[1] In 1995, Vietnam became a member of ASEAN. The remaining 3, Cambodia, Lao PDR and Myanmar, were all members by 1999.

The China-ASEAN FTA

The China-ASEAN FTA is designed to remove tariffs between the six original ASEAN nations and China by 2010. The four newer ASEAN nations (Cambodia, Lao PDR, Myanmar and Vietnam) have until 2015 to remove barriers. The FTA will came into official start on 1 July 2004, though a selected number of products were included in an 'early harvest package' (EHP) which began in Jan 2004.

---

1 Basic Framework of ASEAN-Mekong Basin Development Cooperation Kuala Lumpur, 17 June 1996 available at <www.aseansec.org>

Background

A regional trade organization for Asia has been late in coming. Pressured by the success of the EU and NAFTA in integrating their respective economies, Asian countries have been floating plans for a free trade area for much of the last ten years, but little came of it. ASEAN, in and of itself is still not big enough, economically speaking, to be a major player on the world stage and the still-born East Asian Economic Cooperation (EAEC) proposed by Dr. Mahathir never got going, owing in part to US opposition at not being invited to the party. APEC held out some promise, but included a haphazard collections of countries in and out of Asia and recently has seen its focus shift away from economic issues and toward security concerns.

To fill this void the idea of a trade grouping consisting of the ASEAN countries and China, Japan and South Korea (ASEAN+3) has been gaining currency. In this context, the ASEAN-China FTA (ACFTA) can be seen as a first step and test case for an eventual East Asian Economic grouping.

In 'The ASEAN-China Free Trade Agreement and East Asian Regional Grouping,' Kevin Cai describes a number of forces pushing Asia toward becoming a regional trading block, the most important being 'keeping up with the economic Jones's' i.e. Europe and North America. Also, regionalism was in the air in the 90's, spurred on by the fall of the Soviet Union and, as a result, the end of the bi-polar world system. During that decade, intra-Asian began to increase spontaneously, operating without any formal trade regime to direct trade in regional system.[1]

But it was the currency crisis of 1997 that really accelerated the movement toward better economic cooperation among Asian countries. Cai names three ways that the currency crisis compelled the nations of the region to put better financial cooperation on the front burner:

- The crisis exposed the lack of any mechanisms for close policy coordination. While the crisis unfolded, there was no playbook for the counties to consult or institutions in place for structuring a common response.
- The IMF was blamed for deepening the crisis instead of fixing it. Also the condescending tone of the IMF[2] bought back collective memories of colonialism.
- The inadequacies of ASEAN and APEC, *in their current forms*, were revealed for all to see. APEC was frequently split between its Asian and Anglo-American members. The events of 9/11 only made this worse as the US insisted on putting security at the top of the APEC agenda.

There have been many speculations regarding the impacts of the FTA on the countries involved. Many farmers in Northern and Northeast Thailand feel that it has already hurt the prices they receive for some of their produce.[3] Most government officials, predictably, are more upbeat. Wang Chun Gui, Chinese Ambassador to Malaysia recently said that the FTA would give ASEAN countries a head start into the massive Chinese market. He also felt that the FTA would promote better specialization in the region as each country seeks out its comparative advantage.[4] Obviously, there will be winners and losers from the FTA. It would be difficult to accurately predict all the outcomes but we take a look at how each of the GMS countries view the FTA and what their strategies might be.

The GMS and the China-ASEAN FTA

While the ADB has designed the overall structure for development in the Subregion and finances many of the infrastructure projects, it will be the more powerful economies involved,

1 Kevin G. Cai (2003) 'The ASEAN-China Free Trade Agreement and East Asian Regional Grouping' Contemporary Southeast Asia 25 (3)

2 The photo of director Michael Camdesus with his arms crossed, looking down impatiently as Soeharto signed the bailout package illustrates this.

3 Bangkok Post, 2 December 2004

4 Bernama, 17 March 2005

particularly China and Thailand that will determine much of the shape of the overall development. Fortunately, much of the development strategies of Thailand and China fit into the ADB model for GMS development and with luck and some outside persuasion, China's and Thailand's economic growth will, by necessity, accelerate the economic growth of the four less developed countries of the GMS.

In 'Sino-Thai Strategic Economic Development in the Greater Mekong Subregion (1992-2003)', Siriluk Masviriyakul identifies four specific goals for GMS development plans: 1) economic cooperation among the member nations, 2) facilitation of trade and investment, 3) development for the Subregion and 4) peaceful resolution of trans-border issues.[1]

While pessimists may argue that these lofty goals might be ignored once the ASEAN-China FTA kicks in and the bigger economies reap all the benefits, GMS's position as a 'linchpin' or 'geographical pivot' linking ASEAN and China makes this unlikely. By examining the development strategies of China and Thailand for the GMS, we can see that their plans require them to cooperate with the less developed countries of the region and take a leading role in their economic growth.

China

China's strategy for developing Yunnan province actually pre-dates the GMS. In the 80's, China was concerned over the uneven development in the large country and sought to promote growth in the areas away from the coast. Yunnan was one of these provinces and one of the first plans involved encouraging (permitting) Yunnan to engage in cross border trade with neighboring countries. Yunnan was declared the gateway to Southeast Asia, which in fact was its historical role for more than 1000 years.[2]

A key element in the China's plan for development in Yunnan is the Border Town Development Strategy. 17 border towns are included in the project and province has been given authority for management of 'small volume' border trade.

If we look at recent news articles about the China's economic plans there is a strong sense that many of China's policies fit in with the notion that China sees trade between Yunnan and Southeast Asia as a means of promoting development of the western parts of China: the "Go West" policy. Historically, China has always been penned in from the North, West and East and naturally expands into Southeast Asia. China seems to see the GMS as a stepping-stone to ASEAN and Yunnan as the platform from which to launch it's economic expansion into the region. In keeping with idea, China appears to be laying the groundwork for greater transport and telecom links through and within the region.

Actually, this depiction of China's southern economic expansion strategy is not new – as far back as 1995, the complimentary nature of the economic relationship between Thailand, China, Myanmar and Lao was seen and current economic strategies predicted:

Yunnan needs new markets in Myanmar and Laos for its cheap consumer products and minerals, and this landlocked province can access the sea through Myanmar. Thai Businessmen are eager to expand tourism and trade, particularly to Yunnan province, and Yunnan is, in turn, attracted by Thailand's relatively more sophisticated consumer goods. Myanmar and Laos produce timber, agricultural produce and hydropower resources that both Thailand and the PRC need, and the former two countries are in need of the cheap manufactured goods that Mainland China can provide.[3]

The same article also points out the need to develop the area's "weak infrastructure" along with challenges of "liberalizing tariff and visa restrictions and normalizing exchange rates and currency evaluations.[4] Hopefully all of this will be addressed as the FTA takes hold.

---

1 Siriluck Masviriyakul (2004) 'Sino-Thai Strategic Economic Development in the Greater Mekong Subregion (1992-2003)' Contemporary Southeast Asia 26 (2).

2 Economist, 8 November 2004

3 Amos A. Jordon and Jane Khanna (1995) 'Economic Interdependence and Challenges to the nation-State: The mergence of natural economic territories in the Asia-pacific' Journal of International Affairs 48 (2) Winter (p. 458).

4 Ibid. pp. 458-9

In general, China has a number of long term strategies for further economic involvement in the GMS. According to the China Daily[1] stated five plans for the region: 1) accelerate trade integration 2) explore mineral resources 3) encourage cross-border private sector investment 4) promote common disease monitoring and 5) improve overall cooperation in the GMS.

Still, like any nation opening up to the world market, China will have to adjust to changes that will inevitably come about. One concern is of rubber planters in Yunnan who are worried about cheaper imports.[2] This and numerous other similar concerns are worked out in the negotiations over 'sensitive' goods and reduction timetables.

Finally, China is clearly aware that there long term interests in the GMS can only be fulfilled if the countries of the region can improve their infrastructures. In addition to the projects listed above, China also has plans to connect and integrate an information highway in GMS.

Thailand and its plans for GMS

Thailand has two important goals for its economic involvement in the GMS. Thailand's main goal is to become the transport hub and investment center for GMS. This fits in with the Thai government's plan to develop the North and Northeast of the country to bring them more in line with the rest of Thailand. The Thai interest in becoming economically involved in the Mekong countries dates back to the late 80's as the Cambodian crisis was winding down and the goal was to turn the "battlefield into a market." Thailand also appears aware of its need to counter China in terms of investment and influence in the Mekong countries, particularly in Vietnam.[3]

Under Taksin, Thailand adopted a dual track approach of greater economic involvement internationally and national development at the local level. Much of the development strategies for the North and Northeast of Thailand involve making them jumping off points for investment in, trade with and transport through the GMS. Obviously, Thailand's economic growth strategies will be far more successful if GMS development strategies are brought to fruition.

Nong Khai, a province in Thailand's Northeast across the border from Lao PDR, is poised to be a major pivot in the push into the GMS. Two news reports from last summer highlight this. Tourism, fashion, agriculture and logistics are named as sectors with growth potential. Also listed as economic potentials are exporting tomato paste, attracting eco-tourist and selling village handicrafts. As if to endorse this view Thailand's National Economic and Social Development Board has targeted the province for improved competitiveness by promoting better cooperation between the public and private sectors. The view here is for a partnership between business and government, with the private sector creating factories and retail businesses while the public sector will work to improve the infrastructure.[4] A Thai businessman also argues that Thailand should focus on the region as a whole as opposed to making bilateral agreements with individual countries. [5]

Finally, Thailand will be using much imported labor from the three neighboring GMS countries, Myanmar, Lao PDR and Cambodia. This is not so much a strategy as a necessity. The simple fact is that Thailand's economic growth acts a magnet for workers from it's three neighbors and Thailand's demographics make imported labor essential for continued growth. With this in mind, Thailand has signed MOU's with each of the three countries and last year registered 1.4 million foreign workers.

Thai-Chinese impact

After looking briefly at Thailand's and China's vision of economic involvement with the GMD, lets take a look at what might the impacts be of their policies. Firstly, the development strategies of Thailand and China require that they reach each other's markets more quickly and efficiently than they do now. In order to do so, they must travel through (or maybe over) either

---

1 September 2003
2 Financial Times, 29 October 2004
3 Kesikorn Research Center (KRC)
4 Bangkok Post 20 Aug 2004, The Nation 23 Aug 2004
5 The Nation 17 June 2004

Myanmar or Laos. In this regard, their cooperation may have a positive effect on the infrastructure projects.[1] Both countries are providing funds for the completion of road links between Northern Thailand and Yunnan Province that run through Laos and Myanmar. There is also a push toward getting a railway link from Nong Khai in Northeast Thailand into China. In addition to providing funding, both China and Thailand need the cooperation of Laos and Myanmar and in turn must take their interests into account.

When these transportation links are completed, not only will they provide an avenue for China and Thailand to trade with one another, they will also enable the lesser-developed GMS countries to participate more easily in the larger economies to their north and south. So, if we look back at the four goals for the GMS stated earlier, we see that none of them can be ignored if Thailand and China are to fulfill their own economic aims.

The key point in all of this is that simply by following their own economic self-interests, China and Thailand will have to play a major part in the development of the GMS. For this reason, the GMS most likely will not be left out of the ASEAN-China FTA and with its pivotal position, may in fact be one of the keys to its eventual success. Recent news reports indicate that both cooperation and competition in the GMS between China and Thailand are likely in the coming years.

One report has a Thai and Chinese company joining forces to build two power plants on the Lancang (Mekong) River in Yunnan. The power will go to Guangdong Province and to Thailand. Another tells of the port of Jinghong on the Mekong in Yunnan being complete and ready to accept ships from Laos, Myanmar, and Thailand.[2] As mentioned earlier, KRC suggests that Thailand should pay more attention to increasing Chinese investment in GMS and make moves to counter it.[3]

The Less Developed Countries in GMS

Cambodia, Vietnam, Myanmar and Laos all seem to be aware of the importance of China to the economic growth of the region and look to it as a source of investment and a market for exports. These less developed countries are aware of their need to improve infrastructure and create a more conducive environment for investment and trade. Presumably, they will also be looking for ways to export into the massive Chinese market. Now we can take a closer look at how each of these countries views the upcoming FTA, while speculating on what the possible impact on them will be.

Cambodian leader Hun Sen says China's inclusion in the WTO has had enormous benefits for Cambodia and will help Cambodia, Laos and Myanmar "close the gap" with the more developed ASEAN countries.[4] In May of last year, A large Chinese cargo vessel, Mekong Express, began shipping out of Phnom Penh. The owner, China Shipping, carries 90% of the trade from the Cambodian capital's port.[5]

Among the adjustments Laos has made in order to encourage foreign investment include lowering tariffs, cutting corporate taxes and extending licensing terms. A member of the Thai business community has said that getting accurate information is a key to doing business in Laos due to rapidly shifting regulations. We will see if Laos' new regulations will help.[6]

In addition to improving economic performance Myanmar may also be hoping that greater involvement in the GMS and the ASEAN-China FTA will help to end its international isolation. Its recent decision to stand down from holding the rotating ASEAN Chair, indicates it awareness of the need to take regional concerns into account. With regard to increasing economic integration in the region Myanmar is considering a deep seaport at the costal city of Mawlamyine. This is on the western edge of the East-West Corridor linking the South China Sea to the Bay of Bengal through

---

1 This is where they diverge from ADB goals. Business interests in China and Thailand put a premium on the North-South Corridor, while the ADB is pushing the East-West Corridor. See Siriluck Masviriyakul (2004).

2 BBC 17 July 2004; Chinese News Digest 15 July 2004.

3 The Nation 30 August 2004.

4 BBC 2 November 2004

5 Financial Times Information (19 May 2004)

6 Bangkok Post 30 August 2004

Vietnam, Laos, Thailand and Myanmar. If completed, the port will give Myanmar the chance to compete with the Malacca Straights as a trade route to China.[1] A Myanmar government official speaking at the China-ASEAN Expo In Nanning last year discussed plans to increase trade between Myanmar and China by developing land and sea trade routes.[2]

Vietnam is looking to the FTA to provide more trading opportunities along with helping to attract more FDI. Already trade with China is steadily increasing and was expected to top $5 Billion in 2004. In addition to Yunnan, Vietnam is opening up to Guanxi province in Southeast China will be accelerated by the opening of a Nanning to Hanoi highway.

In expectation of further economic expansion when the FTA takes hold, Vietnam has been working on economic corridors and enterprise zones. The enterprise zones will provide tax breaks and other incentives to attract investors. The economic corridors will link specific border provinces with provinces in Lao PDR and China to facilitate the flow of goods across the borders. In addition to helping local producers finds more regional markets, the corridors will also add to the incentives for foreign investors seeking to reach the China or ASEAN markets.

Effects of ASEAN-China FTA

The larger market should give the GMS countries a greater rage of potential customers for their export. With China becoming more important as a market for ASEAN, the GMS countries should have a better chance to "get a piece of the action," particularly considering the advantage posed by their close proximity to china. As ASEAN and China compete to attract FDI, the GMS should get some of the spillover that will naturally occur due the infusion of capital resulting from FDI.

Also, if the restructuring of the economies happens and their economies do strengthen, this will future increase the potential export markets for the less development GMS countries. This should also make more capital from China and the more developed ASEAN states available for investment in the GMS. If South Korea and Japan do indeed open their markets, this can only help the GMS countries expand their export. If China's move toward a market economy continues, Vietnam, Laos and Myanmar will likely follow.

It is unlike that any of the four less developed GMS nations will sign FTA's with the US or Australia, but Thailand's doing so may help them to get products to these important markets. If the ASEAN-China FTA does result in more political cooperation among the countries involved, the development of the GMS may well become a top priority and will accelerate as ASEAN and China see development as in their mutual benefit. This may also move China to be more cooperative with regard to protecting the ecosystem of the Mekong River.

1 Xinhua 15 June 2004
2 BBC 8 November 2004

The trade relationship between Dai Viet and Siam from the XII century to mid XIX century

Prof. Dr. Nguyen Thi Thi
Institute of South East Asia Studies
Vietnam Institute of Social Sciences
linh.uboc@fpt.vn

Dai Viet and Siam are geographically close to each other and have a connected sea coast to enable trading activities. As a result, the two nations have maintained a long term relationship across generations. It is for sure that the trading and other relationships between the two countries had been started long before historical documents were written. However, historical documents are very important to help us understand more about this relationship. Furthermore, international scale archaeological excavations have also discovered artifacts that enlighten this special relationship. In this article, I would like to indicate to the relationship between Dai Viet and Siam from the XII to XIX century based on historical documents and recent archeological discoveries.

I. Ancient chronicles and recent archaeological discoveries that related:

1. Ancient chronicle:

The trading relationship between Dai Viet (the former name of Vietnam used by the Ly dynasty in the 11th century to the Nguyen dynasty at the end of XIX century) and other nations in the South East Asia as well as with China was a long term relationship, which started much earlier than the historical documents of Dai Viet. "Du Dia Chi", the oldest book of Dai Viet written in Chinese character by Nguyen Trai in 1483 [1] noted these special relationships. In this book, Nguyen Trai introduced on the geography, specialties, cultures and traditions of people in neighboring countries as Siam, Cambodia, Laos, and Java. After that, the multiple volumes of historical books "Dai Viet Su Ky Toan Thu" written by Ngo Si Lien was published at the end of the XVII century. Although it was published at the XVII century, this book was based on the book called "Dai Viet Su Ky" of Le Van Huu in the XV century;[2] In this book, the author wrote about the trade and political relationship between Dai Viet with Champa, Laos, Cambodia, Siam, and Java from beginning of the Christian Era. "Lich Trieu Hien Chuong Loai Chi" of Phan Huy Chu, published at the end of the XVIII century[3], indicated the trade relationship between Dai Viet and neighboring countries in the region, including Siam, mainly from the XVII century to XVIII century; "Van Dai Loai Ngu" and "Phu Bien Tap Luc" by Le Quy Don published at the end of the XVIII century[4]. In this book, the author wrote about Vietnamese that had been authorized by Lord Nguyen to be in charge of the relationship with neighboring countries, including Siam. The author also mentioned about border markets between Vietnam and Laos, Cambodia as well as the route from Laos to Siam; "Viet Su Thong Giam Cuong Muc" [5] and Dai Nam Thuc Luc" [6] of the National Historical Board published in the XIX century, which were written based on the book " Dai Viet Su Ky Toan Thu" of Le Van Huu indicated the relationship between Dai Viet and South East Asian countries from the XII to XVII century.

---

[1] Nguyen Trai. "Du Dia Chi", Hanoi Cultural Publishing House 1960xx

[2] Ngo Si Lien. "Dai Viet Su Ky Toan Thu" translated from Chinese to Vietnamese. Hanoi Cultural Publishing House 1960

[3] Phan Huy Chu." Lich Trieu Hien Chuong Loai Chi" translated from Chinese to Vietnamese. Hanoi Cultural Publishing House 1960

[4] Le Quy Don. Van Dai Loai Ngu and Phu Bien Tap Luc, translated from Chinese to Vietnamese. Social Sciences Publishing House. Hanoi 1964

[5] Quoc Su Quan XIX century. Viet Su Thong Giam Cuong Muc, translated from Chinese to Vietnamese. Social Sciences Publishing House. Hanoi 1973

[6] Quoc Su Quan XIX century. Dai Nam Thuc Luc, translated from Chinese to Vietnamese. 50 volumes. Social Sciences Publishing House. Hanoi 1965 to 1977.

2. Archaeologist excavated the ship wreck in Cu Lao Cham – Hoi An – Quang Nam province

According to Vietnamese researchers, at the end of the XIV century, the Silk Road on land nearly ended. Even before the Silk Road on Land ended, in the IX century, the meeting of the East and the West civilization created busy and flourished sea routes which connected a number of trade ports. Therefore, it was named the Silk Road on the ocean. Many of Vietnamese trade ports contributed to the establishment of this special Sea Silk Road. [1]

The discovery of the Cu Lao Cham shipwreck together with historical documents has proven not only the trade relationship between Dai Viet and Ayutthaya, but also the prosperity of the Sea Silk Road in this period.

Cu Lao Cham is an island 70-km off shore to the East of Hoi An town, Quang Nam province.

The island- Cu Lao was named Cham (Champa) marking a not too distant memory about the presence of Champa people here when the area was still under the control of Champa Kingdom. This island is in a very favorable position on the international trade route – the front position of the Hoi An international trade port.

The Cu Lao Cham shipwreck was discovered by Hoi An fish men in 1990 when they freely brought up artifacts. Not until the year 1995 that the investigation and excavation of the ship wreck were started by the Vietnam Historical Museum and the Vietnam Salvage Company, VISAL, under the Vietnamese Sea Transportation Department (Ministry of Transportation) and Saga Horizon, a Malaysian salvage company.

After 3 investigations carried out in 1997 on a 8km2 sea territory, 25km from Cu Lao Cham to the East, at the depth of 70m, the investigation cruise identified the location of the shipwreck at:

Parallel of latitude: 16o00'-16o08' North

Meridian: 108o27' – 108o32' East

Excavations of the ship wrecks were carried out in 3 times. The 1st time was in July 1997. The 2nd time was in May 1998. The 3rd time was from end of March to end of June 1999. The body of the wreck revealed pointing in East-West direction. The ship is 29.4 meter long and at the largest part 7.2 meters wide. The ship was built by wood with its hull divided into 19 thwart ship compartments. Due to unfavorable weather condition as there were frequently storms, the water was deep and waves were strong, the excavations were carried out in very hard conditions. Although the excavations were carried out in a long time, but at the end, archaeologists were just able to salvage artifacts in 6 out of 19 compartments. 240,000 intact artifacts and tens of thousands of fragments were salvaged. According to the agreement between the Vietnamese Government and salvaging companies, the artifacts were divided as follows:

- The unique items were delivered to the Vietnam Ministry of Culture and Information : 789 items
- The incomplete or deteriorated items were delivered to the Quang Nam Museum: 270 items
- The items divided among some Museums in Vietnam: 24,294 items (accounting for 10% of the artifacts)
- Items of mutual ownership were put on auction in San Francisco: 218.649 items [2]

Most of the ceramics found in the Cu Lao Cham shipwreck were Vietnamese Chu Dau ceramics. These are also the remains on the ship. According to world famous experts, this is an Ayutthaya ship that sailed to Dai Viet to purchase goods and was on its way home. Unfortunately, it shank and remained in the Cu Lao Cham sea territory for 500 years.

