

## Background

The Lancang-Mekong Navigation Channel Improvement Project, funded by the Chinese government, is part of a grand scheme to allow large ships to freely navigate from Simao, China to Louang Prabang in Laos. The first stage of the project would destroy 11 major rapids and 10 scattered reefs along a 331-kilometer section of the Mekong River from the China-Burma border to Ban Houai Xai in Laos. The second and third stages would involve further channelization of the river.

## Project Information

The Lancang -Mekong Navigation Channel Improvement Project is divided into 3 implementation phases.

- The 1<sup>st</sup> phase entails removing 11 major rapids and shoals, 10 scattered reefs, setting-up 100 navigation marks, and placing 106 markers and 4 winches. Once these steps are completed the waterway will be navigable for vessels up to 100-150 DWT (Dead Weight Tonnage) securing passage for at least 95% of the year.
- The 2<sup>nd</sup> phase is the removal of 51 rapids and shoals. Waterways will then be navigable for vessels up to 300 DWT for at least 95% of the year.
- The 3<sup>rd</sup> phase consists of the canalization of the waterway to make it navigable for vessels of 500 x 4 DWT for at least 95% of the year.

The Implementation of the first phase began in April 2002 and is scheduled to be completed within the year 2004. The details are as follows;

- **March 29<sup>th</sup>- April 15<sup>th</sup> 2002:** The first series of rapids blasting: Rapids blasting began as a Chinese construction team accompanied by four observers, one from each member country, from the Project Coordinating Office (PCO) went to the work site along the Burmese-Laos border to observe implementation. Two rapids, the Tang Ao Rapids and the Lower Tang Luang Rapids, were successfully blasted but the blasting of the Nam Loi River Mouth Rapids was left incomplete due to early flooding.
- **December 2002–March 2003:** The second series of rapid blasting: According to the schedule of implementation, 16 rapids were targeted to start in December 2002 and be completed within the dry season of March

2003. These rapids were Huai La Rapids, Khai Rapids, Long Zhom Rapids, Nam Loi River Mouth Rapids, Khong Tan Rapids, Tang Salum Rapids, Wang Seng Shoals, Wong Wit Rapids, Sam Zhao Rapids, Chuang Nam Tang Lan, Tha Ban Bo Rapids, Kon Mu Tai Rapids, Ton Pa Nok Yang, Huai Na Yo Rapids, Saen Pi Rapids, Lower Mong Pa Liao Rapids.

- **December 2003–March 2004:** The last series of rapids blasting: The last three rapids are scheduled to be blasted by March 2004. They are the Nam Lor River Mouth Rapids, the Tang Pang Rapids, and the Khon Pi Luang Rapids along the Thai-Laos border.

However, the project at Khon Pi Luang rapids is postponed due to the Thai cabinet resolution on 8 April 2003. The new Environmental Impact Assessment (EIA) is expected to be completed in June 2004.

## Chronology of the Lancang-Mekong Navigation Channel Improvement Project

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|-----------------------|--|
| <b>1980's:</b>        | Unofficial trade between China and Southeast Asia increases significantly.   |
| <b>1991:</b>          | The inception of the Greater Mekong Subregion (GMS) by member nations Cambodia, Laos PDR, Thailand, Vietnam and observers Burma and the Yunnan Province of the Peoples Republic of China. GMS's focus is on joint development of natural and human resources and strengthening interregional economic links through improved infrastructure. |
| <b>1992:</b>          | Bringing together high-level government officials from the GMS countries the ADB organizes a series of conferences aimed at coordinating infrastructure investments.   |
| <b>February 1993:</b> | A joint investigation on waterway transportation on the Lancang-Mekong River concludes: under natural conditions the waterway is navigable for vessels of 60DWT and after certain improvements the waterway can be navigable for vessels up to 100-500DWT for at least 95% of the year.  |
| <b>May 1993:</b>      | The Governor of Yunnan Province, He Zhiqiang, outlines a plan to develop the 'Lancang Economic Belt'. Included in the plan is a provision to open the lower section of the river passing through Xishuangbanna to international shipping.  |

- September 1994:** During the 4<sup>th</sup> GMS conference, the Water Transportation Sub-sector's 'Upstream Lancang-Mekong River Navigation Improvement Project' is given high priority for implementation.
- October 1994:** Senior officials from China, Burma, Laos, and Thailand agree upon a 'free navigation' agreement officially opening ports in the four countries to navigation by one another's ships
- 1995:** After formal establishment of the Laos-Chinese and Chinese-Burmese border tremendous potential for the formation of the greater 'Economic Quadrangle' is created. Playing on the global recognition of the 'the Golden Triangle' the pet name 'Economic Quadrangle' is given to the project and the economic forces at work in the Subregion.
- April 20, 2000:** Transportation Ministers of the four countries officially sign an 'Agreement on Commercial Navigation on the Lancang-Mekong River' in Takilek, Myanmar. The agreement stipulates that one-year from the day of signage vessels from the contracting parties are entitled to sail freely between port of Simao in China and the port of Louang Prabang in Laos.
- November 2000:** A joint survey group, led by the Chinese and consisting of members from the four countries, conducts a feasibility study of the project. They conclude; a) the project is technically feasible; b) the implementation would not change the flow of the river, nor the boundaries along the river; c) the project is imperative and imminent to be carried out.
- April 2001:** Following a joint Environmental Impact Assessment (EIA) conducted in March 2001, a Detail Survey team, coordinated by the Chinese, visits the project site on April 18 and 29. The two teams complete their site survey, data collection, relevant work and adopt an outline for an EIA report by June 12.
- September 2001:** Based on the draft text prepared by the Chinese the EIA and conceptual design for the 'Navigation Channel Improvement Project' is finalized and sent to the contracting parties for approval.
- January 2002:** The Thai Cabinet approves the EIA on January 29, 2002 .
- March 2002:** Laos is the last country to approve the document. Implementation of the first phase of the project begins with the start of the next dry season in April.

- May 21, 2002:** Chiang Khong Conservation Group, a local activist group focusing on Mekong development, along with villagers from the Chiang Khong and Wiang Kaen districts of Thailand, submit a petition to Thai Environmental Senate Committee. The petition asks the committee to come to the potentially affected area and hear their concerns about unavoidable impacts of the project on the environment and their livelihood. The petition also demands a halt to the project, release of information to the public, and public participation of affected and concerned people in the decision making process. They also demanded that the Thai government review the Cabinet's approval of the project's EIA.
- June 2, 2002:** Thai Environmental Senate Committee arrives at Chiang Khong to meet with villagers and hear their concerns on the impacts of the project, and promises to investigate the issue for comprehensive study.
- July 2002:** Fearing the impact of rapids blasting on the demarcation of the border with Laos, the Thai Defense Ministry calls for a review of the project. Plans to blast the Kon Pi Luang rapids on the Thai-Laos border are suspended until the Ministry defines the boundary. However, despite the time set back for the investigation, the Thai Harbor Department confirms that the blasting would be finished within the year 2004.
- July 31, 2002:** At a forum on the Mekong Navigation Project organized by the Thai Society of Environmental Journalists, a representative from the Harbor Department admits that the project's EIA is not comprehensive. Concerns are raised over inadequate assessment of the projects social impacts. Base-line data regarding the ecosystem of the river, such as data on the Mekong Giant Catfish and Mekong seaweed, are also declared insufficient. The harbor department claims, that since the Navigational project is not one of the 16 specific project types outlined in the Thai Environmental Act it is not subject to the strict Thai EIA regulations and guidelines.

The total of 76 organizations along with 16 individual academics from 25 countries submit a petition to the each riparian country's relevant officials, the Ministers of Transportation, Ministers of

Communication, and the Chief Executive Officer of the Mekong River Commission (MRC). The petition urges the four governments to immediately stop all work on the project and conduct a comprehensive, transparent, and participatory environmental and social impact assessment. These assessments must examine potential impacts along the Mekong River, including impacts in China and downstream countries like Cambodia and Vietnam.

- August 22, 2002:** The Thai Environmental Senate Committee calls on relevant Thai authorities for information about Navigational Improvement Project. Since the Mekong River along the Thai-Laos border is designated as a national wetland a full EIA adhering to Thai legal standards is required before any changes in the area can be made. According to the 1992 Thai Constitution this new EIA must be carried out, processed, and approved by the Office of Environmental Policy Planning (OEPP), the Thai National Cabinet, and the National Sub-Committee on Wetlands.
- April 8, 2003:** The Thai cabinet approves a resolution halting the blasting of the Kon Pi Luang rapids on the Thai- Laos border until the term of reference (TOR) on waterways is completed and approved. This resolution requires the OEPP to conduct a new EIA on this specific area of the river. Complying with these terms the OEPP hires Team Consulting Engineer, a Thai consulting company, to conduct the new assessment.
- June 2003:** Mr. Kristiansen, the CEO of MRC, reveals to the general public and press that China will not continue with the project past the first stage of rapid blasting.
- January 20, 2004:** Officers from the Thai Harbor Department organize a public consultation in Chiang Khong. They cannot confirm about phase 2 and 3 of the project. They also state that the Chinese are conducting field survey to Louang Prabang, phase 2 project area.