---

[1] Vu Linh. The Sea Silk Road and Vietnam's position. Xua va Nay Magazine, volume 131, January 2003

[2] Pham Quoc Quan and Tong Trung Tin, Excavation report of the Hoi An shipwreck. Documents of the Vietnam Institute of Archaeology. Hanoi 2000. Page 15 to 21

According to Mensun Bound, a reputed expert on Vietnamese ceramics and Butterfields, basing on the decorations as well as type of ceramics found in the ship wreck, the dating of the ship is from end of XV century to beginning of the XVI century.[1]

The blue and white ceramics of the Jingdezchen kiln and celadon ceramics of Longquan kiln in China found on the wreck all dated the end of the XV century.

In 1471, the Vijaya citadel of Champa was defeated. All Champa kiln sites were closed in this period. Therefore, the dating of some Champa ceramics on the wreck can not be later than 1471.

From the 2nd half of the XV century until before 1471, Vietnamese historical documents only noted one time that Siam ship arrived in Dai Viet in 1467. Therefore, the reasonable dating of this ship is from 1467 to 1471.[2]

II. The Dai Viet – Ayutthaya relationship from the XII to XV century:

According to Vietnamese historical chronicles, in the XII century, in order to meet the trading demands with foreigners, a trade sea port was established in the Northern Sea of the country. The Van Don trade port was established in the area of Bai Tu Long and Ha Long bays, in Quang Ninh province – a natural cultural heritage honored by UNESCO. The establishment of this trade port was closely related to Siamese traders. Spring – February the 10th year of Ky Ty (1149- the 19th year of King Tong Thieu Hung), the Van Don residence was established for traders to stay. Then Qua Oa and Tiem La (Siam-NTT) had many trade ships on the East Sea. [3] ". The writing showed us that there were many Siam trade ships came to Van Don trade port.

In another part, the chronicle wrote: the 7th year of Nham Dan (1182- the 9th year of King Tong Thuan Hi), Siam brought their presents and offerings.[4] 2 years later, Siam traders arrived in Van Don again. The historical chronicles wrote as followed: March, the 9th year of Giap Thin (1184 – the 11th year of King Tong Thuan Hi), traders of Tiem La (Siam) and Tam Phat Te arrived in Van Don, submitted their offerings to be allowed to do trading.[5]

According to chronicles, it is obvious that in order to maintain the trading relationship, Siam messengers arrived in Van Don, giving presents and offerings to make their trading activities easier.

From the XIII to the XIV century, Vietnamese under the Tran dynasty, there were 3 wars against the Nguyen Mong, and a war between the Tran dynasty and Champa Kingdom. By the beginning of the XV century, the resistance war against the Minh by King Le Loi started. All these wars made trading activities with foreigners, including Siam traders ceased. It explained a blank period in the Vietnamese Chronicle that did not indicate about trading activities with Siam trade ships to Van Don.

To the beginning of XV century, after King Le Loi defeated the Minh invaders and established the Le dynasty in Dai Viet, peace resumed the trade relation ship between Dai Viet and Ayutthaya – the period when this Kingdom ruled the nowadays South and central Thailand. The Vietnamese chronicles mentioned about this trade relationship. Although there were not much written, we could still identify frequent presence of Ayutthaya traders in Dai Viet.

Autumn, August the 4th year of Dinh Ty – (1437 – the 2nd year of King Minh Chinh Thong), Siam trade ships arrived to submit offerings".[6]

Winter – November, Siam nominated messenger called Trai Cuong Lat to bring offerings. Dai Viet King gave him an official letter to bring home and deduct trading tax to half of the previous year – collecting 1 out of 20, and grant the messenger with a lot of presents. The king also

---

[1] Treasures from the Hoi An hoards – important Vietnamese ceramics from a later 15 early 16 century cargo. Butterfields catalog. USA 2000

[2] Nguyen Thi Thi. The Dai Viet-Ayutthaya relationship in the XV century via the shipwreck in Cu Lao Cham. Conference on 25 years Vietnam – Thailand relationship, Chulalongkorn University, 2001

[3] Dai Viet Su Ky Toan Thu. quoted. Volume 1, Ly dynasty, page 28

[4] Dai Viet Su Ky Toan Thu. quoted. Volume 1, page 295

[5] Dai Viet Su Ky Toan Thu. quoted. Volume 1, page 295

[6] Dai Viet Su Ky Toan Thu. quoted. Volume III, page 125

sent to the Siamese King 24 pieces of silk, 30 sets of porcelains; to the Queen 3 pieces of silk, 2 sets of porcelains, each set include 35 pieces." [1]

September, the 8th year of Dinh Hoi (1467 – the 3rd year of King Minh Thanh Hoa): a Siamese trade ship arrived in Van Don village, presenting their proposal written on a golden paper and present their local offerings. The King denied".[2]

By only looking at the ancient chronicles, we cannot be sure what kind of products that Siamese traders brought from Dai Viet. We only knew that they brought gold as offerings to the King Le and purchase goods. But thru the fact that King Le sent to Siamese King and Queen silk and porcelains, we can see that these are two favorite products of Ayutthaya at that time.

The image of a Siamese trade ship to Dai Viet can also be found in a poem of King Le Thanh Tong, the King governing the golden days of the whole Le dynasty. He was enthroned in 1460 and passed away in 1497. In 1471, he headed a punitive expedition to Chiem Thanh. On his way home, his ship stopped over a place near Hai Van pass (central Vietnam, the former territory of Champa-NTT) for sightseeing. The King appraised the beauty of the Hai Van mountain pass with its high, meandering mountain pass, beautiful mountains with jungle and offshore view of the panoramic ocean view with Siamese trade ships sailing. This means Siamese trade ships were quite familiar to the Dai Viet people.

Stopping by the Hai Van sea
The view in a great harmony
Hai Van, the beautiful Viet sky
Dong Long[3], the moon see thru the quiet night
Lo Hac[4] the ship sails on the smooth sea and fresh wind....

It is possible that the Siam trade ship appraised by King Le is the ship that sank near Cu Lao Cham when it was struck by strong waves and winds while carrying too much goods.

Back to the ship wreck in Cu Lao Cham, a question was raised regarding how archaeologist identified it as a Siamese ship. First of all, it was because of the timber that was used to build the ship. By the C14 analysis method, researchers analyzed pieces of timber found. This kind of timber was a common type of timber in Siam. Secondly, this ship was built by Chinese in Siam. Besides, parts of 11 skeletons of the ship owner's family and the crew found at the end of the ship were measured and analyzed by Vietnamese anthropologists. The anthropologists indicated that these skeletons could be of Siamese. Apart from that, a number of Savalkhalok big glazed storage jars to store fresh water, food for the crew; as well as pot of slaked lime for betel chewing habit of Siamese were also found in the living area of the crew.[5 viii]

When did the Siamese ships usually arrive in Dai Viet? According to chronicles, Siamese trade ships often arrived in Spring, between February and March or in Autumn, between September and October. This indicated that they took the advantage of trade- wind to sail to Dai Viet. The South wind pushed the ship faster forward. The fruit seeds found on the wreck were of Summer and Autumn fruits, such as dimocarpus longan lour, castanopis boisiihickel, camus, and momordica cochichinensis spreng. This means Siam ships arrived in Dai Viet at the end of Autumn of the previous year and stayed for a long time to sell their products and buy local goods. Then they sailed back to Siam at the end of the Summer or the beginning of the following Autumn when there was north-easterly monsoons.

---

[1] Dai Viet Su Ky Toan Thu. quoted. Volume III, page 125
[2] Dai Viet Su Ky Toan Thu. quoted. Volume III, page 215
[3] The sea territory South of Hai Van mountain pass-NTT
[4] the name indicated Siam. King Le Thanh Tong (1442-1497). National University Publishing House, 1997
[5] Pham Quoc Quan and Tong Trung Tin, Excavation report of the Hoi An shipwreck. Documents of the Vietnam Institute of Archaeology. Hanoi 2000. Annex 11

The ship wreck in Cu Lao Cham mainly carried Vietnamese Chu Dau Ceramics. This is an answer to our question that ceramics used to be an important trading commodity in Siam. Silk can also be one, but we have not got any clear evidences.

Many people asked why it was not the Chinese ceramics that have been a favorite commodity worldwide.

According to Chinese historical documents, by the beginning of the Minh dynasty in China (1405-1433), a admiral called Trinh Hoa followed the sea route of the Silk Road via Dai Viet, other countries in the South East Asia sea, India, Persia, the Red sea to Arabian countries and Africa, to breath life in the "Silk Road", which had been stagnant for quite a while and initiated a marine trading period called Great Navigation Period later on.[1 ix]

But an event happened in 1371. The Minh dynasty in China closed its sea ports and imposed bans to hold monopoly in foreign trade. Not until 1567 was this decision diminished.

Chinese ceramics suddenly became unavailable. This was the chance for ceramics manufacturing countries as Dai Viet, Siam, and Korea won the market. Not only Siamese trade ships arrived in Van Don port, but also those from other countries also arrived. According to historical documents "Traders, one after the other come, bringing offerings" [2x], and the most common commodity was ceramics.

Another question is why Siamese traders came to buy Vietnamese commodities to bring back to Siam, while there was no Vietnamese trade ships going abroad? The answer might be Siamese like Vietnamese ceramics. Experts on South East Asia ceramics identified that the Vietnamese bowls with chrysanthemum decorations and high foot rim, typical products of the late XIV century were imitated by Savankhalok ceramic kilns. Secondly, the famous Vietnamese researcher, late Prof. Dr. Trinh Cao Tuong wrote in his paper about Vietnamese trade ceramics in a conference on glazed ceramics held in Hanoi that: Vietnam had not got a real foreign trade in the past because through out its history, Vietnam had not got any fleet going abroad for trading purpose. Vietnamese ceramics were only sold to foreign trade ships. [3]

Therefore in that context, Siamese traders have played an important role, enhancing the export of Dai Viet. And Ayutthaya could have been a transition point for foreign traders to carry Vietnamese ceramics world wide.

III. The Dai Viet – Siam trade relationship from the XVI to the XVIII century:

In Dai Viet, from the XVI century, after taken the Champa kingdom, Vietnam was nearly divided into two political regimes. To the North, from the Ngang Mountain pass (the nowadays Quang Binh province in central Vietnam) was governed by King Le and Lord Trinh. The South from Ngang Mountain pass was governed by Lord Nguyen.

Reading the historical chronicles in this period, we did not notice any Siamese trade ships arriving in the Northern Dai Viet. In stead, Siamese traders arrived in a port in the center Vietnam in Thuan Hoa area (the nowadays Quang Nam – Da Nang province). About the Thuan Hoa area, historical documents stated that: "The Thuan Hoa area is connected to Quang Nam by water way and road way. The right side of Quang Nam is adjacent to Phien kingdom, while its sea coast is less than 3 to 4 days sail from Phuc Kien and Quang Dong province of China. Therefore trade ships gathered here..."[4] The historical documents have showed us the bustle that foreign trade ships brought to sea ports in Thuan Hoa.

During this period, the most famous trade port in Thuan Hoa was the Hoi An international trade port. Apart from Hoi An, there were many smaller ports, like the Thanh Ha port in Hue, Salt Water port in Binh Dinh. Those were trade ports that trade ships could arrive to purchase goods or get away from storms. Or trade ships could arrive to get fresh water or buy special foods and fruits of the central Vietnam. Excavations carried out by Vietnamese archaeologists in recent years have

---

[1] Vu Linh. The Sea Silk Road and Vietnam's position. Xua va Nay Magazine, volume 131, January 2003

[2] Nguyen Trai all volumes. Hanoi Cultural Publishing House 1969. Page 204

[3] Trinh Cao Tuong, Vietnamese trade ceramics with my glance. Hanoi 1997

[4] Le Qui Don, Phu Bien Tap Luc, Hanoi Social Sciences Publishing House 1964. Page 253

collected a number of important artifacts, i.e. fragrances of Vietnamese and Chinese ceramics with dating in this period, money from different countries in the world, that have proven a prosperous time of central sea ports.

Back to the chronicles, historian of that time noted that during the time Nguyen Lord governed the area, the authority had been able to collect many tax from foreign trade ships, including Siamese trade ships. Le Qui Don noted that: "...incoming tax for Siamese trade ships is 2000 quan, outgoing tax is 200 quan...).[1] Other trade ships coming to Thuan Hoa in this period were also subjected to tax. We can compare the tax charged on other foreign trade ships compared with Siamese trade ships: "...Lu Tong ship (name of the main island of the Phi Luat Tan archipelago) was charged incoming tax at 2000 quan, outgoing tax at 200 quan; the Cuc Cang ship (possibly Singapore) was charged incoming tax at 500 quan and outgoing tax at 50 quan". [2] [26]

During the time Nguyen Lord governed the Southern Dai Viet, people as well as tax managers often had contacts with Siamese traders as they came for trading purpose or when they stopped by on their way to China for trading or to bring offerings, avoid storms, get fresh water or buy more food... The Nguyen Lord frequently received letters from the Siamese Royals. During this period, a person in Thuan Hoa was authorized by Nguyen Lord to exchange contacts with Siamese Royals. He is Mr. Nguyen Quang Tien, who lived in Phu Ninh commune, Quang Dien province.

Nguyen Quang Tien was very knowledgeable about the relationship between the Siam Royals and Lord Nguyen. He was also very much updated about the operations of Siamese traders in Thuan Hoa. Therefore, while responding to letters from Siam, Nguyen Quang Tien was soft but quite decisive. He had reasonable argues on what were not appropriate and unreasonable created by Siamese traders, while pointed clearly the favor that Lord Nguyen offered to Siamese traders. His arguments were always acceptable and respectable by Siamese Royals and Siamese traders. Thru these exchanged letters, we knew that Hoi An was the trade ports that Siamese traders often stopped over.

Below, we would like to introduce the main contents of some letters that Siamese Royals sent to Lord Nguyen and the response letters written by Nguyen Quang Tien.

The letter of Siamese mentioned that some Vietnamese fishing boats met storms and were casted to Siam. Lord Nguyen sent some messengers to Siam to negotiate and Siam side returned 54 people.

The second letter from the Siam Royal mentioned that previously Siamese King had sent to Lord Nguyen a letter saying that when Siamese trade ships going to Ha Mon, Ninh Ba, and Quang Dong to exchange and purchase things for the state. On their way back, they often had to stop by ports governed by Lord Nguyen. Siamese King asked for a favor that Lord Nguyen ordered tax managers not to collect tax from ships owned by the state of Siam as Lord Nguyen did to normal trade ships. Siamese King also asked tax collectors of localities that state Siamese ships stopped by should be subjected to tax free.

The letter also stated that although there had been such a letter from Siamese King, but recently there were 3 times when Siamese state ships on their way to Ha Mon, Quang Dong,and Ninh Ba to purchase things for state use:

1st time is in Ky Suu year, the Siamese state ship led by Phin Nha Hong stopped by Hoi An and it was escorted in Hoi An.

2nd time was in Mau Thin year, the Siamese state ship led by Quach Ngoc Thanh going to Quang Dong. This ship was also caught in Hoi An when stopping by.

3rd time was in Qui Dau year, a Siamese state ship led by Quach Thanh Chuong on its way back from Quang Dong, stopped by Hoi An to avoid storm. Tax collectors in Hoi An collected tax and kept commodities of this ship.

---

[1] Le Qui Don, Phu Bien Tap Luc, Hanoi Social Sciences Publishing House 1964. Page 253

[2] Le Qui Don, Phu Bien Tap Luc, Hanoi Social Sciences Publishing House 1964. Page 253

26. Quan: Vietnamese currency unit at that time

The Siam side requested Nguyen Lord to warn tax collectors so that when Siamese ships stopped by, there would be a guarantee that they would not collect tax and keep commodities as they did before. The Siam side also said that it was impossible for their ships not to stop by Hoi An when going to Quang Dong. Therefore, they requested Nguyen Lord to issue 10 permission cards issued by the King so that when Siamese ships arrived in Hoi An, the ships would not be checked and commodities would not be seized.

Nguyen Quang Tien had draft the response letter on behalf of Nguyen Lord.

First of all, Nguyen Quang Tien thanked the Siam side released some fishermen. He also asked for faith of some other fish men that were reported casted to Siam land but were not returned. (Even after the time of Nguyen Quang Tien, the Siam side did not return these fish men.)

Also from this source of documents, we can infer that the fishermen that arrived in Siam land to avoid storm could be those first Vietnamese fishermen that had to remain in Siam for living. They could be the ancestors of the people living in a Vietnamese village in the nowadays Ayutthaya.

Nguyen Quang Tien also refused the fact that tax collectors of Lord Nguyen seized Siamese ship's commodities when they arrived to avoid storm due to lack of evidence. He said that ship owners might have used the money and commodities on gambling or dancers and singers. When they came back, they were afraid being punished by the King and had created such a story about tax collectors of Nguyen Lord. Nguyen Quang Tien advised Siamese King not to listen to his staff about such small issues which could affect the traditional good relationship between the two countries.

At the request of Siam side, Nguyen Lord issued a permission card to enter the Hoi An port. But Nguyen Lord only issued 1 permission card for 1 Royal ship, but not up to 10 cards. The reason was clear that Siamese trade ships that came to Hoi An had the responsibility to pay tax as per regulations set by Nguyen Lord.

Also according to exchanged letters of both sides, we could see that Siamese came to Hoi An port in order to find ways to get to other smaller ports in the area to find Ky Nam woods, which are specialties of central Vietnam. Many Vietnamese aloe wood traders had taken advantage of the lack of knowledge of Siamese traders about this special commodity to sell to them aloe woods, which were cheaper, and said that they were Ky Nam (very unique and expensive). The Siamese traders that lack of the knowledge about this commodity had to pay a higher price for this kind of trading. When they come back to Siam, they found out that they were cheated and tried to sue to Nguyen Lord. However, the representative of Nguyen Lord explained to them that bad or good quality Ky Nam and aloe wood were depended on the land that the woods grew on. It also depended on the weather of only some specific region, which could create high quality ones. Therefore the mis-choosing was understandable. That was also a lesson for Siamese traders in upcoming transactions.[1]

These unique cases only happened to those that did not go thru the tax office of Lord Nguyen. The transaction not only caused loss to themselves but also indicated that they avoided tax of the Nguyen Lord.

Siamese trade ships not only stopped by central Vietnam for trading. Historical documents recorded 1 event that Nguyen Lord helped Siam when this country suffered from drought and starvation. "Summer, April, the 10th year of Ky Dau – 1789 – year 54th of King Thanh Can Long, that year the Le lost its power, Siam had a serious draught and starvation. It asked to buy rice from Dai Viet. The King ordered to grant 8,800 phuong of rice, equivalent to 200 carts of Siam" [2]

Though the fact that Siam Royal mentioned names of ship owners going to do trading in Quang Dong, we could see that most of ship owners were Chinese, i.e. Quach Ngoc Thanh, Quach Thanh Chuong. This indicated that since the end of the XVII century, and beginning of XVII century, Chinese traders played an important role in Siam Royal. The Siamese King might use Chinese traders because they could speak Cantonese and knew a lot about trading. They paid a

[1] Le Qui Don, Phu Bien Tap Luc, Hanoi Social Sciences Publishing House 1964. Page 295 to 299. Volume 5

[2] Quoc Su Quan XIX century. Dai Nam Thuc Luc. Hanoi Social Science Publishing House 1960-1974, Volume II, page 93

special contribution to the development of foreign trade between Siam and neighboring countries, especially with Dai Viet and China.

IV. The trade relationship between Dai Viet and Siam in the XIX century:

At the end of the XVIII century, after clearing the Tay Son uprise, the Nguyen took the throne in Vietnam and named Hue as its capital. From the mid XVIII to end of the XIX century, the relationship between Nguyen dynasty in Vietnam and Siam became closer. However, many complicated issued arised in the relationship between the two countries, which directly related to Laos and Cambodia. However, the complicatedness did not prevent the trade development between the two countries. This was also the time when many Vietnamese, due to different reasons, came to Siam to live. According to the book Dai Nam Thuc Luc, written by the Historian Board of the XIX century, the number of Vietnamese living in the suburb of Bangkok was over 2,000. [1]

Although Hue was the capital but it was not the economic center of the country due to the inconvenience of lacking sea ports. The economic center of the inner part of Dai Viet at that time was Sai Gon – Gia Dinh (From the XVII century, from Quang Binh to the North was called outer part, while from Quang Binh to the South was called inner part).

There were many foreign trade ships arriving in Sai Gon river port to do trading, including Siamese trade ships.

But trade ships not only stopped in Sai Gon – Gia Dinh. By the time, due to traffic conveniences, mainly waterway, the trade router connecting Sai Gon – Gia Dinh – Phnom Penh was established. However, due to security reason, some ports like Quang Hoa, Tuyen Uy, Thong Binh that accessed Cambodia were forbidden by the Nguyen.

"The 11th year of Cang Tuat – 1790, the 10th year of King Thanh Can Long, forbid trade ships to go thru Quang Hoa, Tuyen Uy, and Thong Binh gate to go to Chan Lap (Cambodia) for trading activities. Authorities that receive briberies and allow ships to go thru will be punished by the Military Law".[2] The regulations indicated that there had been many traders trying all ways to access Cambodia for trading.

In 1791, on the occasion of the Cambodian messengers came to Sai Gon – Gia Dinh to submit offerings and ask for right of doing trade. On this trip, the messengers took with him 14 ships and 170 people. Although knowing about the 2nd reason for this visit was trading, King Nguyen allowed this group to arrive in Gia Dinh. When they came back, they were allowed to buy 240 phuong of rice to bring back to Cambodia. After this trip, the King ordered the manager in charge of Tan Chau precinct: "from now on, if messenger of Cambodia comes, only allow two ships that carry the ambassador and deputy ambassador to follow the Tien Giang river to enter. If they come in more number, keep the rest in Tan Chau precinct." The King also ordered that Cambodian who wanted to come to Gia Dinh for trading purpose were only allowed to follow the Hau Giang river in Chau Doc to enter Dai Viet area. They should not disobey the King's order. [3]

At first, Vietnamese were forbidden to trade in Cambodia. The Nguyen dynasty only allowed Cambodian trade ships to carry rice and salt from Ba Xac (a location in Cambodia), follow the Chau Doc route to Phnom Penh. The Nguyen authority also issued permission for them to easily go thru the Chau Doc border gate.