## Why the Blasting of the Mekong Rapids Must be Stopped

The EIA of the Navigation Channel Improvement Project states that, 'there are more than 100 shoals, rapids and reefs...seriously threaten the vessels' safe navigation...'<sup>1</sup> In fact, the Mekong along the Burma-Laos and Thai-Laos border consists of complex ecosystems and biodiversity which are integral part of life and livelihoods of people along the river. The removal of Mekong rapids and shoals means an unprecedented destruction of the development history of the Mekong River.

### Impact on the ecosystem of the Mekong Basin

The Mekong River along the Thai-Laos border from Chiang Saen to Chiang Khong-Thailand has unique characteristics creating a fertile ecosystem comprised of many complex sub-ecosystems. Various natural formations such as rapids, reefs, sandbars, beaches, whirlpools, small swamps, and pools (in local Thai terminology, *Kaeng, Paa, Don, Haad, Kog, Long*) make up this riverine ecosystem. This area is rich in biodiversity as seasonally flooded forests on exposed rapids, sandbars and beaches provide food and shelter for animals along the river's banks. Rapids and reefs create some of the most productive riverine habitat serving as vital spawning ground for fish and other forms of aquatic life like the Mekong seaweed '*ka*'. The negative impacts from blasting and clearing these rapids, sandbars, and reefs would cause serious ecological damage not only along the Thai-Laos border, but also along the entire length of the Mekong River.

### Home of Fish

The Mekong River provides diverse habitat, food, and spawning ground for local fish and migratory fish, which migrate upstream for reproduction.

The unique submerged rocks and caves of the area also serve as natural habitat and spawning ground for other local fish. Prof. Chavalit Vidthayanon, a Thai fish expert, states that the Mekong River on the Thai-Lao Border is well known for its

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<sup>1</sup> Executive Summary of Environmental Impact Assessment on the Navigation Channel Improvement Project of the Lancang-Mekong River from China-Myanmar Boundary Marker 243 to Ban Houei Sai of Laos Prepared by the Joint Expert Group on EIA of China, Laos, Myanmar, and Thailand, Sep. 2001

capacity to support over 200 fish species, including critical endangered and rare species like the *Plaa Buk* (Mekong Giant Catfish). Most of these fish seasonally migrate upstream to spawn in the Mekong River Basin and its tributaries then migrate back downstream to mature and grow in the Lower Mekong. Destroying rapids and natural habitat will increase extinction rates of rare and common species alike, posing threats to the diversity of the Mekong basin.

At the beginning of the rainy season riverine plants are submerged and their fruits and leaves provide food for fish. When the water in the Mekong River subsides during the dry season Mekong seaweed (*Kai*) can be found growing on rocks and rapids. These plants and weeds are a significant food source for several kinds of Mekong fish. Mature *Kai* is favorable for herbivores like the Mekong Giant Catfish.

## The Last Spawning Ground of the Mekong Giant Catfish

The Mekong Giant Catfish is the world's largest scaleless fresh water fish. It can be found only in the Mekong and its tributary. The largest Mekong Giant Catfish caught by local fisher folks was 3 meters. The fisher folks in Chiang Kong recorded the heaviest one was 282 kilogram.

In 2003, the Mekong Giant Catfish is listed as a critical endangered species by IUCN.

According to local knowledge and Prof. Chavalit Vidthayanon, the Mekong Giant Catfish spawns in the rapids and whirlpool filled area in Baan Muang Kaan, and between Chiang Saen and Chiang Khong, Thailand. It is confirmed by local fisher folks that they have seen the Mekong Giant Catfish spawned in these areas.

The areas are rapids and whirlpools. The important rapids are called *Kon Pi Luang*, for which currently a new EIA is being conducted due to the Thai Government's resolution.

Presently, the Thai Fishery Department is able to scientifically fertilize the Mekong Giant Catfish, the offspring cannot reproduce. Hence, the scientific fertilizing has not been successful.

Meanwhile, the population of Mekong Giant Catfish has been rapidly declined. In the last 3 years, no single Fish has been caught in Chiang Khong, while 69 of them were caught in the past decade.

The only warranty of the Mekong Giant Catfish for the future is to preserve its habitat, food, and spawning ground.

The destruction of Mekong rapids, especially for Kon Pi Luang, will destroy the last spawning ground of, and threaten this critical endangered species.

## **Kai-Mekong Seaweed**

*Kai* is Mekong seaweed, a well-known flavorsome food among communities along the Mekong, from the Burmese-Lao border down to Louang Prabang in Laos. Those who visit Chiang Khong and Louang Prabang can try the delicious taste of *Kai*, and usually buy dry or preserved *Kai* as a souvenir.

Overgrown *Kai*, or called by the locals as *Kai Ki Poh*, is pig's food.

From January to May, when the water level in the Mekong is lowered and clear, *Kai* grows on shallow pebble riverbanks and rapids that sunlight can reach.

The locals in Chiang Khong support that *Kai* is a vital food for fish. Overgrown *Kai* or *Kai Ki Poh* is favorable for many kinds of fish including the Mekong Giant Catfish.

Another kind of Mekong seaweed is *Tao*, growing in ponds along the banks of the Mekong, which is also an important food for local communities. The locals say that *Tao* from the Mekong is the most favorable. *Tao* is food for fish as well.

The rapids blasting and navigation would affect *Kai*, because *Kai* is sensitive to the changes of environment. The increase of sedimentation in the Mekong that obstruct the sunlight would destroy *Kai*.

From SEARIN and Project for River and Community's field survey in early 2003, when the rapids blasting was implemented in upper reaches and the ports at Chiang Khong and Chiang Saen were constructed, it was found that the water in the Mekong was accumulated with sediment from upstream. The sunlight could not reach the rapids, sand and pebble beaches. Moreover, rapids and beaches were covered by sediment. *Kai* could not grow. The only area where *Kai* could grow last year was in Baan Haad Krai, Chiang Khong. Locals had to collect *Kai* early in the morning from around 4 am, due to the small number of *Kai*. They could not collect *Kai* all day long as in previous years.

The decline of *Kai* is also caused by the river fluctuation. In 2003, when the project was implemented, the joint committee (JCCCN) announced that the regulation of the river flow would be conducive to navigation and project construction. Ships were given permission to navigate for one day and then pause of three days to allow for rapids blasting. During this period, as announced, water levels rose and lowered, drastically decreasing *Kai*.



According to IUCN's field survey in February 2003, it was found along the Mekong from Tang Sa Lum rapids downstream to Houai Xai, Laos, and Chiang Kong, was the only area where *Kai* grew: in Don Noi beach in Laos, upstream of Muang Mom, and in Kon Phi Luang rapids. Still, the amount of *Kai* was very small whereas in the past it grew abundantly.

For villagers in communities along the Mekong, the decrease of *Kai* does not affect only their food security, but also household income and local economy. '*Kai*' and '*Tao*' are harvested for family consumption and are also sold in markets earning each family up to 300 – 500 baht per day.

## Habitat of Endangered Birds<sup>2</sup>

The Mekong River also provides a habitat to many bird species. According to the Thai Bird Conservation Society, in the dry season emerging rapids, sand bars, and plants become habitats and nesting areas for important and endangered bird species such as:

- Blyth's Kingfisher:** an endangered species found only in Baan Paew, south of Chiang Saen
- Great Thick-knee:** an endangered species living in sand dunes and rockbeaches, found in the area between Chiang Saen and Chiang Khong
- River Lapwing:** an endangered species threatened by human activities. It lives in sand beaches along the Mekong upstream of Chiang Saen down to Chiang Khong
- Jerdon's Bushchat:** found only in Chiang Saen in 1996. It makes nests in sandy riverbanks
- Great Cormorant:** an endangered species threatened throughout Southeast Asia. It was found in sand dunes upstream of Chiang Saen in 2000
- Jordon's Bushchat:** an endangered species of which the largest population live in the Mekong area. It has been found that this species depends on *Krai Naam*, a plant growing in a seasonally-flooded forest. It lives in sand dunes and pebble beaches along the Mekong from Chiang Saen down to Chiang Khong.

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<sup>2</sup> For more detail, see Philip Round (Bird Conservation Society of Thailand, 2002). Likely impact of destruction of rocky rapids and bedrock along the Mekong River in Thailand upon birds

In addition, there are significant numbers of other wetland birds along the Mekong River. These bird species are found in few other places on earth. The blasting project would destroy the last home of these birds.