In 1795, Cambodian king submitted a proposal to King Nguyen for allowance granted not only to Cambodian but also foreign traders, including Siamese trade ships to go thru Chau Doc border gate to Phnom Penh for trading purpose. The Nguyen authority accepted and gave permission for them to go thru this point to Phnom Penh, easing trading activities.

Tax collection issue at the Gia Dinh – Phnom Penh route was also very special. The writing of historical chronicles showed us the tax collection by the Nguyen authority at border gates: Spring,

---

[1] Quoc Su Quan XIX century. Dai Nam Thuc Luc. Volume XXI. Page 7-9
[2] Quoc Su Quan XIX century. Dai Nam Thuc Luc. Volume II. Page 126
[3] Quoc Su Quan XIX century. Dai Nam Thuc Luc. Volume II. Page 136

January At Dau year, 6th year of King Minh Mang 1825, 12th year of King Thanh Dao Quang, the removal of tax collection in the form of deer leather for trade ships from Gia Dinh to Phnom Penh (the former regulation required for trade ships to hand in as tax: 1st grade ships – 45 pieces of deer leather; 2nd grade – 30 pieces; 3rd grade – 15 pieces; if they do not have deer leather, then ox fat can be used instead: 1st grade – 30 kg; 2nd grade – 20 kg; 3rd grade – 10 kg). [1]

Then the Government issued a new tax rule, therefore the custom of collection deer leather were removed. It is possible that the custom of paying tax in the form of deer leather originated in Sai Gon – Gia Dinh when this urban was established.

The new tax rule issued by the Nguyen authority was as follows: Under the reign of King Minh Menh 1837, the authority re-established tax level charged on traders, irrespective of foreign ships or domestic ships, going from Gia Dinh to Phnom Penh.

In the time of King Gia Long, the authority divided ships into 3 categories to levy tax. 1st grade: 210 quan for each ship; 2nd grade: 140 quan for each ship; 3rd grade: 70 quan for each ship. The authority often base on the width of each ship as standard. But to the time of King Minh Menh, the reality was that traders often used bamboo to make rafts and attached to the main ship in order to carry more goods. Therefore the authority carefully checked and did not allow the attachment of bamboo rafts. They re-measured the width of the ship and re-calculated tax as follows: 1st grade: 200 quan for each ship; 2nd grade: 150 quan for each ship; 3rd grade: 100 quan for each ship.

With regards to the commodity, the main commodity carried from Gia Dinh to Phnom Penh was rice and salt. The Nguyen authority carefully checked the goods when the goods arrived at border gate. When the goods arrived in Phnom Penh, local tax authorities re-checked the goods and levied tax one more time. In fact, the tax rate levied by the Nguyen authority on trading ships from Gia Dinh to Phnom Penh was 10%.[2]

Commodities from Phnom Penh to Gia Dinh and from Gia Dinh to Siam as well as other locations in the World were mainly specialties of Cambodia, such as: nutmeg, sticklac, bee wax, aloe wood (aloe wood of Cambodia in that time was considered of best quality), paint, elephant, iron ores ... The Vietnamese historical documents also noted that some Chinese traders brought drug to Cambodia and the Cambodian authority allowed them to open some casino, in which using drug was encouraged. But the historical documents did not indicate whether there were any Chinese traders that came from Siam.

As mentioned above, if translating the names of Siamese traders indicated in Vietnamese historical documents, some of them could be Chinese traders, i.e. Trai Cuong Lat in the XIV century, Quach Thanh Chuong in the XVII century... This has proven the role of Chinese in trading activities in Siam. And with regards to drug issued, Vietnamese historical documents indicated that Princess Ngoc Van of Cambodia allowed Chinese to open casinos and encouraged the use of drug. This means Chinese played an important role in trading activities of some South East Asian countries during the time, for instance we had seen them in Siam, Dai Viet and Cambodia in this paper.

The record of historical documents indicated that the marine trade route Siam – Dai Viet – Cambodia became more and more bustle and the Nguyen authority were able to collect many tax on this trade route.

From the scattered information collected and from recent archaeological evidences, we can come to the following conclusions on the trade relationship between Siam and Dai Viet Kingdom within 10 centuries as follows:

1. The trade relationship between Siam and Dai Viet originated long before the record to the two countries' historical chronicles due to the geographic locations and the sea route with seasonal trade winds, which enable travel convenience.
2. According to Vietnamese historical documents, the trading relationship between the two countries had officially started in the XII century together with the establishment of Van Don trade port in the North East of Dai Viet. Siamese trade ships arrived in this trade port

[1] Quoc Su Quan XIX century. Dai Nam Thuc Luc. Volume VII. Page 184-185
[2] Quoc Su Quan XIX century. Dai Nam Thuc Luc. Volume XIX. Page 83-84

and purchased goods to carry to Siam. This trade relationship was temporarily ceased from the XIV century to beginning of XV century due to consecutive wars in Dai Viet. But the trade relationship was resumed in the mid XV century. This fact was not only recorded in Vietnamese chronicles but also proven by archaeological evidence in the Siamese ship wreck off the shore of Cu Lao Cham, central Vietnam.

3. After the Champa Kingdom was defeated, from the North, the Nguyen Lord have moved South ward to claim inhabited soil in the XVI century. Siamese traders no longer traded with Northern Dai Viet traders. They moved their trading activities to the South, mainly in sea ports in Thuan Hoa area. Hoi An international sea port was the place for trading of Siamese traders. They also stop-over in Hoi An or other sea ports in central Dai Viet, as Thanh Ha port or Salt Water port to avoid storms, or buy food, commodities and get more fresh water on their way to Southern provinces of China. The Nguyen authority managed to collect a lot of tax from Siamese traders arriving in sea ports in the central Dai Viet.
4. From the end of the XVIII to the XIX century, when the Nguyen won the Tay Son and united the country, establishing the Nguyen dynasty in Hue, Sai Gon – Gia Dinh, which became the country's largest economic center. This was the place where foreign traders, including Siamese traders come for trading. Sai Gon – Gia Dinh was the transition point for trading between Siam and Dai Viet with Cambodia during this period. The Nguyen authority also managed to collect a lot of tax from the trading activities among the 3 countries.
5. The trade relationship between Siam and Dai Viet during the history period of nearly 1,000 years was a good premise for the nowadays trade relationship between the 2 countries. Both countries are now members of ASEAN. Many projects between the 2 countries as well as with other ASEAN members are the continue of trade relationships in the past and will bring about economic benefits as well as peace and stability in the region.

Reference:

1. Nguyen Trai. "Du Dia Chi", Hanoi Cultural Publishing House 1960
2. Ngo Si Lien. "Dai Viet Su Ky Toan Thu" translated from Chinese to Vietnamese. Hanoi Cultural Publishing House 1960
3. Phan Huy Chu." Lich Trieu Hien Chuong Loai Chi" translated from Chinese to Vietnamese. Hanoi Cultural Publishing House 1960
4. Le Quy Don. Van Dai Loai Ngu and Phu Bien Tap Luc, translated from Chinese to Vietnamese. Social Sciences Publishing House. Hanoi 1964
5. Quoc Su Quan XIX century. Viet Su Thong Giam Cuong Muc, translated from Chinese to Vietnamese. Social Sciences Publishing House. Hanoi 1973
6. Quoc Su Quan XIX century. Dai Nam Thuc Luc, translated from Chinese to Vietnamese. 50 volumes. Social Sciences Publishing House. Hanoi 1965 to 1977.
7. Vu Linh. The Sea Silk Road and Vietnam's position. Xua va Nay Magazine, volume 131, January 2003
8. Pham Quoc Quan and Tong Trung Tin, Excavation report of the Hoi An shipwreck. Documents of the Vietnam Institute of Archaeology. Hanoi 2000.
9. Treasures from the Hoi An hoards – important Vietnamese ceramics from a later 15 early 16 century cargo. Butterfields catalog. USA 2000
10. National University – Le Thanh Tong (1442-1497) National University Publishing House, Hanoi 1997
11. Brown R. M. 1988. The ceramics of South East Asia. Their dating and identification, Singapore, Oxford University Press.

The Trading Culture of Jade Stones among the Yunnanese between Burma and Thailand, 1960s to 1980s

Wen-Chin Chang*

ABSTRACT

This paper explores both human agency and the social life of jade as a precious commodity between Burma and Thailand during the period of the Burmese socialist regime, i.e. from the 1960s to the 1980s. Its significance is twofold: it covers an important period in the modern history of Burma which has not yet been researched extensively by academics, and it takes a broader perspective on jade than earlier voluminous studies, which only considered jade as an artifact.

Specific questions tackled in this case study are: How did the jade trade networks form and transform in the face of a highly volatile political context, the precariousness of the transnational market economy, and the uncertainty of the value of jade stones? How did the networks operate to regulate the flow of goods, capital, information, and people? How significant were the networks in terms of resource allocation? What underlying socio-cultural contexts were at play in the long history and perseverance of Yunnanese border traders in the upper mainland Southeast Asia? To what extent does the research shed new light on the issues of transnationality, flexibility, and Chineseness, which are the foci of discussions on transnational trading activities among the diasporic Chinese in this so-called post-modern era (Ong and Nonini, eds. 1997)?

* For a copy of the full paper, contact Wen-Chin Chang, Assistant Research Fellow, Center for Asia-Pacific Area Studies, Academia Sinica, Tapei Taiwan, <wencc@gate.sinica.edu.tw>,

Post-Spiro, Changes in the Economic System of Northern Laos

JEONG, MI-KYENG[1]
Ph.D. Candidate of International Studies
Graduate School of International Studies
KOREA UNIVERSITY

ABSTRACTS

In 1980s, Melford E. Spiro's *Buddhism and Society* analyzed the relationship between Karmmatic Buddhism and its social influence using several methods. After his study and analysis, Theravada Buddhist countries in Southeast Asia experienced a radical change of two forms that of the Socialist Planned Economic system and the Capitalist Market Economic system. Those two are the landmarks of history during the last three decades. The major countries that have experienced this historical change are Laos, Cambodia, Vietnam and Myanmar. These four countries are still attempting to adapt a new system, which is called "the Socialist Market Economy."

In light of Spiro's analysis of Buddhism and its affect on society, my research question deals with the issue of how much the radical changes of the economic system has influenced the economic activity in Theravada Buddhist society.

Spiro's study and his idea is mainly focused on the Burmese society, the Theravada Buddhist culture has spread predominantly in Southeast Asia, and its power still exists in that region, particularly the Northern parts of Thailand and its neighboring countries. Therefore, Spiro's ideas are still valuable in analyzing and studying the relationship between Buddhist culture and society in other Buddhist countries.

Through the empirical evidence, this research will attempt to prove that the radical and the monumental historic events do not have much effect on economic improvement. The system shifting within a short-term period not only was brought of social instability, but also created incompatible socio-economic development. Moreover, society and the life of the people fall deeper into confusion and contradictory situations, such as the increase of the poverty gap, growth of the prostitutions industry, corruption, misguided business regulation and others, became worse.

The methodology of this study incorporated a field survey and personal interviews conducted in Northern Laos from 5th to 20th January 2005. The results of the survey and interviews were collected from 30 individual cases from 50 personal interviews. Although the number of individual cases collected may limit the viability of the study's results becoming a general theory, yet it yields a point of argument with regard to the possibility of engaging in a larger study of the economic changes and problems related to its adaptation in this region of the world.

Post-Spiro, Changes in the Economic System of Northern Laos

By the end of the 20th century, the countries in Mainland Southeast Asia adopted a new socioeconomic system transitioning from socialist planned economy to market economy. In fact, when the Mainland Southeast Asia countries built up the nation state to imitate the Western structure, it has not the same structure with Western system (Bellah, 1965). Moreover, Mainland Southeast Asia experienced several changes of the nation system, in this region still affects and is informally controlled by the influence of the Theravada Buddhist culture (Adas, 1974; Berry, 1996; Evans, 2002; Fryer, 1979; Golert, 1990; Hall, 1981; Jayashekar, 1987; Krisch, 1985; Lieberman, 1987;McCloud, 1995; Payutto, 1997; Reid, 2000; Sunthorn, 1994; Van Estrik, 1977) and it shows no sign of improving their living condition all the more the economic condition has fallen to a level of underdevelopment and increased the poverty level. How the religion affects to socioeconomic development?

[1] Email) jasmky@korea.ac.kr, jasmky@yahoo.co.kr

For discussion of relationship between religion and economics, we cannot just review the theoretical consideration of modernization and its development theory from Adam Smith and Max Weber (A. Smith, 1776; M. Weber, 1904; Fullerton, 1959). Though many scholars have followed the works of Adam Smith and Max Weber to develop and shape the Third World's development theories (Escobar, 1995), they did not concentrate much on the primary factors of religion and cultural effects on the economic development in Mainland Southeast Asia in the 1960s (Azzi & Ehrenber, 1975; Reynold, 1975). According to the modernization development and the Third World development theories, the starting point of development conception is to increase the quality of life and lead the happiness and comfort through to wealth and welfare (David, 1990; Jan, 2001; Rostow, 1960; Todaro, 1981), which is regarded as a basic definition of human development. On the contrary, the Theravada Buddhist view of development, as Wickramasighe explained the conception of development in his book of *People Friendly Economic Development,* is that development is to seek happiness through wealth and spiritual development (Wickramasinghe, 2000). Both the development conceptions have the common interest in "wealth," and different meanings of final achievement: welfare and spiritual development. Therefore, in practical economic manifestation, the modernization development theory and the Buddhist development theory have different tasks and contradictory concepts for solving the poverty problem and accomplishing its economic development. This can be seen in the socio-economic development in Mainland Southeast Asia, particularly in a those underdeveloped countries where their fundamental idea of socio-economic development cornerstone is based on the Theravada Buddhism and its run on the values and norms of development. They attempted to adopt the modernization development theory in their pursuit of economic development (Evans, 2002; Jumsai, 1971; Stuart-Fox, 1997), but these practices did not effectively increase economic productivity. The economic development and its activity are very practical and materialized issues (Alatas, 1972); nevertheless, the Theravada Buddhist culture offers the rules and the economic ethics to the societies of Mainland Southeast Asia. Therefore, in this paper, my research question deals with the issue of how much the change of economic system influenced the economic activity in Theravada Buddhist society.

For this paper, I would like to theoretically review the study of Melford E. Spiro. He published the book *Buddhism and Society* in 1982 that analyzed the relationship between Buddhism and society by the anthropological approach. His target area was one of the villages in Northern Myanmar where they had a strong Theravada Buddhist tradition. Nevertheless, Spiro's research shows the limits of anthropological approaches, which is difficulty of establishing a generalized theory (Marcus & Fischer, 1999) because it is too localized on the target area. Though I fully recognize the limitation, I still base my study on the Spiro's study because most of the Mainland Southeast Asia countries have similar socio-economic tradition of Theravada Buddhist culture and because his study gives a well-grounded definition of the role and function of Theravada Buddhism in society.

The steps of this study and a few bound of this research are: firstly, this study focuses on Northern Laos, because they bear a similar tradition of Theravada Buddhism in society [even though they encompass several different ethnic groups]. Secondly, there has nevertheless been an experience of economic system changes for the purpose of socio-economic development from the mid- 1950's, but they still could not solve the problem of poverty and underdevelopment. Therefore, this study focuses on the economic sphere on why it is difficult to improve their economic condition. Thirdly, this is going to analyze the research question based on the Kammatic Buddhism and Merit Making Activity. Those Buddhist cultures in society have formed a regulation of economic activities, which strongly influences all of the people. Finally, according to the Theravada Buddhist culture, the social structure and labor market are naturally divided into the ruling and working classes and separates the economic roles by gender. Hence, this study interviewed male and female groups by the same questions.

This paper is as follows; first is a theoretical analysis of the economic activity within the Kammatic Buddhism and Merit Making Activity in accordance with Spiro's study. Second it introduces the regional condition to focuses on the economic system. Third is explicating the

research method. The fourth analyses the findings from field research. Finally, I conclude and make recommendations for further study.

THEORETICAL CONTRIBUTION

Traditionally Mainland Southeast Asia is an agricultural society, and 80% of the total national population lives in rural areas. Also, over 70% of the total economic workforce is employed in the agriculture sector (Bernard, 2004). The social structure is formed by a small portion in the ruling class and the majority in the working class, according to the national land and natural recourses composition. Hence, in a broad way, Mainland Southeast Asia has a simply divided social system (Brown, 1976; Friedman, 1998). Under this, the role of Theravada Buddhism not only plays religious and bridging role between the ruling and working class, but also a leading role in society. As a result, the power of religion is inconceivably stronger than the ruling class. The role of Theravada Buddhism in society has two different ways, on the one hand it influences the ruling class by providing the philosophical guidance for governing, and on the other hand, they are the moral support of a "chief of villager" (or headman of villages as a middle ruling class) in each village to manages the working class (Elson, 1997; Halpern, 1958). The power of Theravada Buddhism in the economic sphere provides concrete economic rules, norms and values that influence the economic actions or behaviors the working class (Fryer, 1979). In other words, for the ruling class, Theravada Buddhism is a secular religion, because it convinces them that the blessing present wealth and credit distinction are from the past life's accumulation of good merit. In contrast, for the working class, Theravada Buddhism focuses on the afterlife (Payutto, 1997; 1999) it gives confirmation that the poverty of the working class in the present life is a result of bad merit from the past life and drives them to work hard and accumulate good merit as donation in the present life for the afterlife. Spiro's research shows the social phenomena of the different roles of Theravada Buddhism in society.

Spiro clarified Theravada Buddhism into five parts through the philosophical terms, which are; Materialism, Atheism, Nihilism, Pessimism, and Renunciation[1]. He also made ideological principles of Theravada Buddhism to define into four ways, which are Nibbanic Buddhism, Kammatic Buddhism, Apotropaic Buddhism, and Esoteric Buddhism. Nibbanic Buddhism is providing the logic of governing to the ruling class. On the other hand, the Kammatic Buddhism gives direction of the actor-oriented economic norm and values to the working class (Tambiah, 1985; Sizemore, 1990; Sulak, 1999). Therefore, this study examines the economic activities of people to concentrate on the Kammatic Buddhism. This session examine the arguments through a theoretical review, which composes two parts the role of Kammatic Buddhism and the Merit Making Activity in economic activity.

The Role of Kammatic Buddhism in Economic Activity

In Buddhism, the concept of "Nirvana and *Samsara*" is the core of human-related problem. Most of human desires are to achieve the "Nirvana" and to avoid "*Samsara*", as this fundamental requires a variety of ways in human life as religion, political action, socio-economic activity, etc. Spiro defined the relationship between Nirvana and *Samsara* in his study. He said that the "Nirvana" and "*Samsara*" were the parallel relationship in Nibbanic Buddhism, as no road leads from "*Samsara*" to "Nirvana."[2] For Kammatic Buddhism, "Nirvana" is the final destination of a road, which begins at one end of *Samsara* and continues to Nirvana as its other end.[3] The purpose of economic activity in the present life is ultimately to avoid "*Samsara*" in the future or the afterlife through investment of their laborers. However, Theravada Buddhism leads the way of "Nirvana" to both the ruling and working classes, but the guiding method has duality values and a logical contradiction. In the economic view, I argued that the correlation between Nirvana and *Samsara* is

[1] Spiro. 1982. *Buddhism and society*. pp.7-9
[2] Spiro, Melford E. *Buddhism and Society*.(1982)p.83
[3] Ibid., p.84

maintaining an equal value of interaction. The reason is that the economic activity is attended with the physical suffering to produce both the actual income and production. The main body of economic activity, like the working class, has faced the physical suffering before they enjoyed happiness (as achieving Nirvana). For the working class, the desire of Nirvana completely and radically leads to the ascetic practices of the present life (Payutto, 1997). Therefore, the Samaras and Nirvana are the same weight values to the working class.

According to Spiro's study, Theravada Buddhism provides two different ways of achieving nirvana through the ideological clarifications of Buddhism as Nibbanine and Kammatic. First, Nibbanic Buddhism forms a system of "morality→meditation→wisdom," and the function of "wisdom" leads and guides the way of "Nirvana." Also, Nibbanic Buddhism is appropriate to the ruling class to support their philosophical rules of society through a logical basis. On the other hand, Kammatic Buddhism organizes "giving→morality→meditation" and the function of "giving" leads to the "Nirvana." [1] The giving activity needs the base of material support, so Kammatic Buddhism fundamentally emphasizes on the economic life lays down the regulations of the economic behavior to the working class.

Kammatic Buddhism is closely related with the working class. The reason for this relation between Kammatic Buddhism and the working class is that the method of achieving Nirvana and its gaining is from fulfilling a simple and repetitive giving action. This simple action does not need complex thinking on wisdom as Nibbanic Buddhism does. Spiro said that Kammatic Buddhism influenced the productive laborers to give priority to action rather than morality (Tambiah; 1968, Spiro; 1982). The giving activity is a kind of an action oriented by the merit accumulation method, which will guarantee the enjoyment of happiness, good health and richness in the afterlife if they accept and overcome the physical sufferings in the present life. Also, Kammatic Buddhism emphasizes that the suffering from material life is "Karma" itself[2]. Everybody has their own karma from the past life; then, the karma prescribes the way of living in the present life. So the giving activity for the working class is shown in delicate physical facts, which is influenced into the psychological effect to accept their destiny for the afterlife and it leads the working class to abandon their future expectations and dreams in the present life. Kammatic Buddhism provides the idea of accepting one's own original destiny(Lester, 1973; Payutto, 1997), and this idea separates into two discriminative though on investing their lives in economic activity. One type of people attempt to work diligently and eagerly by doing business for the purpose of changing their original life by shifting from a poor situation into a rich situation as well as improve their social position or happiness both in the present time and afterlife. The other type of people ardently engaged in work in material activity. They do not work hard because they believe themselves to be guaranteed with a high-level present life, including social position, happiness, possessions, and riches, through the merit making from the past life. Also, they have faith in the afterlife, which already guarantees the happiness and the riches. Therefore, working hard for good output is not in their interest. The former group, who works hard, has a labor productivity that is natural and contributes to society more than the latter group does. For example, when comparing between the ruling and the working classes, female and male economic activity, their motivation of economic activity is clearly expressed by their karma and merit from the past life. Indeed, the giving-oriented economic participation believes that the purpose of economic activity is investing on the afterlife, not to the future in the present life.

The socio-economic activity of the working class, who are devoted in the belief of Kammatic destiny, is not only controlled by the religious ritual and community activity, but also by the Buddhist scripture. The KRSNA described the job types is divided into four; to farm, to trade with the agricultural produce, to protect cows, and to take to banking[3]. Another, in the Wickramasinghe study, demonstrated the job types as six; agriculture, trade, animal husbandry, security service, government services, and using other skills including small industries and

[1] Ibid., p.93
[2] KRSNA(1984) p.233
[3] KRSNA(1984) p213

domestic industries (Wickramasinghe, 2000)[1]. Even though, these occupations apply to the working class, the Buddhist scripture did not specify jobs or the economic roles for the ruling class. The doctrine of necessity, which believes that existence in the material world itself is pain, and one should accept this reality and belief, has produced the labor market stiffness.

Kammatic destiny implicated the logical contradiction and discrimination between the ruling and working classes. Most in working class have a lot of limitations toward a chance to understand the institutionalized Buddhist philosophical rules that explain both the physical and the mental condition. Therefore, the working class, who are living under the control of the Buddhist culture, only maintain and obey the regulations, social and economic norms in present life. The destined values from the past life and its karmas, for the working class, directly force them to invest in labor without any choice (Berkwitz, 2003; Ferguson, 1976; Gombrich, 1975; Keyes, 1985; Kirsch, 1985; Sunthorn, 1994; Sombart, 1959). Unfortunately, the Kammatic destiny of values sustains and emerges in society and is re-produced through the culture system. Moreover, their Kammatic destined values produce new economic behavior patterns within the working class, as Spiro said, "the mind is fickle[2]." In the economic activity, building a good relationship among people is the most important production for economic profits. Kammatic destined values lead to divest the working class' interest into the economic profits in the present life. Hence, among the working class, they do not need to respect the relationship with other economic bodies. As Spiro expressed, "Every friend is a potential enemy, and every enemy is a potential friend." Indeed, in the economical aspect of human relationship, the most productive labor and actors could not establish a credible connection or relationship for business and its economic productivity. This kind of untrustworthy behavior is too much of a risk in the economic life, considering that to maximize the economic benefit and effectiveness that should be based on the trustful relationship among people.

In conclusion, as described above, the economic thought within the Kammatic Buddhism has three components: (1) giving oriented economic participation, which thinks that the purpose of major economic producer is investing in the afterlife (2) the doctrine of necessity, which thinks that existence in the material world itself is pain, and one should accept this reality and belief, and (3) the ambiguous trust between the producer and the consumer who are the major players in the market.

The Role of Merit and the Motivation of Economic Action

In Mainland Southeast Asia, the idea of dominant power and the motivation of economic activity are base and cause by Karma and the Merit Making Activity. The background theory of Kammatic Buddhism is based on the Karma tradition (Keyes, 1983; Schober, 1995;Sulak, 2002; Wekeg, 2001) and its legitimate economic rule. In other words, Kammatic Buddhism is regarded the ideological support, the practical ethics of economic activity, and the Merit Making Activity leads to a "practical" or "real" economic action.

The above session explains different function of the Nibbanic (morality→meditation→wisdom) and Kammatic (giving→morality→meditation) Buddhism[3]. One is the achievement of Nirvana through wisdom, and the other is giving. Two functions of the ideas to achieve the way of Nirvana are combined together and illuminate again as "giving→morality→meditation→wisdom." The final (top) stage of spiritual development is "wisdom," which controls the beginning (bottom) stage of action like "giving." Between the giving and wisdom is the route of morality and meditation. Even though morality and meditation are excluded from the function of the Buddhist system, the beginning and final stages could not eliminate the original function of the religion and its role in the social system. The action of giving and pursuing wisdom with its behavior is to be defiantly separated.

As described above, the logical and philosophical ideas of economic behavior carried out the Merit Making activity to base on the Kammatic Buddhism, which ultimately leads to practical

[1] Majjhima Nikay vol.1. p.321; BJTS 1. 752
[2] Spiro, Melford E. *Buddhism and Society*.(1982)p.90
[3] Ibid., p93

economic activity in a Theravada Buddhist society. If so, I would like to investigate how the Merit Making activity and its economic regulation and norms affect economic productivity. For this argument, I will use three viewpoints. The first is the motivation and the systematical guidance of economic activity or economic productivity. The second is the personal economic thought and behavior to operate the material (capital). The final is the mind of trustworthiness in economic activities among economic actors.

In economic aspects, the Merit Making Activity has an element of inconsistency. For a demonstration of this, I would like to take a case of Phra Ajaan Plien Panyapatipo explanation about the rule of the Merit Making activity among many other Buddhist scholars (Narada,?; Payutto,1997;Rahula, 1959; Sulak, 1999) In his book *How to Get Good Results from Doing Merit,* he tells the working class how to accumulate merit in their daily lives. First, he sets up the target of "giving" to the monks and temples, the highest priority for both the ruling and the working classes. Second target of "giving" is to the disabled and the poorer people and education investments by doing social welfare, which is not a wide activity for the givers. Also, the book stressed the way of happiness to layman (most of them in the working class, so after here "the working class"); that if the working class is devoted to their own duties such as doing merit to monks and temples, they will achieve four kinds of happiness. ①Bliss of ownership ②Bliss of enjoyment ③Bliss of debtlessness ④Bliss of blamelessness.[1]

According to the four kinds of layman's happiness in detail, it also includes the economical contradiction; first, the process of achieving the material (capital) happiness, he gave a duality direction to the working class as he said that material was a source of pride to earn money and assets by hard work and industriousness. At the same time, he continued to ask, "Where are our assets from? Part of them is from the good deeds of our past lives, which offer us abundant assets. They also give us a chance to increase our assets during the present life."[2] In regards to his direction, the origin or recourse of capital is from the past life. However, this idea is an impracticable exhibition within the modernization market economic principles. The second, he said that happiness is derived from spending money and assets, and doing merit or doing alms offering. He realized and emphasized that the real action of productivity is suffering and people need to overcome the pain of material life. Then his recommended the ways of overcoming, which is spending money for merit making or enjoying spending money in other ways. In fact, this idea produced a contradiction that people should naturally think of as negative the real economic activity, and also lead positive money spending. So the result of this situation will create unequal or unbalanced economic productivity. The third happiness is the problem of debt. He advised people on how to use the capital, and not to make any debt by using the money wisely. Then he also said: do not be worried about debt, [if you have debt] we will be asked for payment from somebody. Who is that somebody to ask payment for our debt? This idea is completely unmatched with the system of market economy. The fourth is the bliss of blamelessness, which is not so much related with economic order. Within these four kinds of happiness, the first and the third create the unmatched conditions with modern and market economic activity. In the modern market economy, the purpose of economic behavior is to participate in those productive activities and to maximize profit and produce human needs. When the activity of production and consumption is the core meaning in the economy, and it is a more specific and reliable behavior, then the capital is the resource and energy for the economic productivity. In the Buddhist culture, the said capital, which is essential in present life for economic productivity, will come out from the merit of past life. Such concept of capital in Buddhism is helpless for the improvement of economic troubles. One of the aspects of economic activity, achieving the ultimate purpose of economic development and improvement, "how to spend money" is a significantly considered concept, but the most important concept is "how to earn money."

[1] Plien Panyapatipo (1991) pp.58-63
[2] Ibid., pp.58-63

In the Buddhist guideline for economic behavior and productivity (Alatas, 2002; Payutto, 1994), they have limited consideration of economic aspects. The expression of "assets" is from the merit of past life, not from the merit of present life. This notion of assets could not raise the motivation for economic activity. In the economic activity in the present life, the conception of "give and take" is very important, but to observe the merit making activity from the aspects of real market economic principles, we need some investments. Also, the concept of giving should be based on the concept of taking. The same method of "investment for future" such as saving money and investment into education is provided to social and economic benefits for present life in the future. In the capital market economy, the taking profit is more important than the action of giving. The merit making activity provides different considerations of the relationship between the giving and the taking (Lehman1996). Moreover, the solution of debt is a strong impact to the economic productivity either to the individual or to the business, firm, and the nation. Everybody not only desires to be good managers of material, but also expects to gain some profit from their own investment. The way of solving debt within Buddhism is adapted in a very fancy way that if someone accumulated a lot of merit in past time, somebody will pay your debt in present life. With this view of debt, consequently, the ideological inherence for the working class not only leads to a form of escapism from the real world, but also it is an obstacle to development in both individual and national economies.

As I mentioned above, the role of Merit Making activity in Theravada Buddhist culture compares with other religions to maintain different aspects of economic activity and the practical principles of economy, which makes it weak for daily economic life and includes passiveness in the present life.

In the modern and postmodern society, it is practically difficult for religion to be concerned about the various jobs and their economic regulations. If we desire to efficiently use labor, capital and resources to create economic productivity, we should depend on the market operation in the market economic system. The principle of Merit Making activity is to emphasize on the actor-oriented economic behavior of the working class, which affects the economic development and productivity. In contrast, the Merit Making activity, especially the giving-oriented action is an obstacle to the accumulation of capital and the solution of debt.

In conclusion, the merit making activity has a strong and a weak point for the economic improvement and development. However, the merit making activity review on the aspects of function of economic activity or productivity has three negative components: (1) stiffness in the labor market (2) non-fluent capital and (3) absence of capital creditability.

BUDDHISM AND ECONOMIC MODERNIZATION

Booth A. proved in his study of *Southeast Asian Countries Economic development* that Singapore, Malaysia, Indonesia, Thailand, and Vietnam have shown rapid economic development by comparing the economic situation in the 1970s with the ones in 1995. Also his study proved that Myanmar, Laos, and Cambodia still suffer from poverty and show low economic development in the middle of the 20th century and even in the 21st century. Those poor countries with low economic development are mostly under Theravada Buddhist culture, and Thailand, which is also under Theravada Buddhist culture, shows a 5 percent GDP growth. However, Vietnam, which is under Mahayana Buddhism and has been affected by Confucianism, has proven that the performance of economic development of Theravada Buddhist countries is relatively lower than those of other countries, by showing an 8 percent GDP growth after implementation of the open economy policy. As mentioned above, the economic concept of Theravada Buddhism contradicts with the modernization development theory, and the attitude of spending rather than producing and the belief on the afterlife rather than future, which were proposed during the modernization process, have worsened the poverty problem.

The economic concept of Kammatic Buddhism gave three negative components to the working class which was core in producing activities and which also believes "Popular Buddhism." These three components are: (1) giving-oriented economic participation, which thinks that the

purpose of major economic producer is investing in the afterlife (2) the doctrine of necessity, which thinks that existence in the material world itself is pain, and one should accept this reality and belief, and (3) the ambiguous trust between the producer and the consumer who are the major players in the market. Also, there are three negative components in Merit making activities: (1) Stiffness in the labor market (2) non-fluent capital (3) absence of capital credibility

Those Buddhist cultures negatively influenced the process of socioeconomic changes, and resulted in discrimination and extortion by foreign powers. In the following chapters, we will look into the role of "economic system changes" under the strong influence of Theravada Buddhism, in accomplishing the economic development and poverty reduction.

The Pre-Capitalist and Socialist Planned Economic System

The theory of Weber or the rational logic and bisected theories of others will not help the understanding of religion and economy of a certain society, especially of Southeast Asian countries which have various tribal cultures and religious backgrounds (Alatas, 1972). Even the same religious philosophy has localized socially and culturally, depending on each place's environmental conditions and historical backgrounds (Booth, 1991;McCloud, 1995). In addition, the theories of Weber [free competition and honest economy activities] cannot be applied to the Mainland Southeast Asian countries with the Theravada Buddhism background. This is not because Theravada Buddhism is far away from being honest, but because it is hard to bring free competition into the world of ranks, and because it is hard to gauge the level of honesty. Furthermore, the economic activities of the colonies is different from the ones from Weber, since these colonies entered this place for their own interest (to extort the affluent natural resources of Southeast countries), not for developing these countries in terms of religion and economy (Alatas, 1972). Ling describes it as "the argument between capitalism and socialism" (1979). Both pre-capitalism and socialism after colonization have their bases in the theory of modernization development. Analysis of Asian economic development by Rostow or Todaro(1981) used the level of industrialism as a tool to gauge the economic development level. Also in the 1960s and the 70s, most national leaders or a small portion of elite groups attempted to reform the economic system through economic modernization and industrializing policy that use carried out any consideration of domestic characteristics (Jan, 2001).

Most of growth approaches (David, 1990; Dwyer, 1990; Jan, 2001; Rostow, 1960;Toye, 1993) were tried in Mainland Southeast Asia in the 1960s without considering the variety of each place's, different historical backgrounds, and the huge influence culture could give on the economic development. Also, it even tended to ignore this aspect while developing the economy. Pre-capitalism motivated more active economy by bringing the theory of modernization (Eisenstadt, 1968; Higgott, 1981; McCloud, 1995; Jan, 2001), but it was still under the colonies' capital, and the national capital was not established yet. Plus, the tie-up between a few rulers and colony capital was not helpful in activating the economy at the stage of new economic system instruction. A small portion of the elite pushed through the changes of physical framework with the dream from the modern industrial theory, but in spite of the affluent natural resources and manpower, they were not able to establish the improved capital. Afterlife consumption was dominating the major producer (productive laborer or working class) and the social activities with the religion and communities failed to be developed to a social capital. After several failures, people began to get interested in the role of social capital in the development theory (Booth, 2003; Burt, 2003; Campbell, 1992; Haaland, 2004), and people just now realize and begin to study that social capital can affect to the economic development, and can improve the quality of life only after it reaches a certain level. Eventually, the labor market only provided major economic players with four or six occupations[1], which Theravada Buddhism suggested, and this religious discrimination made the labor market stiff. Moreover, pre-capitalism under the huge influences of colony capitals could not solve the problems of economic development and poverty.

[1] KRSNA p. 213 (Farm, to trade with the agricultural produce, to protect cows, to take to banking)

The commercial capitalism was not supportive enough for colonial capital and for a small portion of the elite to improve the national capital or the national development, due to the appearance of a socialist planned economy.

After the end of colonization, the dispute of right and left brought the social system like a small portion of elite and majority of the working class, and this made them adopt the planned economy naturally. Moreover, during the colonization period, Theravada Buddhism was involved in the independence movement activities and education programs (Stuart-Fox, 1997. Also, after the end of colonization, the society's tendency to build the new social relationship with Buddhism culture centralized, rather than socially or culturally centralized.

Ironically, the philosophy of Buddhism and socialism has something in common when it comes to reaching the economic perspective, and those common points are distribution and sharing (Stuart-Fox, 1997;Jayashekar, 1987). Buddhism was accustomed to having political involvement during the monarchy periods, so it was not offended by the socialist planned government involvement in distribution and sharing of the production. It was expected, and there are previous studies that planned economy might not fit to Mainland Southeast Asia, since the planned economy itself was based on the contradictions of capitalism. The planned economy in Mainland Southeast Asia for 15 years was a failure due to the problems in production and distribution, just like in other Eastern European countries. However, during this period, how much does the economic role of Theravadas Buddhism change?

The government policy of the planned economy has affected Theravadas Buddhist culture, but it could not bring the fundamental solution to economic development and poverty reduction. It only proves that there is a huge gap between the belief and the actual economy. There was a contradiction of planned economy, which is the distribution policy in the absence of production improvement. Also, economic productive laborers are not active in the production activities, but they believe in the justice of distribution, due to the Kammatic concept from Theravada Buddhism, which believes that they can enjoy the present richness at the exchange of hardship from the past life. Most of the productive laborers believe that the production activities during the colonial period should be repaid under the socialist government (Fitzgerald, 1973; Fryer, 1979). Those concepts induced the inactive economic activities, and even though the government tried to build up industrialization, it was impossible to do without the eastern or western socialist countries. The belief of the working class in the Buddhist culture did not change, and it was proven that the solution for the poverty and economic development was always stagnant even after the policy change from capitalism into the planned economy.

The Post-Capitalist Economic System

It is told that the important point of view in the market economy is "time is money," "credit is money," "money accumulates a capital." Then, Kammatic concept suggests an economic value against the market economy principles. There is a big difference between Theravada Buddhism and capitalism society in terms of the economic roles.

Both capitalism and Theravada Buddhism seem to have the same meaning of wealth, but they show difference in the way to build of the wealth and in the process of using the wealth for the sake of human's happiness. Capitalist society peruses happiness through the welfare society, but the Theravada Buddhist society does so throughout the investment on the mental development, meaning religious activities. The ultimate goal for development is different, so the way to reach the development becomes different. The capitalist society focuses on enlarging the social welfare through production and distribution, but the Theravada Buddhist society figures out how to reach the spiritual development through production and sharing. Thus, Theravada Buddhism society shows the difference from the capitalist society in the way of managing the market and in the way of building up wealth (Gohler, 1991). The capitalist market decides the production and distribution depending on the supply and demand by operating labor and resources. The effective usage of labor, capital, and resources can reach the maximized production, and this can lead to the improved the quality of life and ultimately to the building of a trust society.

The capitalist society has the physical market framework of the price decision with the balance of supply and demand, and trust plays the role of medium that manages the market functionalities and coordinate the competitive situations (Janos, 2000). The policy changes in Mainland Southeast countries finally decided to adopt the market economy for poverty reduction, which resulted from the low production and high cost welfare system of the socialist economy. The Mainland Southeast during the pre-capitalism era was the traditional barter market (Eisenstadt, 1968; Inglechart,2000; Malhotra, 2002) and had been affected by the Buddhist cultures, and under the socialist planned economy, the role of the market was not appreciated due to the belief that the welfare was the nation's responsibility. Newly appeared socialist economies tried the capitalist market's price decision system, but it is hard to say that the market was operated just like the capitalist market was, rather it had the traditional market role and traditional price deciding mechanism. This shows that the structure of the production and consumption was still under the influence of the Theravada Buddhist culture and it is hard to accomplish the economic development and overcome poverty without the fundamental change of logic of economic players. The field research in Northern Laos shows that the thoughts of major economic players did not changes much (Reynolds, 1971). It is true that the two policy changes affected the several classes' (but still the rulers or several elites) thoughts on the economic activities, but this were not enough to affect the national economic development, and only stayed at the personal cognition's level. Eventually, there is a limit to accomplishing economic development and poverty reduction without the changes in the working class thought with the aim of production.

RESEARCH METHODOLOGY

It has been 20 years since the Mainland Southeast Asia adopted the open market policy, but it is not easy to perform the academic research. Furthermore, it is inevitable to get the government intervention and watch during the field research. The reasons to choose the North Laos area for the research are: first, this area has lots of ethnic groups. According to the official statistics, around 14 ethnic groups (classified by a clan and a language) live in this area, preserving their own traditional cultures, and they have influence from Theravada Buddhism. Second, they are the major production levels, and have been involved in the production actively during the colonial days and the socialist economy days. Third, assess needs a good relationship between interviewer and interviewees. I have been working for the NGOs in this area for 5 years, and these kinds of experiences help to build the friendly relationship with the people here, to get the supportive research and interview, and to permit from the local government [it means that I could little avoid an involvement from the local government during the implementation stage of interview.]

Research Methodology

The reasons to choose the interview as a way to research are: first, Northern Laos has a high population, composed by minority ethnic groups and they have a high illiteracy rate. Due to their lack of understanding of the standard language, Lao, it was not easy to conduct the research through the survey or other methods. Second, they have antagonism against the foreigners due to the two policy changes, and lack understanding of academic activities. Third, it was hard to get the subjective opinion through the group survey or research. They answered the same in the group survey. To overcome those limitations, I relied on the interview.

The research is on the random method, and do not differentiate the gender. The place to conduct the interview is usually markets and commercial areas where most of the economic activities are performed. In some cases, it is conducted in the government office areas. The interviewer prepared the questionnaires and read slowly and explained so that the interviewees could understand clearly. The interpreter accompanied the interviewer all the time, and she/he was fully trained on the study and the research method beforehand. The interview period was from 2005 January 5th to 20th, and it was conducted in the morning in case of the market areas and in the afternoon in case of the government office areas, since those time are not that busy in respective areas, so interviewees could answer easily. Out of total 50 cases, only 30 cases were valuable to be

used in this research. The 20 cases were eliminated because the interviewees could not finish the answers for more than two third of the questions.

REGIONAL BACKGROUND

The Myanmar that Spiro studied was the country for which Theravada Buddhism is the national religion and it leads the nation officially and actively. However, in case of Laos, Buddhism is at the level of official religion (Ratnam, 1982), and it has more fundamental relationship with the working class's activities rather than with the ruling class. Thus, Theravada Buddhism in Laos is in the part of ruled life as a social custom, rule, and cultural values.

Laos is distinguished from the relationship between politics and religion of Myanmar in a sense that the ruling class in Laos is more acknowledged with modernization through the two policy changes (Stuart-Fox, 1997). Agriculture is still the major part of Lao economy, and 85 percent of the economic workforces are in the agriculture industry (Booth 1991). This group shows a low educational level, and a few in the ruling class show a high educational level (Bernard 2004). As a social structure, there is an absolute class order between the ruling and the working classes, and each village's headman has a huge influence on its area due to Buddhism. The major work class has their base on Kammatic Buddhism for their religion and life, but they do not have the logical understanding of Kammatic Buddhism's contradiction and they just accept it as a religion and social customs (Chiengthong, 2003; Loes, 1995;Ratnam, 1982; Mayoury, 1995). The two policy changes have made these people feel unstabilized, so they tend to rely on the religion. This attitude results in the strong belief in Theravada Buddhism and karma rather than motivate people to change the economy and real life.

The target area of this study is Oudomxay province, which locates at Northern Laos and its the neighbouring province with Luang prabang. The general information about the province was gathered from the local government and NGO activists, whose work for the socio-economic development spheres.

General information about Oudomxay Province of Laos

- 7 districts (M. La, M. Nam, M. Xay, M. Nga, M.Beng, M.Houn, M.Pakbeng)
- Pop: 240,000[1] (39,000 families)(2000 data) => 24,000 families (under the poverty level)
- 90% of the total population lives in remote Mountain villages
- 14 ethnic groups
- From Vientiane (capital city of Laos) : by bus and car 17-20 hours, by plan 1 and half hours

FINDINGS and ANALSIS

The result of interviews total 50 cases, and only 30 cases were valuable to be used in this research. The basic information is on the table as follows.