## **Riverbank erosion and impact on change in waterway**

According to local villagers the river's rapids, sand bars, and reefs help maintain the river channel, prevent riverbank erosion and control the flow of the river which could run as fast as 20-25 kilometers per hour during the rainy season.

Removal of these natural features causes changes in waterway, thalweg, and increases the velocity of the flow in particular sections of the river resulting in riverbank erosion. Port construction associated with development also negatively affects bank erosion. Ports create obstructions to the river flow resulting in erosion of downstream shores. Eroded banks pose significant problems to local residents. For example, in the flood season of August 2002, 113 homes were lost to bank erosion and many villagers had to be evacuated in Baan Don Sawan, a Lao village opposite to and downstream of the Chiang Saen port. The erosion was due to the port obstructing the river and creating irregular water flows. The same problem occurred downstream of the Chiang Khong port in Baan Houai Xai, Laos. Villagers at Baan Pak Ing, Chiang Khong, and Baan Huai Leuk, Wiang Kaen, were also threatened by eroding riverbanks and had to evacuate their riverside homes. Riverbank erosion is a serious threat to the health of the river and the livelihood of those who depend on it.

What is more, changes in waterways also create sand dunes amid the river, threatening the local navigation.

## **Drastic River Fluctuation, Disaster of Fisher Folks**

The Mekong is the most significant resource of communities along the river. A major source of living and income of the locals is fishing. For the local fisher folks, the Mekong is common fishing ground that is utilized by communities on both sides of the river. In many places, joint river management among communities can be found, like community forest management. The Mekong has been like the second home of the fisher folks. They build shelters on islets, rapids, and riverbanks and fish in the river nearly all year round.

Since the rapids blasting in the dry season of 2002, it has been reported that the fisher folks in Chiang Saen and Chiang Khong could only catch a very small amount of fish. They complained that the river fluctuation disturbed fish migratory patterns and behavior.

The water fluctuation was more devastating in 2003 when the river levels changed. It was reported that the river level suddenly rose and lowered nearly everyday, whereas in the past it was rose and lowered seasonally. This change makes it more difficult for fisher folks to fish, since there was a small amount of fish migrating downstream. The local fisher folks revealed that nowadays the fish haul decreased by more than half, compared to the past 3 to 4 years.

Decrease in the amount of fish has also been affected by waves of large ships, which disturbs the fish's behavior when they do not search for food during the daytime.

Commercial navigation and other infrastructure related to the project significantly drives the villagers away from the Mekong's natural resources. Increasing large ships and big waves threaten local navigation which uses small row boats. A boat in Baan Don Thi, Chiang Khong, has been sunk twice because of big waves from large Chinese ships. However, the boatmen have not received any compensation for the damages.

Because of the river fluctuation, decrease in fish haul, and difficulties of local navigation, the number of local fisher folks have dropped off in many places. To cite an example, in Chiang Saen, the local fisher folks involuntarily left the river since the navigation of up to 100 tons Chinese ships. A local fisher folk revealed that in the past they fished together in groups. His group which fished in the Mekong in front of Chiang Saen District's office, had to give up their source of living when the area was occupied by the port.

The decline of fisher folks also occurs in other places such as in Baan Had Krai, Chiang Khong. Out of the 80 fishing boats, only a couple still try desperately to catch fish.

## Unjust Agreement

The Free Navigation Agreement made by 4 riparian countries (China, Burma, Thailand, and Laos), of which priority is given to commercial navigation, significantly hinders the locals from the Mekong's natural resources. In the agreement, it is prohibited to lay fishing nets or other fishing gears that may obstruct the waterway of large

ships in the river. This means that after the project implementation, fisher folks would no longer be able to use their fishing gears.

The project is a disaster for the local fishing communities. It would destroy not only the local economy, but also local knowledge and local navigation, which have been passed on for generations.

## ❖❖❖ Impact on Natural food and Medicinal Plants

For the locals, the Mekong riverbanks, rapids, islets, and sandbars are like their 'kitchen' where they can gather natural plants, such as *Pak Mai*, for household consumption and to sell in local markets. With these natural plants, the villagers do not have to buy vegetables from market. There are also various kinds of medicinal plants that the locals use as herbal medicine.

Adverse impacts on the river ecosystem caused by the removal of rapids and sandbars will threaten the food security, and health of local residents along the river.