Table 1. General information of interviewees

	Age			Literacy			Religion	
	10-20	21-35	36-45	S.L	S.L.R	S.L.R.W	Buddhism	Other
Female/ Male	3/5	4/12	3/3	3/	3/	4/20	7/20	3/
Total	8	16	6	2	1	27	27	3

This research and its interpretations prove that the influence of Theravada Buddhist culture to economic activity does not changes much changes through the economic system changes. In addition this research verified that Theravada Buddhist culture is not well matched with the market economic system. The interview data was gathered from two groups both male and female. The findings are as follows.

[1] This source provided from Oudoxay government in 2003.

1. The labor market completely follows the rule of Theravada Buddhism. Of the 10 female members of this interview, most of them were employed from the shopkeeper, service work at the restaurant, managing shop, farming, and other business work. They fully recognized their job ass natural, from their past Karma. Therefore, most of females would like to be a male if they are born-again in the afterlife. Their desire in the afterlife was to be employed at the government and education. One of them wants to be s a female; because, she has a lot of income from her farming, and already enjoyed her lives in the present life and trusts that the life will be guaranteed in the afterlife. The male group, most of them employed at the government officers, teachers, students and other type of office workers. They believe, as it same with females group that the job is provided from good merit in past life, and it will be guaranteed in afterlife too. They do not want to be a female if they will be born again in the afterlife. For the question of the afterlife job, the male group (15 person) maintain their job as officer and professional working both technical and education. The result of this shows the labor market stiffness, and also that they have expectation of afterlife, not on the future in the present life.
2. The female (6=unhappy, 4= just so-so) said that they are unhappy in present life because life was too hard and tiring. In contrast, the male group (18=happy, 2=unhappy) was happy in present life and made no more comments on this question. Most of females are carving the destinies life in their consciousness and attempting to avoid suffering in the afterlife by doing donation working the present life. So the result of participating, visiting and donating to the temple is several or more than 4 times a week by a female. The male, not so much paid attention to participate, donates to the temple only fewer than 3 times a week.
3. Both male and female groups believed that the Merit Making activity will guide them into Nirvana and they will get a good life in the afterlife if they keep doing merit in the present life. They do not concern much about socio-economic relationship among people.

The other findings are:

1. Most of shop owners doing business in the market or commercial area are females [the interviewer calculated the portion of worker at two big local markets and found that female workers occupied about 98%]. Sometimes, the interviewer found a male, but most of their background is Chinese or ethnic Chinese. In the office or school, interviewer found few female workers compared to the market or commercial area.
2. A few elite groups are educated in the modern education system. However, they not only voluntarily obey the religion and belief, but also keep social norms and values, and they would not want to send their children to the Buddhist temple to get education. They believe that only poor people send their children to Temples. Furthermore, they say that the fulfilled education at Buddhist temples, the religious education, and understanding traditional rule or values is a good point, but their general education program has a lot of limitations to adapt and to archive a new social and market system. This result appeared from most of the interviewees, who are currently working as government officials and formal education agencies.
3. The other working class accepts this fact and said that they would like to send their children to go through monkshood for a short while merit making. The other ruled group said that sending children into monkshood is not only to accumulate merit but also to receive good education, such as manners, customs, as well as general education.

CONCLUSION AND RECOMMENDATIONS

As I mentioned above, the 21st century has radically shifted many sectors in each region, in particular, the economic sector significantly attending to every country, and showed economic integration among nations and regions. Southeast Asia has tried to integrate within region and cooperation with other regions as well. These changeable and divesting phenomena have influenced human and its life. The human life, living pattern, and material life under influenced by Theravada

Buddhist culture is definitely under developed economic circumstances and has a lower quality of life. Depending on my research, the people, who live in Laos, still keep up their beliefs from the Kammatic Buddhism and Merit Making Activity. Also, they tried to accept two different economic systems from their historical experiences. Even though those experiences do not have much influence on the Theravada Buddhist countries in Mainland Southeast Asia, those economic systems changing have aggravated people's lives. The main cause is the modernization development approaches from the western society, their culture and the local religious culture like the Theravada Buddhism and its developmental approach. Both of them have different philosophical and ideological backgrounds. That differentiation does not match with each other and the people are not strong enough to adopt any system from the outside world. In this research, the phenomena, such as unmatched development approaches, are definitely appearing in people's life and their identity. Economic life or material life exists and is a practical matter, which cannot be avoided by any religion or culture reasons. Therefore, my suggestion on this research is that the Theravada Buddhism and its leader group should study and make a detailed alternative developmental approach to change people's consciousness and their economic behavior for the economic life like the Christian and Muslim. In addition, to that religious leader, ruling class or elite and ordinary people should accept and clearly recognize the competitive world of the 21st century. As the proverb says, "grasp all, lose all." In practical and real life, we find it difficult to accept and to adopt both traditional spiritual values and the benefits from the market economic system. The leader of the society and people should make mutual concessions to both the different functions for practical life.

Acknowledgments.

I am grateful to Prof. CHO, Hungkok for his helpful comments and suggestions. Special thank to Prof. PARK, Innwon gives me a fresh courage to write this paper.

BIBLIOGRAPHY

[BOOK]

Adas M.1974. The Burma Delta: Economic Development and Social Change on an Asian Rice Frontier. Madison: Wisconsin University Press

Alatas, Syed Hussein. 1972. Modernization and Social Change: Studies in modernization, religion, social change and development in South-East Asia. London: Angus and Robertson Publishers.

Bellah, Robert H. 1965. Religion and Progress. New York: Collier-Macmillan Limited.

Booth, Anne & R.m.Sundrum. 1985. Labour Absorption in Agriculture. New York: Oxford University Press

Brown, D.E. 1976. Principles of Social Structure: Southeast Asia.Corolado:Westiview.

Burchett, W.G. 1957. Mekong Upstream. Hanoi: Red River Publishing House

Cady, John F. 1964. Southeast Asia: Its Historical Development. New York: McGraw-Hill Book Co.

Chatsumarn Kabilsingh. 1998. Buddhism and nature Conservation. Bangkok; Thammasat University Press

Dwyer, Denis. 1990. Southeast Asian Development: geographical perspective. Hong Kong: Longman Group (FE) Lit

Elson, R.E. 1997. The End of the Peasantry in Southeast Asia: A Social and Economic History of Peasant Livelihood, 1800-1990s. Canberra: The Australian National University

Escobar, Arturo. 1995. Encountering Development: The Making and unmaking of the Third World. Princeton: Princeton University Press

Evans, Grant. 2002. A Short History of Laos: The land in between. Chiang Mai; Silkworm Book

Friedman, Jonathan. 1998. System, Structure, and Contradiction: The Evolution of "Asiatic"Social Formations. 2nd ed. Walnut Creek: Altamira Press.

Fryer, Donald W.1979. Emerging Southeast Asia: a study in growth and stagnation. New York : McGraw-Hill

Hall, D.G.H.1981. A History of South-East Asia. 4ed. London: The Macmillan Press Ltd
Hunter, Guy. 1966. South-East Asia-Race, Culture, and Nation. London: Oxford University Press
Jan Nederveen Pieterse. 2001. Development Theory. New Delhi: Vistaar Publications
Jumsai, Manich. 1971. History of Laos. (second edition). Bangkok, Thailand: Chalermnit 1-2 Erawan Arcade
Kammerer, Cornelia, Ann. And Nicola Tnnenbaum(eds.) 1996. Merit and Blessing in Mainland Southeast Asian Comparative Perspective. Monograph45/Yale Southeast Asia Studies.
Ling, Trevor. 1979. Buddhism, Imperialism and War. London: George Allen & Unwin LTD.
Loes Schenk-Sandberger and Outhaki Choulamany-Khamphoui. 1995. Women in Rice Fields and Offices: Irrigation in Laos.Bangkok: Jirangrachata Co., Ltd.
Mayoury Ngaosyvathn. 1995. Lao Women: Yesterday and Today. Vientiane: State Publishing Enterprise.
P.A. Payutto.1994. Buddhist Economics: A Middle Way for the Market Place. Bangkok: Buddhadhamma Foundation.
------. 1997. Buddhist Solutions: for the twenty-first century. (Bruce Evans trans).Bangkok: Buddhadhamma Foundation
Perala Ratnam(edit). 1983. Laos and Its Culture. New Delhi. Tulsi Publishing House
Reynolds, Lloyd G. 1971. The Three Worlds of Economics. New Haven and London: Yale University Press
Rigg, Jonathan. 2003. Southeast Asia: the human landscape of modernization and development. London; New York : Routledge
Siddhi Butr. 1973. The Social Philosophy of Buddhism. Bangkok: Mahamakut Buddhist University
Sizemore, Russell F. & Donald K. Swearer. 1990. Ethics, Wealth, and Salvation: A Study in Buddhist Social Ethics. Columbia: University Carolina Press
Spiro, Melford E. 1982. Buddhism and Society: A Great Tradition and Its Burmese Vicisitudes. Berkeley and Los Angeles California: University of California
Stuart-Fox, Martin. 1997. A History of Laos. Cambridge; Cambridge University Press.
Sulak Sivaraksa. 1999. Global Healing: Essays and Interviews on Structural Violence Social Development and Spiritual Transformation. Bangkok; Thai Inter-Religious Commission for Development Sathirakoses-Nagapradipa Foundation
Swearer, Donald K. (Translt. and eds.). 1986. Dhammic Socialism: Bhikkhu Buddhadasa. Bangkok: Thai Inter-Religious Commission for Development
Tambiah, Stanley Jeyaraja. 1985. Culture, Thought, and Social Action: An Anthropological Perspective. Cambridge: Harvard University Press
The Sathirakoses-Nagapradipa Foundation. 1990. Radical Conservatism: Buddhism in the Contemporary World. Bangkok: Suksit Siam Co
Wazir Jahan Karim(Eds.). 1995. 'Male' and 'Female' in Developing Southeast Asia. Oxford: Berg Publishers.
White, Leslie A. 1975.The Concept of Cultural Systems: A Key to Understanding Tribes and Nations. New York and London: Columbia University Press.
Wickramasinghe, J.W. 2000. People Friendly Economic Development: An Introduction to Buddhist Theory of Development Economics. Colombo: Dharmavijaya Foundation
[UNPUBLISHED]
Bridgman, Benjamin Russell. 2003. "Essays on Development", Ph.D.Dissertation University of Minnesota, Graduate School
Van Esterik, Jonh Laurier. 1977. Cultural interpretation of canonical paradox: lay meditation in a central Thai Village. Ph.D. Diss., University of Illinois at Urbana-Champaign
[CONFERENCE]
Bernard Moizo.2004. "Land allocation and titling in the Lao PDR: Origins, problems and local impacts on minority groups". International Conference Impact of Globalization, Regionalism and Nationalism on Minority Peoples in Southeast Asia, 15-17 Nov. 2004, Chiang Mai, Thailand

Nanakkakwani, 2001, "On Specifying Poverty Lines", Asia and Pacific Forum on Poverty: Reforming Policies and Institutions for Poverty Reduction, to be held at the Asian Development Bank, Manila, 5-9 February 2001.

[BOOK, CHAPTERS]

Alatas, Syed Hussein. 2002. "Religion, Values, and Capitalism in Asia" in C.J.W. & L. Wee (eds.). Local Cultures and the 'New Asia": The State, Culture, and Capitalism in Southeast Asia. Singapore: Institute of Southeast Asian Studies.

Booth, Anne. 1991. "The Economic development of Southeast Asia: 1870-1985" in G. D. Snooks, A. J. S. Reid and J. J. Pincus. Exploring Southeast Asia's economic past. (pp.20-52). Oxford: Oxford University Press

Chiengthong, Jamaree. 2003. "The politics of ethnicity, indigenous culture and knowledge in Thailand, Veitnam and Lao PDR" in Kaosa-ard, Mingsarn and John Dore (eds.). Social Challenges for the Mekong Region. Bangkok: White Lotus

Eisenstadt, S.N. 1968."Transformation of Social, Political, and Cultural Orders in Modernization" in Eisenstadt, S.N.(edt.) Cmparative Perspectives on Social Change. Boston. Little, Brown & Company

Kaosa-ard, Mingsarn. 2003. "Poverty and globalization" in Kaosa-ard, Mingsarn and John Dore (eds.). Social Challenges for the Mekong Region. Bangkok: White Lotus

Keyes, Charles F. 1983. "The Study of Popular Ideas of Karma" in Keyes, Charles and E. Valentine Daniel (eds.) Karma: An Anthropological Inquiry (P1-26). Berkeley: University of California Press.

------. 1983. "Merit-Transference in the Kammatic Theory of Popular Theravada Buddhism" in Keyes, Charles and E. Valentine Daniel (eds.) Karma: An Anthropological Inquiry (261-286). Berkeley: University of California Press.

Gohlert, Ernst W. 1991. "Buddhist Development: An Alternative Model?", "Buddhist Power: Alternative Development in Action" in Power and Culture (pp.147-191).Bangkok: White Lotus

Fullerton, Kemper 1959. "Calvinism and Capitalism: an Explanation of the Weber Thesis" in Green, Robert W. (eds.) Protestantism and Capitalism: The Weber Thesis and Its Critics (pp.6-20). Boston: D.C. Heath and Company.

Gola, Frank H. 1977. "National Economic Priorities and International Coalitions" in Pauker, Guy J. Grank H. Golay and Cynthia H. Enloe (eds.). Diversity and Development in Southeast Asia. New York: McGraw-Hill Book Company

Higgott, Richard and Richard Robison with Kevin J. Hewison and Garry Rodan. 1981. "Theories of Development and underdevelopment: implications for the study of Southeast Asia" in Richard Higgott and Richard Robison (eds.). Southeast Asia: essays in the political economy of structural change (pp. 16-61).London : Routledge & Kegan Paul

Hla Pe. 1985. "Buddhism in Burma Supporters" in Burma: literature, historiography, scholarship, language, life, and Buddhism (pp. 189-214). Singapore: Institute of Southeast Asian Studies

Herzog, Elizabeth. 1966. "Is There a Culture of Poverty?" in Meissner Hanna H.(eds.) Poverty in The Affluent Society (pp.92-102). New Your: Hanna H. Meissner

Jayashekar. 1987. "Soviet Economic Policy in Southeast Asia: Constraints and Prospects" in Parimal Kumar Das(eds). The Troubled region: issues of peace and development in Southeast Asia.(pp.182-197). New Delhi : Sage

Malhotra, Kamal. 2002. "Development Enabler or Disabler? The Role of the State in Southeast Asia", in C.J.W. & L. Wee (eds.). Local Cultures and the 'New Asia": The State, Culture, and Capitalism in Southeast Asia. Singapore: Institute of Southeast Asian Studies.

McCloud, Donald G. 1995. "The Interstate System in Pre-colonial Southeast Asia", "Traditional Values in Western Cloth: The State at Independence" and "The Interstate System of Contemporary Southeast Asia" in Southeast Asia: Tradition and Modernity in the Contemporary World.(pp.89-111, 133-156, and 315-340). Boulder: Westview Press

Llobera, Josep. 1998. "Historical and comparative research" in Seale, Clive (eds.). Researching Society and Culture (pp.72-81). London: Sage Publication
Sombart, Werner. 1959. "The Role of Religion in the Formation of the Capitalist Spirit" in Green, Robert W. (eds.) Protestantism and Capitalism: The Weber Thesis and Its Critics (pp.29-38). Boston: D.C. Heath and Company.
Sunthorn Plamintr. 1994. "Karma", in Getting to know Buddhism (pp.109-154). Bangkok: Buddhadhamma Foundation
Todaro, Michael P. 1981. "The Meaning of Development" in Economic Development in the Third World. (pp. 56-85) New York: Longman
Toye, Jonh. 1993. "Is the Third World Still There?" in Dilemmas of development: reflections on the counter-revolution in development economics-2nd Oxford: Blackwell
Turton, Andrew. 1984. "Limits of Ideological Domination and the Formation of Social Consciousness" in Turton, Andrew and Shigeharu, Tanabe(eds.) History and Peasant Consciousness in South East Asia (pp.19-73). Osaka; National Museum of Ethnology
Warren, Carol. 1981. "Class and change in rural Southeast Asia" in Richard Higgott and Richard Robison (eds.). Southeast Asia: essays in the political economy of structural change (pp. 128-145).London : Routledge & Kegan Paul
Weber, Max. 1959. "The Author Defines His Purpose" in Green, Robert W. (eds.) Protestantism and Capitalism: The Weber Thesis and Its Critics (pp.1-5). Boston: D.C. Heath and Company.
[JOURNAL]
Barbara Watson Andaya. 2002. "Localizing the Universal: Women, Motherhood and the Appeal of Early Theravada Buddhism", Journal of Southeast Asian Studies 33(1): 1-30
Bechert, Heinz. 1970. "Theravada Buddhist Sangha: Some General Observations on Historical", Asian Studies 29(4): 761-778
Berkwitz, Stephen C. 2003. "History and Gratitude in Theravada Buddhism", Journal of the American Academy of Religion 71(3): 579-604
Booth, Anne. 2004. "Linking, De-Linking and Re-Linking: Southeast Asia in the Global Economy in the Twentieth Century", Australian Economic History Review 44(1): 35-51
Brohm, John. 1963. "Buddhism and Animism in a Burmese Village," Asian Studies 22(2):155-167
Burt, Ronald S. 1997. "The contingent Value of Social Capital", Administrative Science Quarterly, 42(2): 339-65
Daniels, Peter L. 1998. "Economic Change, the environment and Buddhism in Asia", International Journal of Social Economics, 25(6/7/8/): 968-1004
------. 2003, "Buddhist Economics and the environment, International Journal of Social Economics, 30(1/2): 8-33
Dougherty, Chrys and Dale W. Jorgenson. 1996. "International Comparisons of the Sources of Economic Growth", The American Economic Review, 86(2):25-29
Ferguson, John P. and Christian B. 1976. "Modern Buddhist Murals in Northern Thailand: A Study of Religious System", American Ethnologist 3(4): 645-669
Fershtman, Chaim, Yoram Weiss. 1993. "Social Status, Culture and Economic Performance", The Economic Journal, 103(419): 946-59
Gombrich, Richard. 1975. "Buddhist Karma and Social Control", Comparative Studies in Society & culture17 (2): 212-220
Gordon, Myron J. 2005. "Growth, uncertainty and the Third World in the rise and fall of capitalism", Journal of Asian Economics. Xxx(2005) xxx-xxx:1-24
Iannaccone, Laurence R. 1998. "Introduction to the Economics of Religion", Journal of Economic Literature, 36(3): 1465-95
Inglechart, Ronald. and Wayne E. Baker. 2000. "Modernization, Cultural Change, and the Persistence of Traditional Values", American Sociological Review 65(1): 19-51
Innis, Harold A. 1944. "On the Economic Significance of Culture", The Journal of Economic History, 4(Supplement: The Tasks of Economic History): 80-97

Irelan, Lola M., Oliver C. Moles, and Robert M. O'Shea. 1969. "Ethnicity, Poverty, and Selected Attitudes: A Test of the "Culture of Poverty" Hypothesis", Social Forces, 47(4): 405-413.
Janos Kornai. 2000. "What the Change of System From Socialism to Capitalism Does and Does Not Mean", Journal of Economic Perspectives. 14(1): 27-42
Juergensmeyer, Mark. 2004. "The Rise of Religious Politics in an Era of Globalization", Weatherhead Center for International Affairs-Harvard University.
------. 2003. "Is Religion the Problem?" Levinson lecturers, Center on Relgion and Democracy, Univ. of Virginia Nov 7/03; for hedgehog Review.
Kirsch, A. Thomas. 1985. "Text and Context: Buddhist Sex Roles, Culture of Gender Revisited". American Ethnologist. 12(2): 302-320
Keyes, Charles F. 1983."Economic Action and Buddhist Morality in a Thai Village", Asian Studies,42(4):851-868
------. 1984. "Mother or Mistress but Never a Monk: Buddhist Notions of Female", American Ethnologist 11(2): 223-24
Krongkaew, Medhi. 2004. "The Development of the Greater Mekong Subregion(GMS): real promise or false hope?" Journal of Asian Economics, 15(2004):977-998
Miller, Alan S. 2002. "Gender and Religiousness: Can Socialization Explanations Be Saved?", American Journal of Sociology 107(6): 1399-1423
Peach, Lucinda Joy. 2002. "Social Responsibility, Sex Change, and Salvation: Gender Justice in the Lotus Sutra", Philosophy East & West 52(1): 50-74
Rigg, Jonathan.1998. "Tracking the poor: the making of wealth and poverty in Thailand (1982-1994), International Journal of Social Economics,25(6/7/8/):1128-1141
Schober, Juliane. 1995. "The Theravada Buddhist Engagement with Modernity in Southeast Asia: Whiter the Social Paradigm of Galactic Polity?" Journal of Southeast Asian Studies 26: 307-25
Smith, Ian and John W. Sawkins. 2003. "The economics of regional variation in religious attendance". Economics, 35(14):1577-1588
Spiro, Melford E. 1996. "Postmoernist Anthropology, Subjectivity, and Science: A Modernist Critique". Comparative Studies in Society and History. 38(4):759-780
Strenski, Ivan. 1983. "On Generalized Exchange and the Domestication of the Sangha," Man, New Series, 18(3) 463
Stuart-Fox, Martin. 1979."Factors Influencing Relations between the Communist Parties of Thailand and Laos", Asian Survey, 19(4): 333-352
------.1983, "*Marxism and Theravada Buddhism: The Legitimating of Political Authority in Laos*", Pacific Affairs, 56(3): 428-454
------. 1995. "The French in Laos, 1887-1945" Modern Asian Studies, 29(1): 111-139
------. 1998. "Laos in ASEAN: Dilemmas of Development and Identity", Asian Studies Review, 22(2): 223-237
Sulak Sivaraksa Pacarayasara. 2002. "Economic Aspects of Social and Environmental Violence from a Buddhist Perspective", Buddhist-Christian Studies 22(2002): 47-60
Tambiah, S.J. 1973. "Buddhism and This-Worldly Activity". Modern Asian Studies. 7(1): 1-20
Tokman, Victor E. 2001. "Integrating the Informal Sector into the Modernization Process", SAIS Review XXI.1(Winter – Spring 2001):45-60
Vandergeest, Peter. 1993. "Hierarchy and Power in Pre-National Buddhist States", Modern Asian Studies 27(4): 843-870
Vogel, Stephen J. 1994. "Structural Changes in Agriculture: Production Linkages and Agricultural Demand-Led Industrialization" Oxford Economic Paper 46(1994): 136-156
Wachter, Michael L., R. A. Gordon, Michael J. Piore, and Robert E. Hall. 1974. "Primary and Secondary Labor Markets: A Critique of the Dual Approach", Brookings Papers on Economic Activity, 1974(3): 637-693.
Welch, Patrick J. and J J Mueller. 2001. "The Relationship of Religion to Economics". Review of Social Economy. 59(2):185-202

Wolff, Janet. 1999. "Cultural Studies and the Sociology of Culture", Contemporary Sociology, 28(5): 499-507

[INTERN RESOUCES]

Barro, Rober J. and Rachel McCleary. 2003. "Religion and Economic Growth", NBER Working Papers from National Bureau of Economic Research, Inc, http://www.nber.ogr/papers/w9682.pdf

Blum U. and Leonard Dudley. 2001. "Religion and Economic Growth: Was Weber Right?". Cahiers de recherche from Centre interuniversitaire de recherche en économie quantitative, CIREQ

Esa Mangeloja.2003. "Application of Economic Concepts on Religious Behavior". Economics Working Paper Archive at WUSTL. http://econwpa.wustl ... ers/0310/0310003.pdf

Luigi Guiso, Paola Sapienza and Luigi Zingales. 2002. "People's Opium? Religion and Economic Attitudes." NBER Working Papers from National Bureau of Economic Research, Inc, http://www.nber.org/papers/w9237.pdf

Minnes, Chris and Mariyan Rizov. 2003. "The spirit of capitalism? Immigration, religion, and self-employment in early 20th century Canada". The Institute for International Integration Studies Discussion Paper Series from IIIS. http://www.tcd.ie/ii ... %20pdfs/iiisdp08.pdf

Viswanatha Sankara Rama Subramaniam. 2005. "Socio-Economic Development: A Politico-Financial Overview. Economic Working Paper Archive at WUSTL. http://econwpa.wustl ... ers/0404/0404004.pdf

Appendix: Table of briefly summaries of interview and its question.

Question	Answer	
	Female	Male
What is your job?	3/ small farming and work at market 2/ serving at restaurant 5/ work at markets (2 shops owner, 3 shopkeeper)	3/ students 2/ technical workers 12/ officer 3/ education worker
If you think about your life in general these days, how happy or unhappy would you say you are, on the whole?	6/ "unhappy" because their life is too much tired to work 4/ "just good", because we have no power to change.	2/ "unhappy" 18/ happy
On average, how many times do you participate in events organized by Buddhist temples per month?	8/ 3- 5 times per month 1/ every time 1/ never	19/ 1-2 times per month 1/ never
How often do you visit the Buddhist temple?	5/ every day 5/ several time a week	16/ only on Sabbath 4/ never
Have you ever done any volunteer work at Buddhist temples?	3/ only 35-45 age groups work at temple for 1or 2 days per week.	non
Do you make regular donations, if any, to the Buddhist temple?	4/ quite often but irregularly 6/ never	17/ never 3/ quite often but irregularly
If you are born-again, would you like to be a male or a female?	8/ want to be a male for better life 2/ want to be a female for spiritual reason	20/ all of them want to be a male
If you have sons that have reached the age, do you want them to dedicate to Buddha-	3/ yes for education and family	4/ yes for future development 16/don't want b/c the life at temp is too tired.

hood or monk?		
How long do you want your son to stay at the temple?	3/ 1-3months	1-3months
What kind of job would you want as a male? And as a female? if I were a male, I would like to be.. if I were a female, I would like to be..	8/ If they will born-again to be a male, most of them would like to do an officer or education workers. 2/ to be a female for business	8/ officer 7/ professionals or education workers 3/ plant workers 2/ business
Do you believe in life after death?	10/ yes	18/ yes, 2/don't know
Do you believe in religious miracles?	8/yes, 2/ don't know	16/yes, 4/ don't know
What kind of life do you wish to live in your afterlife?	7/ to be a male for strong and better life 3/ don't know	17/ to be a male for better life 3/ only desire for better life

Prospect for Laos' Vertical Division of Labor Industrialization in the Greater Mekong Sub-Region

Dr. Motoyoshi Suzuki
Professor, Suzuka International University
suzukimo826@yahoo.co.jp

Abstract

More than five thousand Japanese-affiliated companies have been established and operating in Thailand. Industries such as the automotive and home appliance industries in Thailand have concentrated plants with such a large supply of precision parts and sophisticated technology that they have come to boast global scale quality and cost competitiveness. Due to the rapid rise in the costs of labor or production, however, Japanese-affiliated firms in Thailand are now struggling with the issue of cost reduction. Cameras, cellular phones, VTRs and other high-tech products are composed of a large number of lightweight high-tech parts, but those parts are not necessarily produced in capital-intensive method. Rather, labor-intensive production is frequently a more rational option. If the labor-intensive parts production sector that is slowly losing its comparative advantage in Thailand can be shifted to neighboring Laos, it could complement and reinforce parts production through vertical division of labor in cross-border regions and revive the cost competitiveness of Thailand's parts industry. In addition, completion of the Second Mekong Bridge in the end of 2006 and East-West Economic Corridor will benefit those companies through facilitating transportation network in GMS and reduced tariff under AFTA-CEPT scheme.

1. Introduction

It may well be a rational option for less developed countries accelerate stages of industrialization by attracting foreign direct investment into their countries. However landlocked countries like Laos do not possess desirable investment environment compared with neighboring countries. This paper is, first of all, to clarify both disadvantages and advantages specific to investment environment in Laos. Unless investors operating in Laos can overcome these disadvantages, their business will not succeed definitely. At the same time, they must enjoy advantages specific to Lao investment environment. This paper aims to clarify what type of foreign direct investment can satisfy with these difficult conditions. Finally, the author shows high potentiality for partial industrialization in Laos by attracting part-producing industry.

2. Identification of Disadvantages Specific to Investment Environment in Laos

The author identifies disadvantages specific to investment environment in Laos as follows.

Disadvantage [1]: landlocked location

In landlocked developing countries like Laos, the implementation of an import substitution policy has little potential for success. Laos does not face on any seacoast, and does not posses any seaport. As Laos has no choice but to use Laem Chabang Port in Thailand or Da Nang Port in Vietnam, it makes both export cost and import cost more expensive in terms of money and time.

Disadvantage [2]: small population, small domestic demand, and low-income level

A mere population of about 5.5 million and a mere low-income level of about 300 US $ per capita GDP can only generate so much domestic demand. It may be difficult for import substitute enterprises to achieve merit of scale, although it may depend on the features of the product.

Disadvantage [3]: competition for attracting FDI among neighboring countries

It must be pointed out that Laos is surrounded by countries that are more economically developed than itself—China to the north, Vietnam to the east, Myanmar to the west, and Thailand

and Cambodia to the south. All of those five countries possess larger population than Laos. They possess coast, while Laos does not possess it. General educational level is higher in those four countries except Cambodia than Laos. Public utility charge such as electricity, water, and telephone is provided with cheaper rate to investors than Laos (Suzuki/Keola [2005a]). Laos must compete with those countries to attract foreign direct investment (FDI), because foreign investors can compare the above investment environment in Laos with that of those countries (Suzuki/Keola [2005b]).

Disadvantage [4]: border trade, and competition for smuggled goods

As the above mentioned, Laos is surrounded by five countries. Trade has always occurred naturally and daily among residents living in border regions without their being conscious of national borders. From the perspective of modern nations, this transaction is called border trade, and falls under foreign trade (Suzuki/Keola [2005b]). Landlocked countries like Laos have a long border that makes it extremely difficult to nationally control trade activities. Therefore, any plan to protect domestic import substitution industries with a barrier of tariffs is but an armchair argument. Ironically, the reality is such that motorcycles domestically produced by Honda Vietnam, for example, must compete with Honda Thailand motorcycles smuggled into the Vietnamese market (Suzuki/Keola [2005b]).

Disadvantage [5]: trade deficit, insufficient foreign reserve and fluctuation of foreign exchange rate

It is theoretically possible for FDI to promote import-substituting industries in Laos. Its promotion may adversely affect trade balance, because it necessitates the import of capital goods, such as machinery, and intermediary goods, including raw materials and components. Import substitution can be justified if the amount of import of capital and intermediary goods necessary for import substitution is less than the amount of foreign currency saved by the reduced import of completed goods. It is an effective means of increasing employment because products are produced locally, and increased revenue can be expected from corporate tax and income tax. Moreover, it has the added benefit of generating demand for physical distribution and other derived demands (Suzuki/Keola [2005b]). However, Lao import amount is approximately double its export amount. As Laos is definitely a country with a large trade deficit, import substituting foreign investor must always pay attention to foreign reserve amount in importing capital goods, such as machinery, and intermediary goods, including raw materials and components. Simultaneously, under flexible exchange rate system, trade deficit tends to depreciate domestic currency. Depreciated foreign exchange rate will increase import cost of companies operating in Laos.

Disadvantage [6]: budget deficit & tax system under AFTA-CEPT scheme

Although the original ASEAN countries had implemented various industrial policies to promote import substitution by attracting FDI, the new framework of economic unity has made it increasingly difficult to implement those policies. Laos became an official member of the Association of Southeast Asian Nations (ASEAN) in 1997, and has since been working to realize the Common Effective Preferential Tariff (CEPT) scheme with an eye to realizing the ASEAN Free Trade Area (AFTA). Laos and Myanmar are planning to reduce the import tariffs of all items excluding those on the General Exception List (GEL) and Sensitive List (SL) to a level between 0 and 5% by 2008 (Fig. 1), and to completely eliminate[1] all import tariffs by 2012. This has made it even more difficult to protect domestic industries by applying high tariffs or to develop import substitution industries. On the other hand, the lowering of tariffs allowed machinery, raw materials,

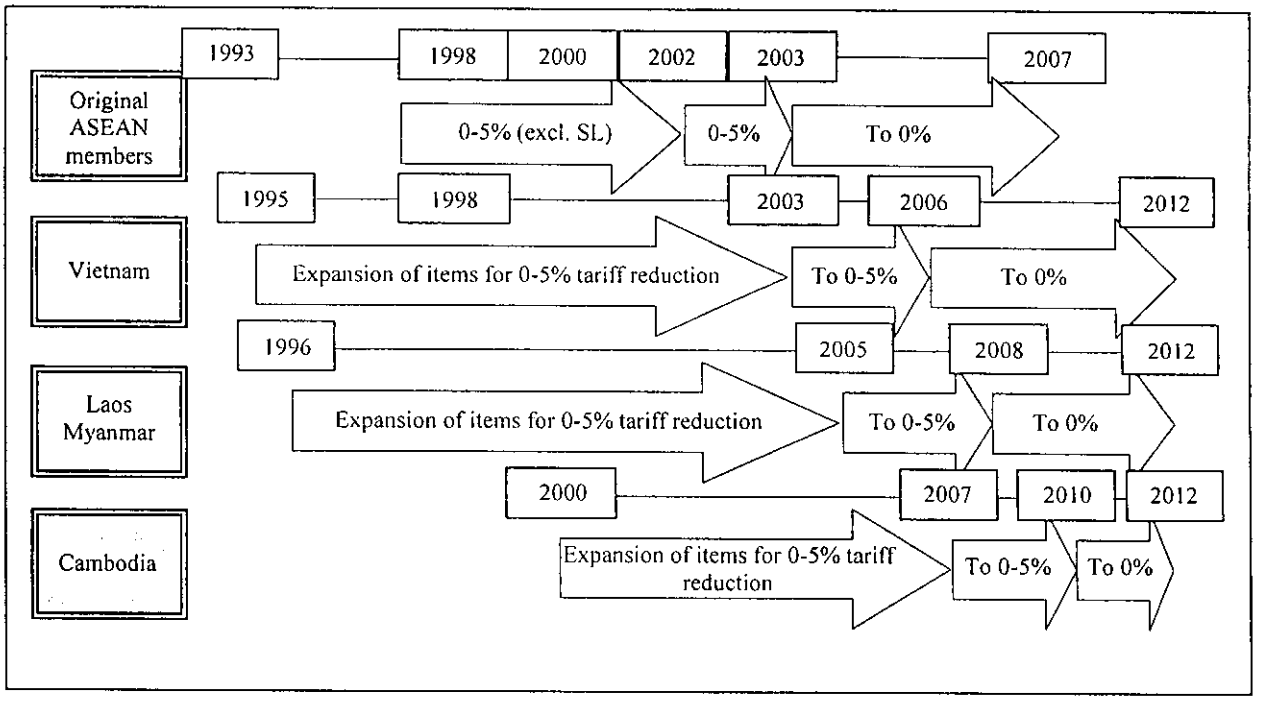
[1] At the ASEAN Economic Ministers' Meeting held September 3, 2004, the members agreed to accelerate the time frame for completely eliminating tariffs in ten areas including automotive items by three years. The deadline for the six original ASEAN members was moved up to 2007, and the deadline for Vietnam, Laos, Cambodia, and Myanmar to January 1, 2012. This agreement was signed at the ASEAN Summit held in November.

and components to be imported more readily. Yet, in an attempt to compensate for the loss of tariff revenue which is anticipated with the implementation of CEPT, with turnover taxes and excise taxes, the Lao government mercilessly imposes these domestic taxes even on products produced domestically as import substitutes. For this reason, about 20% of a product's cost is ultimately converted to consumers in the form of tax. In other words, the introduction of domestic taxes only served to hamper the development of import substitution industries and other domestic industries (Suzuki 2000).

3. Identification of Advantages Specific to Investment Environment in Laos

More than five thousand Japanese-affiliated companies have been established and operating in Thailand. Industries such as the automotive and home appliance industries in Thailand have concentrated plants with such a large supply of precision parts and sophisticated technology that they have come to boast global scale quality and cost competitiveness. Due to the rapid rise in the costs of labor or production, however, Japanese-affiliated firms in Thailand are now struggling with the issue of cost reduction. Cameras, cellular phones, VTRs and other high-tech products are composed of a large number of lightweight high-tech parts, but those parts are not necessarily produced in capital-intensive method. Rather, labor-intensive production is frequently a more rational option. If the labor-intensive parts production industry that is slowly losing its comparative advantage in Thailand can be shifted to neighboring Laos, it may be able to complement and reinforce parts production through vertical division of labor in cross-border regions and revive the cost competitiveness of Thailand's parts industry.

Fig. 1 Tariff reduction program under the Common Effective Preferential Tariff (CEPT) scheme



It may be possible for this type of parts production industry to overcome various disadvantages mentioned in Section 2. Parts industries that advance into Laos are long-standing companies that have established and continued to operate plants in Thailand over many years. Invariably, it is the Thai plant, where strategy headquarters is located, that determines which parts are to be manufactured in which country or region within the AFTA framework. Therefore, the subregionally complementary industrialization strategy is not a zero-sum game where the Thai plant is to be closed in its entirety and moved to Laos. Rather, it calls for the production of only the labor-intensive parts from among all parts that are presently produced to be shifted to Laos, and for the

manufactured parts to be sent back to the Thai plant. As parts imported into Laos are re-exported after processing, parts production industry contributes into accumulation of foreign reserve in Laos (overcoming of disadvantage [5] mentioned above). Such a complementary relationship would be beneficial to both countries. Of course, companies can receive much benefit from tariff reduction under AFTA-CEPT scheme (overcoming of disadvantage [6] mentioned above). For example, labor-intensive parts that constitute high-tech products—the vibrator of cellular phones, microchips for home appliances, trigger coils used in digital camera flashes, wire harnesses and other automotive parts, etc.—would be manufactured in Laos and then sent to the Thai plant, where they will be incorporated with other components. The Thai plant would supply these parts (i) to such companies as Sony, Toshiba, Hitachi, and Nokia located in Thailand, or (ii) to such companies as Toyota, Honda, Hino, and Isuzu, if they are automotive parts producing companies, or (iii) export them to its own plant in a different country. Namely, as parts produced by parts industry in Laos are exported, they do not compete with smuggled parts (overcoming of disadvantage [2] mentioned above). Since the marketing route is already established in this way, the Lao plant is able to receive orders for a sufficient lot, and in addition to enjoying merit of scale, it does not need to develop a new export market for the parts manufactured by the Japanese-affiliated companies in Laos (overcoming of disadvantage [4] mentioned above). Clearly, the landlocked geographical condition of Laos is not a disadvantage in terms of location (overcoming of disadvantage [1] mentioned above) .

By identifying advantages specific to investment environment in Laos as follows, the author indicates how reasonable and effective the attraction of labor-intensive parts production industry into Laos can promote vertical division of labor type of industrialization.

Advantage [1]: cheap labor

The minimum wage in Thailand is 150 baht/day in Bangkok and 138 baht/day in Chiang Mai, whereas it is a mere 50 baht/day in Laos, even when taking fringe benefits into consideration (Suzuki 2004). The difference in wage level is plainly obvious, and clearly indicates that Laos is an appropriate site for the labor-intensive parts industry.

Advantage [2]: transfer of technology

Even if Japanese companies succeed in making direct advances into Laos, it is far from easy to achieve success under Laos' difficult investment environment. A Lao staff who is not used to speaking in English and a Japanese employee who can understand neither Lao nor Thai would have difficult communicating with each other. However, in this respect, Japanese companies in Thailand have already succeeded in training Thai instructors. Therefore, attracting such Japanese-affiliated companies from Thailand could eliminate the communication problem with the help of the Thai instructors, since the Thai language comes from the same origin as the Lao language, and thereby expedite the transfer of technologies to Lao plants. In addition, Thai investors or trainers can visit Laos so frequently without entry visa owing to bilateral visa exemption treaty.

On the contrary, those companies must pay much attention to Lao workers, as mental feeling specific to Lao against Thai may occur spiritual conflict between Thai trainers and Lao workers on the process of technology transfer. However, it can safely be said that Thai trainers play a vital role to succeed their business during the initial stage of factory operation to middle stage. Ultimately, it is rather important for them to bring up "skillful Lao trainers" to manage factory operation instead of Thai trainers until the middle stage.

Advantage [3]: On-site training at Thai plants

Lao employees can receive training at their respective company's plant in Thailand. Since Laos and Thailand are physically close to each other and Lao trainees need not apply entry visa to Thailand, the mobility cost of personnel can be kept low, and since they have similar cultural and linguistic backgrounds, in terms of technology acquisition there is a distinct location advantage to training Lao workers in Thailand.

Advantage [4]: First and Second Mekong International Bridges

In 1994, the First Mekong International Bridge linking Vientiane, the capital of Laos, and Nong Kai, Thailand, was completed with grant aid from Australia. The Second Mekong International Bridge is being built with yen loan provided by the Japan Bank for International Cooperation (JBIC) between Mukdahan, Thailand, and Savannakhet, a strategic city in southern Laos, and is slated for completion at the end of 2006. Traditionally, goods were transported between Thailand and Laos by loading a truck with goods and crossing the Mekong River by ferry. However, when completed, the second Mekong International Bridge will connect Thailand and Laos by road just as the first bridge will provide land access between Vientiane and Nong Kai, and it is expected to considerably reduce physical distribution time in the southern areas as well.

Advantage [5]: Savan=Seno Special Economic Zone (SEZ)

The Lao government is planning the construction of a Savan=Seno Special Economic Zone (SEZ) in Savannakhet, a strategic city where national highway 13, which runs longitudinally through Laos, and the East-West Corridor intersect. The Savan=Seno SEZ will be divided into two sites. Site A will cover 305 hectares of land adjacent to the second Mekong International Bridge, and is where the financial, commercial, and tourist functions will be concentrated. Site B (20 ha) will be located at the intersection of national highways 13 and 9, and is where warehouses and plants are planned to be invited (Suzuki 2002, 20). The writer feels that inviting the labor-intensive parts industry of Japanese-affiliated companies in Thailand to the Savan=Seno SEZ is the most reasonable means of assuring the success of the SEZ in the landlocked country of Laos. When inviting companies to the Savan=Seno SEZ, a part of the SEZ is designated an export processing zone to allow a strong complementary relationship to develop between Lao plants and Thai headquarters on the cost front. In this zone, products manufactured using raw materials and parts imported from Thailand and other foreign countries are to be exempted from turnover tax (Article 25.1), excise tax (Article 25.2), minimum tax (Article 25.9), and import duties (Article 26) as described in *Decree* No. 177 *of the Prime Minister on the Management Regulations and Incentive Policies Regarding the Savan-Seno Special Economic Zone* (2003).

Advantage [6]: political stability and public order

Laos is politically a socialist country under Constitution of Laos (2003), while it has been economically introducing market mechanism since 1986. Among Asian countries, Laos is one of very politically stable countries with excellent public order under strong leadership of People's Revolutionary Party. Lao people have very mild personality in general. These characteristics seem to be attractive elements to investment environment in Laos.

4. Conclusions

It would not be an exaggeration to say that the success of parts production companies in Thailand invited to Laos depends not so much on the improvement of necessary infrastructure (roads, electricity, bridges, etc.), but rests largely on the reduction of time and costs for logistics, which include transportation, physical distribution, customs, and overhead costs. First of all, if goods from Thailand to Laos can clear customs in a single day and goods from Laos to Thailand can also clear customs in a single day, the corridors would gain a competitive edge even when compared with the Malaysia-Thailand truck route. Second, the time spent on the procedure for importing parts from a subsidiary plant in Laos to the parent company in Thailand must be shortened to within a day. Third, the Lao government must urgently examine preferential export measures, including a tax system in which no domestic tax is applied to goods that are produced in Laos and exported to Thailand, and create an export promotion system independent of the domestic tax system. In doing so, Laos can learn from the preceding efforts of various Asian countries such as Korea, Taiwan, Singapore, and Thailand. It is indeed in a position to benefit from the latecomer's advantage in establishing its system.