## ❖❖❖ Impact on Riverbanks Vegetable Garden

Riverbank farming is an integral part of local life of the villagers along the Mekong from the Burmese-Lao border to Louang Prabang, especially for communities along the river without sufficient fertile land. For 5-8 months during the dry season, exposed land on riverbanks and islets are used for vegetable gardens.

The land fertilized by deposits of mineral rich Mekong sediment emerged during the dry season is suitable for gardening. Products from the gardens have fed residents of these communities for generations.

Each family farms on a small plot of land, passed on from their ancestors. The land is shared in the community as the common property. Though the land is small, the product is high in quality and quantity. Families consume the majority of the plants grown on the small plots. The remaining herbs and vegetables are sold at the market earning villagers 200-300 baht per day. This income covers household expenses including children's school stipends and other basic needs.

The river fluctuation especially during the project implementation adversely affects the riverbank gardening. In addition to riverbank erosion, related construction activities such as landing sites and embankment projects deprive farmers of land and livelihood. In 2002, villagers from Baan Sob Som, Chiang Khong, lost their common land to the local government's embankment project. Likewise, common land near Tang

Sa Lum, blasted in early 2003, has also been destroyed by the project that dumped blasted rock on the land.

## The Loss of Water Supply

Communities along the Mekong River depend on river water for basic daily human needs such as bathing, washing, drinking, and cooking. In Laos, local residents use the spring on the riverbank for their drinking water. Similarly, villagers in many communities in Chiang Khong, Thailand, drink water directly from the Mekong.

The development project, navigation, and its related activities significantly increase the level of pollution in the water. Compounded by the increase in water turbidity, this pollution will affect the quality of the local water supply.

The construction of Chiang Kong port, upstream of the municipality, can be a clear example of impacts on water pollution. When large ships dispose waste and fuel into the river, the water supply system of the town which relies on the river water is directly affected.

## Local Way of Life Affected by Pollution

Flaws in planning and inadequate environmental impact assessment result in destruction of the local way of life in fishing communities as well as those in nearby towns.

A clear example is the landing sites and port in Thailand's Golden Triangle District of Chiang Saen which have been constructed in the center of a 700-year-old historical site. Trade-related activities are now invading local ancient sites chasing away native residents. It is not easy for one who has lived in a quiet town to be suddenly inundated by air-pollution from the 60 cargo trucks that entry the port daily.

The increasing number of Chinese labors and merchants, and immigrant workers also bring in transboundary health risks.

Realizing the environmental and health issues, responsible Thai agencies and the locals have discussed about the future of the town's culture. In late 2003, the Thai Ministry of Public Health also launched a project to monitor the epidemic in the area.

## Impacts Downstream: Cambodia and Vietnam

While the navigation project and regulation of the river water by China directly affects people living in China, Burma, Laos and Thailand, it is likely to have far-reaching impacts on people in downstream countries as well.

Cambodian and Vietnamese officials have raised concerns about the changing flow of water into their countries. They are worried about the problems an altered river poses to farming and other river dependent activities. Despite the potential negative social and environmental impacts, people in Cambodia and Vietnam have not been consulted about the project. Inclusion in the development process is a serious problem that has not been adequately addressed.

According to the EIA led by China, it states that the project would not change the velocity. But the important aspects the assessment did not cover are the volume of the river flow, and the impacts of the regulation of river water during and after the project implementation that facilitates the navigation.

## Lack of Public Participation in Project Planning and Poor Impact Assessment

The Navigation Channel Improvement Project is a large project covering the upper reaches of the Mekong shared by 4 countries. There have been serious questions raised towards the decision-making process of the project.

Firstly, many decision-makers in Thailand assume that the agreement signed by ministers of transportation of the 4 countries on 23 April 2000 is an agreement that cover rapids blasting. In fact, the agreement is Free Navigation Agreement that allows ships from 4 countries to navigate freely.

In the case of Thailand, the project implementation violates Thai Law. There has not been any cabinet resolution for this project.

Secondly, the EIA' s researchers claim the EIA meets international standards and complies with environmental laws of the individual countries. In truth, the EIA was conducted within 6 months. Field survey was done in less than 2 months. Moreover, all researchers are from the project-related agencies, most of whom are not knowledgeable in riverine ecosystem, local livelihoods, local economy, society, and culture of affected communities. For example, most of the Thai research team consists of marine scientists.