References

1. Asian Development Bank, *Mekong ryuikishokoku ni okeru ikinai keizaikyouryoku* [Economic Cooperation in the Greater Mekong Subregion]. 2001.
2. Government of Laos, *Decree of the Prime Minister on the Management Regulations and Incentive Policies Regarding the Savan-Seno Special Economic Zone,* No. 177/PM, November 2003.
3. Japan External Trade Organization (JETRO), *Sekai wa ima—JETRO Global Eye tokushu: Mekong chiiki no aratana taidou (zenpen, kouhen)* [The World Today—JETRO Global Eye Specal Feature: New Developments in the Mekong Subregion (parts 1 & 2)]. Aug. 7 & 14, 2004.
4. Nihon Keizai Shimbun, "Ikinai kanzenteppai maedaoshi" [Accelerating Complete Elimination in the Subregion]. Sept. 4, 2004. p. 4.
5. Ministerial Conference of the Forum for Comprehensive Development of Indochina, *Joint Statement.* February 1995.
6. Masaya Shiraishi, "Mekong chiiki kyouryoku to betonamu" [Mekong Region Cooperation and Vietnam], Masaya Shiraishi, ed., *Betonamu no taigaikankei—21 seiki no chousen* [Vietnam's Foreign Relations—Challenges in the 21st Century], Akatsuki Inshokan. 2004.
7. Motoyoshi Suzuki, "Laos de AFTA ga seikoushinai riyuu" [The Reason Why AFTA Does not Succeed in Laos], *Sekai keizai hyouron (jo/ge)* [Global Economy Review (parts 1 & 2)]. Dec. 2000, pp. 52-55, Jan. 2001 issue, pp. 60-64.
8. Motoyoshi Suzuki "Roshia enjo no jittai—enjo sakugen ni yoru Laos keizai he no eikyou" [The Reality of Russian Aid—The Impact of Aid Reduction on Lao Economy], Japan Society for International Development, *Kokusai kaihatsu kenkyuu* [International Development Research], Vol. 2 No. 1, 1993. pp. 127-137.
9. Motoyoshi Suzuki et al, "Issue of Foreign Direct investment in the Lao PDR: Interview Survey", The National Economic Research Institute (NERI), Laos' State Planning Committee (SPC) and The Japan International Cooperation Agency (JICA), *MacroEconomic Support Policy for Socio-Economic Development in the Lao People's Democratic Republic Vol. 2,* July 2002. pp. 166-191.
10. Motoyoshi Suzuki, *Laos toushi gaido* [Laos Investment Guide], ASEAN Japan Center. Dec. 2002.
11. Motoyoshi Suzuki, *2004 nen 8 gatsu Laos chosa, genchi gyoumu nisshi* [August 2004 Logbook of Survey and On-site Tasks in Laos], Institute of Developing Economies. Sept. 2004.
12. Motoyoshi Suzuki, "Nairiku kaihatsutojoukoku no chiikihokangata kougyoukaron—chiiki keizaitougou no nami ni nore" [Subregional Complementary Industrialization of landlocked Developing Countries—Ride the Wave of Regional Economic Integration], *Sekai keizai hyouron* [Global Economy Review]. Nov. 2004. pp. 21-28.
13. Motoyoshi Suzuki & Soukhnilan Kheola, Improvement for Lao Foreign Direct Investment Environment-Context of Competition among ASEAN Countries, Suzuka International University, *CAMPANA*, Volume 11,March 2005a. pp. 1-14.
14. Motoyoshi Suzuki & Soukhnilan Kheola, "Foreign Direct Investment in Laos Analyzed in terms of Advance & Divestment," Naoko Amakawa (ed.), *Raosu: Ittou shihai taiseika no shijou keizaika*, Institute of Developing Economy, July 2005b.
15. Motoyoshi Suzuki & Soukhnilan Kheola, Subregionally Complementary Industrialization Strategy for Laos under Economic Unity, *MacroEconomic Support Policy for Socio-Economic Development in the Lao People's Democratic Republic*, The National Economic Research Institute (NERI), Laos' State Planning Committee (SPC) and The Japan International Cooperation Agency (JICA), June 2005c.

The Impact of Globalization on a Borderland Community in the GMS : The Emergence and Reaction to Chinese Market at Muang Huay Xai, Lao PDR

Ekamol Saichan[1] and Pittaya Fhusai[2]

ABSTRACT

After the collapse of Berlin Wall in 1986 and Soviet socialist regime in 1989, it could be seen that the wind of globalization has advented to visit different parts of the world in the last decade of the twenty century and the early twenty first century. Apart from political dimension of the emergence of large numbers of new democratic states and the awareness of human rights, it seems that the transformation of centralized state economy to market economy has been the prominent trend in almost communist countries. Moreover, the situation of economic cooperation and international trade has gradually replaced the feeling of distrust and enemy between the two worlds of liberalism and socialism. In other words, they have been linked together in different dimensions.

This phenomenon is also true for the Greater Mekong Subregion (GMS) in Southeast Asia, the area where once had been the battle field of violence between the countries of different ideologies. The end of cold war in late 1980s has led the countries in GMS, particularly in the Upper Mekong River, (China, Myanmar, Laos and Thailand) to begin the cooperation in water transportation for commercialization in 1993. among them, China as the giant producer of variety of goods in GMS is the most active state in pushing commercial navigation in the Mekong River which is a project of the North-South economic corridor. This operation reflects the strong desire of China to create the economic opportunity for its Southwest landlocked region, Yunan in particular by linking with mainland Southeast Asia through Myanmar, Lao PDR and Thailand. Since then, the navigation route of Simao – Chiang Saen and Chiang Khong (Thailand) in Mekong River has become an important shipment of goods and products between Southern China and Northern Thailand. Muang Huay Xai of Lao PDR as the borderland on the opposite bank of Chiang Khong of Mekong, also has got the impact of new route of trade in GMS. This previous small border district has grown up in term of the center for supplying Chinese goods to the surrounding areas of Laos rapidly. The number of Chinese peddlers and traders in the district has increased significantly.

Particularly, the recent beginning of constructing high way road project of Boten (borderland between China and Laos) – Huay xai (borderland between Laos and Thailand) which is a part of the Kunming – Bangkok Route (GMS R3A) has led to the emergence of Chinese Market at Huay Xai. This market is the result of the attempt of Laos officials to solve the conflict between local community and Chinese traders whom run the market. Therefore, the main aim of this preliminary research is to examine the impact of globalization of economic cooperation and the reaction of local community in GMS by using the case of Lao PDR.

[1] Lecturer in Political Science, Chiang Mai University, Chiang Mai, Thailand

[2] Graduate Student of Regional Studies Program, Chiang Mai University, Chiang Mai, Thailand. For a copy of the full paper, contact Pittaya Fhusai, <pittaya_fhusai@hotmail.com>,

The Greater Mekong Subregion (GMS) : What Kind of 'Regional Market Economy'?

Alfred Oehlers
Department of Economics
Auckland University of Technology
Private Bag 92006 Auckland 1020 New Zealand
Ph: +64-9-917 9999 x5733
Fax: +64-9-917 9990
Email: alfred.oehlers@aut.ac.nz

Abstract

This paper takes issue with the rhetorical construction of what constitutes a 'regional market economy' that seems to inform much official thinking around the Greater Mekong Subregion (GMS) Program. As it will be suggested, this is a limited construction that privileges the unimpeded movement of goods and resources within the area. Missing from this construct are more fundamental dimensions of what constitutes a proper 'economy', such as production and the institutional foundation to support such activity. Without these, the GMS may be constrained in its future development, rising little beyond an *entrepot* basis. If the Program is to realize its full promise, further initiatives will be required, particularly to firmly embed a productive capacity within the region and establish a coherent institutional framework in its support.

1. Introduction

The Greater Mekong Subregion (GMS) comprises Thailand, Burma/Myanmar, Cambodia, Laos, Vietnam and the southern Chinese province of Yunnan. Taking its name from the Mekong River that wends its way through all these territories, the subregion covers an area of approximately 2.34 million square kilometers, and is home to around 257 million people (ADB 2004b: 1). Strategically placed within the more advanced East Asian region, and with considerable riches in natural resources as well as a youthful workforce, the subregion is widely recognized as possessing significant economic opportunity and potential.

The notion of a 'subregion' unifying the territories along the Mekong is certainly not a recent development and has existed in one form or another since 1957 (see e.g. Weatherbee 1997, Than 1997, Osborne 2000). There have historically, indeed, been a series of overlapping and uncoordinated frameworks across the subregion, focusing either on the river as a natural resource, or the wider river basin as a zone of economic activity – a situation that persists to this day (Weatherbee 1997: 168, Than 1997). With reference to the latter focus, it would be fair to suggest that though previous efforts at developing economic cooperation within the subregion have not been lacking, these have proved to be less than successful and have been unable to gather any real momentum towards building a sustainable partnership among the participants. Various factors lie behind this lack of progress, including historical and cultural animosities, ideological differences as well as conflicting national interests. Changes in the political economy of these Mekong nations during the 1980's, however, would change their respective attitudes toward such cooperation, and create a stronger coincidence of interests in such an effort. It is against this background of evolving and coincident interests thus, that the revival of the idea of a Mekong 'subregion' towards the late 1980's and early 1990's – and its eventual formalization in the form of the GMS in 1992 – is to be understood.

With conflict and instability largely resolved in the Indochinese states of Laos, Cambodia and Vietnam by the late 1980's, the focus of much policy in these countries had shifted towards the promotion of economic development, particularly through market-oriented approaches. Participation in a regional cooperative framework was not inconsistent with such grander designs, and indeed, promised considerable benefits through, for example, joint underwriting of costly infrastructure projects. These countries, as such, were not averse to the notion of a formal

subregional arrangement (see e.g. Krongkaew 2004). For Thailand, riding the crest of an economic boom at this juncture, such regional strategies made equally strong sense. The Indochinese states (together with Burma/Myanmar) represented an as yet untapped pool of bountiful resources to sustain Thai economic growth. More ambitiously, as articulated by former Thai prime minister Chatichai Choonhaven, Thailand saw itself as the center of a Mekong "golden peninsula" (*suvannaphum*), acting both as a lynchpin of economic development in the region, as well as the gateway for the other Mekong states (see e.g. Krongkaew 2004, Masviriyakul 2004, Park *et al* 2003). China, meanwhile, had since 1978 already been embracing market reforms, and as part of that process, granted permission to border districts in Yunnan to engage in border trade from 1984. The enhancement of this process through a formal regional mechanism was looked upon favorably, particularly since it provided an opportunity to develop the land-locked Yunnan province while conveniently dovetailing with the wider Western China Development Strategy (see e.g. Krongkaew 2004, Masviriyakul 2004).

With the active support of the Asian Development Bank (ADB), these partners were brought together in 1992, and the main principles and contours of the GMS Program codified into an economic cooperation and integration agreement (see e.g. ADB 1993). These basic documents and agreements have been refined further in subsequent years, so much so that there is now a sizable official literature around the GMS (see e.g. ADB 1994, 1996a, 1996b). Many of the identified initiatives under the Program, moreover, have already or are in the process of implementation, giving the Program far greater substance than any of its predecessors. In this respect, the role of the ADB has been instrumental. Beyond merely a supportive facilitating or catalyzing role, the Bank has been closely involved in numerous initiatives, directly underwriting projects or at the very least, providing much needed technical assistance.[1] Indeed, so strong is the Bank's involvement, the GMS Program is often perceived as an initiative driven solely by the Bank, rather than one 'owned' by the member territories.

The ADB rationalizes its involvement by reference to its fundamental goals, as enshrined in its Charter (ADB 1966). According to this, as a regional development institution, the Bank has a mandate to "foster economic growth and cooperation in the region", and most particularly, to give priority in the use of its resources "to those regional, sub-regional as well as national projects and programs which will contribute most effectively to harmonious growth of the region" (ADB 1966: 1, see also ADB 2003: 1). Viewed in this light, the GMS Program certainly appears consistent with the overall responsibilities of the ADB. Indeed, as the Bank points out, when viewed against this broader mandate of fostering Asia-wide integration and cooperation, the GMS assumes pivotal significance. As the one and possibly only active project on regional cooperation at the moment, the GMS "is an integral part of the movement toward a greater Asian economic community" (ADB 2004a: 5, 25); an invaluable vehicle, in other words, for the Bank's wider agenda.

At a more concrete level, the Bank sees its involvement in the GMS Program as consistent with its overarching goal of poverty reduction (see e.g. ADB 2004a). Since the launch of the Millennium Development Goals in 2000, this focus has been broadened to ensure consistency with wider international development agendas, but the Bank nevertheless maintains poverty reduction is central, and thus should take precedence (see e.g. ADB 2004a: 15). Reflecting this, and under the auspices of the Bank, successive GMS Ministerial Summits have emphasized "freeing their people from poverty" (ADB 2004a: 5), or similarly, a region "free from poverty" (ADB n.d.[a]: 1), as the central objective of the Program. Crucially, a very definite path forward is also elaborated to deliver on this outcome. As the ADB emphatically states:

> The Subregion *needs* to be increasingly *integrated* to attain these goals... A key objective of the ADB program is thus the development of GMS markets and the

[1]. Between 1992-2003, the ADB approved $1.2 billion in loans for regional development projects and mobilized another $922 million in cofinancing. Together with cofinanciers and GMS governments, $79 million has been provided in technical assistance (ADB 2004a: 27).

movement of goods and people... The promotion of transport and economic corridors is *central*... (ADB 2004a: 5, emphasis added).

This path envisioned by the Bank involving accelerated market integration, freer movements, "corridors" and the like, has not gone unchallenged. Some observers have drawn attention to shortcomings inherent within the developmental vision underpinning the GMS Program and questioned its ability to deliver poverty reduction on a meaningful and sustained basis (see e.g. Pasuk 2000, Guttal 2003). Others have highlighted the negative costs associated with such a path, particularly in a social and environmental sense (see e.g. Osborne 2000, Guttal 2003). Yet others have drawn attention to the potential emergence of asymmetrical relations amongst the partners, privileging the economically dominant at the expense of the weaker (see e.g. Krongkaew 2004). The wider implications posed by the "re-scaling" of politics as a result of the Program have also been raised (see e.g. Hirsch 2001), as well as myriad other factors such as coordination problems, conflicting interests, funding difficulties, and the erosion of democratic accountability (see e.g. Than 1997, Masviriyakul 2004, Weatherbee 1997, Guttal 2003, Krongkaew 2004, Yu 2003). This paper complements these previous studies by issuing a further caution about the potential of the GMS Program to deliver on its goal of poverty reduction. Focusing on the ADB's vision of what constitutes a 'regional market economy' – the key to delivering on this – the paper raises questions about the ability or capacity of this vision to generate outcomes that will make a significant impact on poverty. Can the notion of a 'regional market economy' as articulated by the Bank, generate the required economic growth, employment and incomes for the people of the Mekong and thus reduce poverty?

As it will be suggested, claims about the ability of the Program to deliver may need to be qualified substantially. The conception of a 'regional market economy' as currently embraced by the Bank is an extremely limited construct, confined to the creation of a borderless region facilitating the freer movement of goods and resources. While there is nothing intrinsically wrong with such a conception, doubts may be cast on whether such a form of integration, by itself, will be sufficient to deliver the sort of sustained development required to make a dent on poverty. Crucially, what is missing is an explicit focus on production, and more widely, the fundamental institutions to underpin such activity. Without these, it is doubtful if the GMS Program will reach its full potential. Indeed, with a current focus only on transborder economic flows, it is at risk of doing little beyond fostering an *entrepot* region, defined by increasingly complex corridors linking poles of activity, but with very little else within or between. This discussion, it will be suggested, has more than just academic significance. There is an important policy challenge that is issued to the ADB and other supporters of the Program. If the GMS is to fulfill its aspirations, there is an urgent and important need to reorient and refocus current policy.

The next section of the paper will briefly sketch the ADB's view of what constitutes a 'regional market economy'. Section 3 will critique this view, pointing out the limited nature of this conception and the implications posed for the attainment of the Bank's stated goals. Section 4 concludes the paper, drawing attention to some wider implications of the study.

2. *The Official Vision: "The GMS – Beyond Borders"*

As indicated above, there is now a voluminous official literature around the GMS Program. The ADB has been one of the most prolific contributors to this, and there is no shortage of material to draw on to fashion an understanding of its activities in the GMS (see e.g. ADB 1993, 1994, 1996a, 1996b). Looking at documents of a more recent vintage, however, two issued in March 2004 stand out as highly significant, particularly from the point of view of understanding the Bank's vision for the region. The first of these outlines the Bank's Regional Cooperation Strategy and Program (RCSP) for the GMS and its funding priorities for 2004-2008 (ADB 2004a). The second is a complementary study providing economic background and context to that strategy (ADB 2004b). As the two most recent documents released by the Bank, these probably provide the most reliable and accurate indication of the Bank's current thinking on the GMS.

In this respect, it is perhaps telling that the RCPS is titled, *The GMS – Beyond Borders* (ADB 2004a). In a way, this very aptly signals and conveys the broad thrust of the Bank's vision, which seems to revolve around the creation of a region where the freer movement of goods, people, and resources is possible with minimal interference or impediment. In effect, the vision strives for the creation of a unified, integrated market, spanning the political space of the region. It is important to note, however, that in calling for a dissolution of borders, the Bank is referring primarily to *economic* borders, having an impact on economic movements across the region. The Bank takes care to distance itself from the thornier issue of *political* borders and the associated issue of political integration. This is made clear in the distinction that is offered between "market" as opposed to "institutional" integration, and its insistence that the GMS represents an informal, "nonofficial" means to market integration:

> The GMS program is a classic case of *market* integration, as opposed to *institutional* integration. Institutional integration is characterized by legal agreements and institutional arrangements that promote trade among members of the agreement on a preferential basis. Market integration, on the other hand, relies on *nonofficial* institutions that provide regional public goods that reduce transaction costs associated with the international movement of goods, services, and production factors (ADB 2004b: ii, 27, emphasis added, see also ADB 2004a: 20).

The ADB suggests such market integration is important to economic development within the region for a number of reasons. Firstly, the dissolution of economic borders will make it possible to better exploit "complementarities" within the region, particularly differences in resource endowment and income levels. These differences, it is argued, are more reflective of the comparative strengths and advantages of partners, and can form the basis for highly productive trade and investment relationships. Secondly, by reducing structural and institutional impediments to the movement of goods, people and capital, integration can significantly reduce transaction costs, yet again, spurring trade. Thirdly, through market integration, GMS partners may better exploit economies of scale, thereby improving efficiency in some existing sectors while making possible additional activities previously unattainable due to smaller national markets (ADB 2004b: 12, see also ADB 2004a: 20).

While the rationale for market integration may be sound, it is recognized, however, the GMS faces unique challenges in achieving such integration. With the possible exception of Thailand, the GMS partners are, in the main, poor, developing societies. They are particularly lacking in basic infrastructure such as transportation, telecommunications and power, all of which are essential to the freer movement of goods, people, and capital. For this reason, improvements in infrastructure are seen as an absolutely critical prerequisite for achieving the market integration envisaged. This is the central reason why major infrastructural projects are privileged under the GMS Program (see e.g. Than 1997: 43-44).

In its RCSP, the ADB refers to such infrastructure development as improving "connectivity" across the region. Efforts in improving transport networks, power and telecommunication facilities are emphasized as critical. Indeed, in tandem with efforts to facilitate freer movements across borders through measures like more streamlined and harmonized customs and border procedures, connectivity is believed to be the principal means to achieving a reduction in poverty (see e.g. ADB 2004a: 6). As the Bank goes on to elaborate, investments in such "connectivity have large impacts on poverty reduction by generating income and employment" (ADB 2004a: 33). In particular, by reducing transaction and transport costs, as well as promoting efficiencies and economies of scale through access to larger and wider markets, it is surmised such greater connectivity will deliver lower production costs and improved competitiveness. Such competitiveness, in turn, is believed to spur growth in enterprises and by extension, the region, eventually culminating in an expansion of

employment opportunities and hence, incomes (see e.g. ADB 2004: 6, 26, 33, ADB 2004b: 13, see also Krongkaew 2004: 179).[1]

Consistent with such reasoning, the Bank accords high priority to such "connectivity" initiatives, and within the RCSP and other strategy documents, pride of place is assigned to the "flagship" programs dedicated to the enhancement of such connectivity: the so-called "economic corridors" (ADB 2004a, ADB n.d.[a]). Three such corridors are supported: the North-South, running from Yunnan, through Laos and into Thailand; the East-West, spanning Thailand, Cambodia and Vietnam; and the Southern, straddling the lower southern reaches of Thailand, Cambodia and Vietnam (see ADB 2004a, ADB n.d.[a], ADB n.d.[c], ADB n.d.[d], ADB n.d.[e]). Within each corridor, a range of infrastructure projects are identified for priority investment, from roading, to energy development, to telecommunications. Funded on a 3-year rolling investment cycle, the ADB expects to provide loans totaling $725 million for projects during 2004-2006, and a further $25.5 million for technical assistance (ADB 2004b: 6). Through these investments, it is envisaged the basic framework for a 'regional market economy' will be laid. In the Bank's view, this amounts to nothing less than "a highly efficient system – allowing for goods and people to circulate or travel around the Mekong subregion without significant impediment, excessive cost, or delay" (ADB n.d.[a]: 3).

To sum up this section, it would appear the ADB has a somewhat distinct notion of the sort of 'regional market economy' it seeks to create through the GMS Program. This is a vision that is defined by at least three important features. Firstly, it is a vision that emphasizes the primacy of *market* integration. For the Bank, it is very clear that when it speaks of a 'regional market economy', the predominant emphasis in that notion is on the word *market* rather than *economy*. Secondly, it is also very clear that the Bank's vision emphasizes integration through *nonofficial* channels. There is a marked aversion to the creation of formal, *supranational* institutions to drive the process. Thirdly, in terms of generating outcomes that will address the ultimate goal of poverty reduction, it appears the Bank's vision places considerable faith in the magic of the market. In particular, there seems to be a belief that by creating a regional market through dissolving economic borders and providing the enabling conditions (i.e. infrastructure) to access that market, economic, employment and income growth will somehow spontaneously burst forth, banishing poverty. As the following section will suggest, this overall conception suffers a number of critical shortcomings. While noteworthy in themselves, these carry significant implications, potentially compromising the ability of the GMS Program to deliver on the goal of poverty reduction.

3. The GMS – Without Borders...and Substance?

At the outset, it should be stressed that in emphasizing market integration, the ADB is not in any sense wrong or mistaken. As it will be suggested below, such integration is capable of delivering *some* gains that will have an impact on poverty reduction, and to that extent, the Bank is perhaps on the right track. While acknowledging this, an honest assessment of such market-based integration must also recognize the limitations inherent in such a process. As the following will also point out, while potentially significant, the gains to be had through such market integration are not necessarily enduring, and likely to dissipate over time in the absence of further policy and institutional initiatives. Seen in this manner, the challenge for the GMS Program lies in the elaboration of further policy to give it greater depth; what is being called for is not so much the jettisoning of the Program, but its refinement for greater substance. This argument will be developed by building on the aforementioned features of the ADB's vision of a 'regional market economy'.