Consequently, there is a lack of important information such as the Mekong Giant Catfish, where the last spawning ground is located in the project site. Besides,

the mitigation plan does not seem to be realistic, such as using smaller dynamite to chase away fish before the actual blasting.

Importantly, the process of the EIA does not comply with environmental law in each riparian country as claimed. In the case of Thailand, the EIA has been approved by the cabinet without going through the National Wetland Sub-Committee and National Environment Committee as required by the Thai Environmental Act of 1992.

While the project proponents claim to uphold the standard of its EIA, on April 8, 2003, the Thai cabinet approved a bold resolution to halt the project on the Thai-Lao border until a new EIA is conducted.

Thirdly, the lack of transparency in the process is obvious. There is neither information disclosure nor consultation to the affected communities.

For Thailand, undisclosed information and the non-participatory decision-making process violates the 1997 Thai Constitution.

## **Call for a halt to the project until studies and option assessment completed**

Given the impacts outlined above, it is apparent that the navigation project claimed by the project proponent as 'cheap' largely ignores the devastating social and environmental costs. This project would be the most expensive one if all the costs are put into consideration.

The only way to protect the Mekong is for the public together to urge all riparian governments to immediately stop all work on the Lancang-Mekong Navigation Channel Improvement Project, and properly conduct comprehensive environmental and social impact assessments according to international standards. For instance, the World Commission on Dams' recommendations which include gaining public acceptance, sustaining river and livelihoods, and a comprehensive option assessment.

These assessments should be carried out in a transparent and participatory manner by a team selected by a coalition of government officials, affected villagers, and civil society organizations in the Mekong region, with recognizing the health and vitality of the Mekong River and the lives of those who depend on it.

## Regular navigation can continue under existing conditions:

Transportation by small boats along the Thai-Lao border has been a common practice for decades. Under existing conditions the Mekong is navigable for vessels up to 60 DWT. Without the Navigation Channel Improvement project, Chinese barges of 60 DWT can still travel from Simao Port-Yunnan to Chiang Saen Port-Thailand. Laotian barges 40-60 DWT also can travel from Chiang Saen Port-Thailand to Louang Prabang-Laos year round. Also, training the navigators on the waterway can be another option.

***Waterways for navigation should follow the principle  
“adapt the boat to the river, not the river to the boat.”***

Rivers for Life! The Rasi Salai Declaration  
Endorsed at the Second International Meeting  
of Dam Affected People and Their Allies,  
Rasi Salai, Thailand, 28 November - 4 December 2003



# Appendix

## ❖❖❖ China's Lancang Dams Endanger Millions both Upstream and Downstream<sup>1</sup>

By Kevin Li

The Mekong River is the heart and soul of mainland Southeast Asia. Over 60 million people depend on the Mekong and its tributaries for food, water, transport and many other aspects of their daily lives. The river supports one of the world's most diverse fisheries, second only to Brazil's Amazon River.

China's plan to build eight large dams on the upper reaches of the Mekong in Yunnan Province, which is known as *Lancang*<sup>2</sup> in China, will change the river's natural flood-drought cycle and block the transport of sediment. These environmental changes will affect the livelihoods of millions of people living downstream in Burma, Thailand, Laos, Cambodia and Vietnam. Despite these serious potential impacts, construction of these dams has proceeded without consultation with China's downstream neighbours, and without any real assessment of the likely impacts to the river and its people.

## ❖❖❖ A Grand Cascade

The eight planned dams on the Lancang will supply power to southwest China and Thailand. The first dam in the scheme, the Manwan Dam was completed in 1996 without prior consultation with China's downstream neighbours and its own citizens. No Environmental Impact Assessment of downstream impacts was carried out. When the reservoir was filled during the 1992-1993 dry season, Thai authorities complained that the dam caused unusually low water levels downstream in the province of Chiang Rai.

Construction of the second dam, Dachaoshan, started in 1996 and is scheduled for completion by 2003. The Asian Development Bank, which claims it would not fund a dam on the mainstream of the Mekong, funded the transmission lines for the project.

<sup>1</sup> [Lancang-Mekong: A River of Controversy](#), 2003

<sup>2</sup> *Lancang* is referred to the upper reaches of Mekong River in China.

A third dam, Xiaowan began construction in December 2001 and is expected to be completed in 2012. At 292 meters in height, Xiaowan would be one of the highest dams in the world. Impoundment of water during the wet season for Xiaowan would increase dry season flows by up to 70% as far as 1,000 km downstream in Vientiane, Laos. The dam would block 35 percent of the silt that nourishes the fertile floodplains downstream.