---

[1]. A note of caution must be sounded on this point. Apart from a few vague statements and generalizations, the ADB does not explicitly elaborate the theoretical or empirical relationships between "connectivity" and employment and income growth. The interpretation offered here has been pieced together from these generalizations, and though there is a danger of the ADB's position being misrepresented or misconstrued, it does appear consistent with the general thrust of the argument advanced.

To market, to market...

For the ADB, there is a strong expectation that through market-enhancing initiatives facilitating improved flows of goods across the region, economic, employment and income growth will necessarily follow. It bases much of this expectation on observed complementarities within the region, which it believes, will stimulate efforts to exploit cost differentials, primarily through trade. Such an expansion in trade, it should be noted, remains on the basis of existing production structures and patterns of specialization. Despite this, there is an expectation that the rise in trade volumes consequent upon market integration will be sufficiently strong to generate employment and income growth on a scale to make significant inroads against poverty (see e.g. ADB 2004a, 2004b).

It is important to emphasize that in this line of reasoning, no changes actually take place in production structures or patterns of specialization. These remain static.[1] Indeed, in order for fruitful trade to occur, these structures and patterns are almost required to be 'locked-in', so as to preserve the cost differentials that form the basis of such trade. Bearing this in mind, the growth in trade and consequent increase in employment and incomes will be driven primarily by *exchanges* exploiting these cost differentials across the region – *arbitrage*, in other words, will be the basis of much growth.

Such arbitrage activity can have significant and positive economic impacts. Consumption, for example, may benefit from such activity, with an arbitrage-induced reduction in prices stimulating overall purchases. The reduction in the prices of consumer goods brought about by such activity may also improve real incomes. Further, to the extent that trade-related activities are also stimulated, employment in trade and commercial services may also expand, and through that, income levels. Some positive impact, as such, may come to be exerted against poverty, possibly bringing about a reduction of this across the region.

While acknowledging this potential impact on poverty, two important caveats need to be borne in mind about this process of market and arbitrage-led growth. Firstly, it is not at all clear the gains associated with this process are of an enduring nature and can persist over time. Indeed, as cost differentials across the region narrow and eventually close as markets become increasingly integrated, the opportunities for arbitrage will necessarily diminish, with consequent impacts on employment and income generation. These impacts need not assume catastrophic proportions. Looking ahead, indeed, there does seem to exist considerable scope for a prolongation of such arbitrage opportunities, driven by an ever finer division of labor and specialization of producers within the region (as noted by the ADB, see e.g. ADB 2004a). Any negative impacts, as such, are likely to be muted or masked. It nevertheless remains, however, that there are definite limits to such a process and diminishing returns in employment and income generation will eventually set in over some period of time. In light of this, doubts may therefore certainly be raised about the capacity of market and arbitrage-led growth to make sustained inroads against poverty.

Secondly, even if this process of market-led growth is assumed free from constraints, questions may nevertheless be raised about the quality of employment thus generated. With an emphasis on market exchanges, arbitrage activity and the transshipment of goods across the region, it would be reasonable to presume that the bulk of employment to be created will be in some way connected with trade-related activities (e.g. wholesaling, retailing, commercial services, transportation, etc.). While such job creation is no doubt welcome, it should however be noted that employment in such sectors is often characterized by low value-added and productivity jobs. Bearing such traits in mind, there is a distinct possibility and danger that with the growth of such employment, a low-productivity, low-wage trap will be cultivated. To the extent that such a trap arises, the goal of poverty reduction may prove difficult to attain. Though an initial impact will certainly be made against poverty, the failure to provide jobs with far greater potential for sustained

[1]. There is thus some parallel here with the wider discussion in international trade theory around the *static* gains from trade.

productivity and income increases may ultimately work against the goal of poverty reduction in the longer-term.

There are, of course, other dangers associated with the market and arbitrage-led pattern of growth envisaged by the ADB. Other observers, for example, have drawn attention to the dangers posed by the 'locking-in' of producers to existing patterns of specialization. With particular reference to agriculture, it is argued this exposes producers to commodity price cycles, and potentially also leaves them open to a deteriorating terms of trade (see e.g. Guttal 2003, Krongkaew 2004). With agriculture forming such a significant part of economic activity in GMS countries, the impact of this should not be underestimated. It has the very real potential to undo whatever gains that may be won in poverty alleviation.

Taken together, the foregoing tends to highlight the limitations of a market or exchange-based view of what a 'regional market economy' implies, and how it might affect poverty. While an important task to undertake as part of a critique of the Bank's position on this issue, the discussion has also been useful as it tends to suggest the need to move beyond the realm of purely market relations if meaningful inroads are to be made against poverty. There is a need, in particular, to more fully consider the place and role of *production*. The following discussion will explore this issue further. As it will be indicated, while the contribution of production to poverty reduction cannot be doubted, the vision of a 'regional market economy' inherent within the GMS Program constrains the further development of such capacities, rendering the achievement of that goal, problematic.

Production: The Missing Link?

For a Program intent on fostering closer *economic* cooperation, it is somewhat surprising the ADB makes rare reference to production in its GMS documents. Production, indeed, assumes something of a mysterious quality, a 'black box' so to speak, conspicuous by its absence. If it is at all referred to, it is largely in a passive sense, responding to other stimuli, but never having any significance or import, in and of itself. Indeed, the overwhelming impression given is that market and exchange relations hold primary dominance, calling forth responses in production (ADB 2004a, 2004b).

This view considerably understates the complexity of production and its broader relationship with the sphere of markets and exchange. It is a view that, in many ways, belongs to the idealized world of Principles textbooks, where consumer sovereignty supposedly reigns and the power of the market determines changes in production. Assumed away are the very real constraints around production, economic and otherwise. Such an oversight is highly significant. Conditioned by such constraints, the manner and extent production is capable of developing will have an important bearing on the generation of employment opportunities and incomes that will eventually affect poverty. Consideration of this critical issue, however, is completely absent from ADB discussions. There is instead, a simplistic presumption production will be able to respond automatically and instantaneously to market stimuli, without any problems.

If production is capable of evolving in a sustained manner – widening and deepening its structure over time – it will be far more likely goals such as poverty reduction may be attained. Through, for example, processes such as the technological upgrading of production, the establishment of forward and backward linkages between sectors and industries, and the diversification of productive activities, there is a strong likelihood new employment opportunities will be generated on a large enough scale to make a significant impact on poverty. Such employment, it should be added, is likely to have a much higher value-added component when compared to service or commerce-related jobs, and far greater potential for productivity increases over time. The incomes that will be generated on the basis of such employment, consequently, will also have a much greater potential to rise in the longer-term. All told, dynamic changes of this nature in productive relations and structure – as opposed to the static situation under an arbitrage-

led pattern of growth – are much more likely to deliver both immediate and sustained relief from poverty.[1]

Whether production evolves in this positive manner, of course, depends on a number of important factors. At a more immediate level, it may hinge on the existence of a well-developed policy apparatus capable of facilitating and supporting real changes in productive relations and structure. Perhaps more crucially, at a deeper level, it presumes the existence of a wider set of institutional structures and relations (of which the policy apparatus is but one aspect) to underpin such processes of change. This *ensemble* of institutional arrangements is of critical significance, potentially affecting both the pace and extent of change possible. Looked at in an economic light, such an ensemble might refer to the depth of market development in society and the strength of links between various components of that market. Generally, the more developed and firmly embedded the market system, and the better developed the links between components such as finance and industry, the greater the likelihood change in production will be possible and significant. In a social sense, such an ensemble may relate to the value systems in place, as well as traditional, cultural and religious practices in society. Such social norms and practices may influence the receptivity to change within society, as well as the broader capacity to adjust to and propel change. The impact of such social considerations should not be underestimated. Changes in productive relations and structures invariably involve major upheavals, and these social influences can carry important positive or negative implications. Finally, in a political sense, the institutional ensemble may relate to broad patterns of governance providing consistency and predictability in civil and economic life via the rule of law and protection of property rights, guarantees of economic and political freedom, as well as more specific policies pertaining to issues such as taxation, investment, employment relations, and so on. Impaired patterns of governance, not unexpectedly, are very likely to exercise a negative influence, impeding the further development of productive capacities.[2]

Bearing the above in mind, can the vision of a 'regional market economy' inherent within the GMS Program facilitate such improvements in productive capacities, and thus generate the necessary employment and incomes to reduce poverty? Recalling the main features of this vision of a 'regional market economy', grave doubts must be expressed about this. Firstly, in focusing almost exclusively on fostering a freer movement of goods across the region, it should be evident the GMS Program is operating with a severely constricted view of the market system. In effect, the Program is promoting an integration of primarily *product* markets, and ignoring other perhaps equally significant markets, such as financial markets, which are poorly developed and in need of attention (see e.g. Freeman 1999). Neglected too are the crucial links between such markets, with the Program doing little to establish or reinforce such linkages. Hence, with its current focus, it may appear the GMS Program can only promote a shallower form of integration that, while important, may not be able to facilitate deeper changes in productive relations and structures.

Secondly, it is also interesting to note that with its focus on market integration, the GMS Program has a much narrower conception of the social norms and practices it considers relevant. The existence of differing norms and customs is certainly recognized, but these are posed purely as obstacles to closer market relations and trade amongst partners. To overcome these, the Program suggests "networking" – of academics and policy-makers, but more importantly, businesses via region-wide business councils and associations (see e.g. ADB 2004a). Again, without undermining the value of such initiatives, it may seriously be asked if such efforts are sufficient to address the deeper social considerations referred to above. To the extent they do not, this may imply an inability to affect productive change under the rubric of the GMS Program, with consequent implications for poverty reduction.

---

[1]. To the extent that these changes in productive relations and structure are trade-induced, there is again some parallel here with the discussion in international trade theory relating to the *dynamic* gains from trade.

[2]. These insights are largely drawn from the field of New Institutional Economics. See e.g. North 1990, 1996, Barro 1997, Furobotn and Richter 1997.

Finally, with a singular focus on markets and cross border movements, the GMS Program also has a necessarily limited view of what governance implies. Commensurate with a view fixated on border flows, governance arises as an issue only in so far as it affects economic movements through the exercise of customs and other border regulations. In this context, the principal concern raised is the excessiveness of such border regulations and the amount of variance between countries which, it is argued, impede freer movements and trade. Hence, if governance is raised as a matter for consideration, this is only amidst calls for a harmonization and reduction of border regulations to overcome impediments to movements and trade (see e.g. ADB 2004a, 2004b, n.d.[b]). As the above discussion suggests, however, for changes in productive relations and structures to occur, far deeper issues are involved in this matter. Particularly from a regional integration perspective, if harmonization is to be countenanced, this should imply more far-reaching efforts across policy and legal frameworks in order to foster region-wide consistency and predictability. There may even be a need to create regional *supranational* organizations to underpin these processes. This is by no means a novel point, and has been raised before in discussions relating to the integration of at least one other area. Thus, as Abonyi (1994: 6) suggests in that context:

> ...institutional frameworks [are] required to anchor and sustain regional co-operation. This includes the legal, regulatory and policy frameworks and transborder agreements relating to areas such as...repatriation of capital, foreign exchange transactions, fiscal incentives, [and] investment guarantees.

With an insistence on remaining "nonofficial", however, there seems little likelihood the GMS Program will be able to foster such developments in governance. The contradiction of a regional market economy reliant on the jurisdictions of national governments will persist, with the attendant negative consequences associated with a fragmented legal and policy framework. In itself, this is perhaps not a fatal flaw, provided individual governments are committed to policies oriented towards the longer-term development of productive capacities. If this is not the case – and it unfortunately appears many GMS governments currently subscribe to policy priorities other than these longer-term objectives – questions may certainly be raised about whether positive changes in such capacities may be forthcoming. Indeed, with the Program and ADB virtually powerless to influence governments on this issue due to their "nonofficial" status, this almost appears a certainty.

To some degree, the current shortcomings of the GMS Program will assume lesser significance if these are in some way recognized and an agenda laid out to address them in future. It is alarming, however, the Program shows little indication of this, with discussions in documents exuding an air of confidence and certainty, but rarely broaching the deeper issues raised above. This lack of recognition of a wider set of issues with a critical bearing on the goals of the Program is worrying. If it persists, it is questionable if the valuable gains associated with improvements in the productive capacities of member countries will ever arise. To the extent these remain elusive, the goal of poverty reduction may likely slip further away.

4. Conclusion

Maps of the GMS are now increasingly difficult to decipher. Most show a region dissected by a series of corridors, ring-roads, and other instances of "connectivity". In the maze of all these crisscrossing and interlocking routes, the Mekong River is hardly discernible. When inspecting these maps, a comment by Philip Hirsch often springs to mind. In the hurly-burly of development, "the Mekong River [has become] more incidental than central, symbolic rather than substantive, to the GMS vision (Hirsch 2001: 242).

The impression that is conveyed in these pictorials – and indeed in most publications released by the ADB – is of a region in dynamic flux, characterized by a ceaseless movement of goods, resources and people. To the extent this is real, it is by no means an accident. This has been a matter of deliberate design; the very vision underpinning the entire GMS Program. While undoubtedly with blemishes, this vision of a unified, single market across the region is not

necessarily malicious. As it was suggested above, market integration can deliver *some* outcomes of benefit, having the potential to contribute to the overarching goal of poverty reduction. The limits of market integration in addressing this goal, however, must also be borne in mind. It was particularly in view of these limitations that the discussion above went on to suggest the need for a stronger focus on production as a means to alleviate poverty, and in that connection, the need too to consider the institutional underpinnings required to sustain such developments in productive capacity.

As a vision and program focused firmly on just market phenomena, the shortcomings and weaknesses of the GMS Program were despairingly evident in this discussion of institutional requirements. This should by no means be taken, however, to imply the Program is a lost cause. Viewed in a constructive manner, it only suggests further challenges lie ahead for the Program before it may realize a fuller potential and role as an agent against poverty. Beyond an emphasis on fostering just market relations, the Program needs to develop a stronger focus on productive structures and relations, recognizing and addressing the real constraints, needs, and challenges in these sectors. Simultaneous to this, the Program also needs to take up and address critical issues associated with the institutional environment supporting such production. Perhaps when these further challenges are addressed satisfactorily, the goal of poverty reduction in the GMS will come more readily within reach. Indeed, operating with a wider and more holistic vision of what constitutes a 'regional market economy', the GMS Program may even be able to give greater effect to the notion of 'Asian community' aspired to by the Bank. While the exact contours of this will be difficult to anticipate, it will be reasonable to suggest it will be more than just a community unified by market mediated exchanges and trades. The people of the Mekong certainly deserve much better than just an *entrepot*. To deny them that will be more than just a foregone opportunity. It will be tragic.

References

Abonyi, G. (1994), *The Institutional Challenges of Growth Triangles in Southeast Asia*, Center for Advanced Studies, National University of Singapore, Working Paper Series, No. 3, Singapore.

Asian Development Bank (1966), *Agreement Establishing the Asian Development Bank (The Charter)*, Manila: ADB, www.adb.org/Documents/Reports/Charter/charter.pdf, accessed 18 May 2005.

Asian Development Bank (1993), *Economic Cooperation in the Greater Mekong Subregion*, Manila: ADB.

Asian Development Bank (1994), *Economic Cooperation in the Mekong Subregion: Towards Implementation*, Manila: ADB.

Asian Development Bank (1996a), *Sustaining Momentum: Economic Cooperation in the Mekong Subregion*, Manila: ADB.

Asian Development Bank (1996b), *Economic Development in the Greater Mekong Subregion: Facing the Challenges*, Manila: ADB.

Asian Development Bank (2003), *Operations Manual: Bank Policies*, Manila: ADB, www.adb.org/Documents/Manuals/Operations/OMB01_29oct03.pdf, accessed 18 May 2005.

Asian Development Bank (2004a), *The GMS: Beyond Borders – Regional Cooperation Strategy and Program*, Manila: ADB.

Asian Development Bank (2004b), *The Mekong Region: An Economic Overview*, Manila: ADB.

Asian Development Bank (n.d. [a]), *Building on Success: GMS Flagship Programs and Development Matrix*, Manila: ADB, www.adb.org/gms, accessed 18 May 2005.

Asian Development Bank (n.d. [b]), *GMS Flagship Initiative: Facilitating Cross-Border Trade and Investment*, Manila: ADB, www.adb.org/gms, accessed 18 May 2005.

Asian Development Bank (n.d. [c]), *GMS Flagship Initiative: North-South Economic Corridor*, Manila: ADB, www.adb.org/gms, accessed 18 May 2005.

Asian Development Bank (n.d. [d]), *GMS Flagship Initiative: East-West Economic Corridor*, Manila: ADB, www.adb.org/gms, accessed 18 May 2005.

Asian Development Bank (n.d. [e]), *GMS Flagship Initiative: Southern Economic Corridor*, Manila: ADB, www.adb.org/gms, accessed 18 May 2005.

Barro, R. (1997), *Determinants of Economic Growth: A Cross-Country Empirical Study*, Cambridge, Mass.: MIT Press.

Freeman, N. (1999), "Greater Mekong Sub-Region and the 'Asian Crisis': Caught Between Scylla and Charybdis", *Southeast Asian Affairs 1999*, Singapore: Institute of Southeast Asian Studies, pp. 32-47.

Furobotn, E. and Richter, R. (1997), *Institutions and Economic Theory: The Contributions of the New Institutional Economics*, Ann Arbor, Mich.: University of Michigan Press.

Guttal, S. (2003), "Marketing the Mekong: The Asian Development Bank and the Greater Mekong Sub-Region Economic Co-operation Program", *Jubileesouth*, www.jubileesouth.org/news/Documents.shtml, accessed 18 May 2005.

Hirsch, P. (2001), "Globalisation, Regionalisation and Local Voices: The Asian Development Bank and Re-Scaled Politics of Environment in the Mekong Region", *Singapore Journal of Tropical Geography*, 22, 3, pp. 237-251.

Krongkaew, M. (2004), "The Development of the Greater Mekong Subregion (GMS): Real Promise or False Hope?", *Journal of Asian Economics*, 15, pp. 977-998.

Masviriyakul, S. (2004), "Sino-Thai Strategic Economic Development in the Greater Mekong Subregion (1992-2003)", *Contemporary Southeast Asia*, 26, 2, pp. 302-319.

North, D. (1990), *Institutions, Institutional Change, and Economic Performance*, New York: Cambridge University Press.

North, D. (1996), "Epilogue: Economic Performance through Time", in Lee Alston, Thrainn Eggerston and Douglass North (eds.), *Empirical Studies in Institutional Change*, New York: Cambridge University Press, pp. 342-356.

Osborne, M. (2000), *The Mekong: Turbulent Past, Uncertain Future*, Crows Nest: Allen & Unwin.

Park, D., Tan, S., Tan, Y. K., Wong, A. & Yap, T. P. (2003), "The Post-Crisis Role of Thailand in the Greater Mekong Sub-Region (GMS)", *Journal of the Asia Pacific Economy*, 8, 2, pp. 251-279.

Pasuk, P. (2000), "International Organizations, Development and Civil Society", paper delivered at the *Conference on Accounting for Development: Australia and the Asian Development Bank in the Mekong Region*, Australian Mekong Resource Centre, University of Sydney, June 2000.

Than, M. (1997), "Economic Co-operation in the Greater Mekong Subregion", *Asian Pacific Economic Literature*, 11, 2, pp. 40-57.

Weatherbee, D. (1997), "Cooperation and Conflict in the Mekong River Basin", *Studies in Conflict and Terrorism*, 20, pp. 167-184.

Yu, X. (2003), "Regional Cooperation and Energy Development in the Greater Mekong Sub-Region", *Energy Policy*, 31, pp. 1221-1234.

NOTES

[i] Altitude 808 m, latitude 21°03'02"N, longitude 101°48'43"E.

[ii] 78% of the paddy fields are acquired by inheritance, only 16% are reclaimed, and 6% are purchased (2004).

[iii] His wife did not inherit any land, but he reclaimed 0.2 hectares of land.

[iv] The project was aimed at complete eradication of opium production and the promotion of other crops as replacements.

[v] 10 Jao is equal to 1 Yuan.

[vi] Official permission from the government is necessary to legally become a middleman.

[vii] The amount of maize seeds planted by Surplus, Sufficient, and Deficit households were 6

kilograms, 5.4 kilograms, and 3 kilograms, respectively.

REFERENCES

Ayabe, T. 1965. Tai Oyobi Raosu no Sonraku Seikatsu [Village Life in Thailand and Laos]. *Indoshina Kenkyu* [Indochina Research]. Yokoyama: Yurindo.

Chazee, Laurent. 1999. *The People of Laos: Rural and Ethnic Diversities.* Bangkok: White Lotus Press.

Izikowitz, G. Karl. 2001. *Lamet:* Hill Peasants in French Indochina. Bangkok: White Lotus Press.

JICA. 2000. Raosukoku Sougou Nougyou Kaihatukeikaku Chousa Hokokusho [Report on the Survey of Agricultural Development Plans in Laos]. Tokyo: Nihonkokei.

Keiji, I. 1965. Patan mura- Hokubu Raosu ni okeru sonrakushakai no Kouzou [PaThan Village- Village Social Structures in Northern Laos]. *Indoshina Kenkyu* [Indochina Research]. Yokoyama: Yurindo.

Lamxay, V. 2001. *Important Non-Timber Forest Products of Lao PDR.* Vientiane: IUCN.

Ministry of Communication, Transport, Post and Construction. 2000. *Oudomxay Province Environmental Inventory.* Vientiane: IUCN.

Stuart-Fox, Martin. 1998. *The Lao Kingdom of Lan Xang: Rise and Decline.* Bangkok: White Lotus Press.

Yamada, K. *et al.* 2004. Use of Natural Biological Resources and their Roles in Household Food Security in Northwest Laos. *Southeast Asian Studies.* 41(4): 426-443.

Yokoyama, S. 2004. Forest, Ethnicity and Settlement in the Mountainous Area of Northern Laos. *Southeast Asian Studies.* 42(2): 132-156.