The remaining five projects are currently in the planning stages. The Jinghong dam is expected to begin construction in the next few years. The governments of China and Thailand have formally signed an agreement to jointly develop the 1,500 mW Jinghong Dam despite Thailand's current massive oversupply of electricity. Thailand is also negotiating with Yunnan Province over importing some of the power produced by the Nuozhadu Dam, which is slated to begin in construction in the next couple of years.

## Impacts to Upstream Areas

There are a number of impacts from the Manwan dam including issues around resettlement for dam-affected people and environmental degradation. The following sheds light on some of these issues.

### **Resettlement**

Dam migrants affected by the Manwan dam have suffered from the painful economic transition from a planned to a market economy. The subsidies that the government promised to the migrants under the planned economy have vanished, while the power company did not pay a reasonable rate of return to the migrants as compensation. Most migrants suffered a loss of farmland, and they are facing problems in the resettlement villages such as shortages of water supplies and lack of educational opportunities. Cases of mental disorder have increased, as there is growing fear over instability of their lives.

### **Environmental and Geological Disasters**

Massive areas of farmland and forests were inundated. Water pollution continues to be widespread across the reservoir, which has caused deterioration of fish habitat and an increase in human diseases. The cases of landslide and mudslide have also increased, while the risk of earthquakes cannot be denied as the Lancang basin is located on a number of western Yunnan fault zone.

## Impacts to Downstream Areas

The Lancang dams threaten to disrupt the Mekong's complex ecosystem upon which millions of people depend on for fish and agriculture. About 90% of the population in the Mekong basin is engaged in agriculture and depends on wild fish from the Mekong and its tributaries for 80% of their protein needs. The Mekong River Commission (MRC) estimates that the total value of fish caught per year in the lower Mekong basin<sup>3</sup> is more than \$1 billion.

The health and integrity of the Mekong's ecosystem depends largely on two main factors: the annual and predictable flood-drought cycle of the river and the enriching sediment washed down from the upper catchments. The mainstream dams on the Lancang in China will drastically affect both of these factors.

Dams on the Lancang may double the average water flow in the Lower Mekong during the dry season, changing the natural cycle of the river. While only 15-20% of the total annual flow in the Mekong that reaches Vietnam is generated in China, the Lancang contribution forms a large part of the river's dry season flow in Laos and Thailand. In Cambodia, it makes up almost 45% of the average flow in April. The reservoirs in Yunnan would impound water in the wet season and release water in the dry season, causing much higher water levels during the dry season.

In addition, it is estimated that half of the Mekong's annual sediment load originates in the Chinese part of the watershed. The dams will impound this sediment, threatening the viability of the dams themselves—which are likely to fill with sediment and become useless—resulting in much lower sediment loads in the middle and lower Mekong.

These changes are likely to have the following impacts on the Mekong basin:

### **Destruction of fish and fisheries**

Feeding and spawning conditions for fish that have adapted to living in the sediment-rich Mekong will be seriously disrupted, which may lead to a decline in biodiversity and productivity. Spawning sites may be drastically reduced in the dry season, as rapids fail to become exposed, and in the rainy season lower water levels in the flooded forests of southern Laos and Cambodia will affect important fish feeding, spawning and nursery grounds. This will result in a major decline in fisheries in the Mekong basin, including possible extinction of some species.

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<sup>3</sup> Lower Mekong basin here refers to the countries including Thailand, Cambodia, Vietnam and Laos.

### **Impacts on agriculture**

About 80% of rice production in the lower basin depends on water, silt and nutrients provided by the seasonal flooding of the Mekong. Greater regulation of the flood cycle means that there will be less frequent floods, which will decrease sediment and nutrient deposition and hence reduce soil fertility. Without a massive program of artificial fertilizer use, long-term agricultural yields will decline.

Higher flows during the dry season will flood riverbank vegetable gardens, common along the entire length of the Mekong. Reduced sediment and nutrient deposition in the rainy season will result in lower yields. Again, this could lead to the application of artificial fertilizers, thereby increasing costs of production and lowering the economic viability of this livelihood strategy.

### **Widespread erosion**

Water released from the dam furthest downstream will have less sediment. This “sediment hungry” water is expected to scour and erode downstream riverbeds. Such erosion could alter the Mekong’s course and width, weaken supports for buildings, piers and bridges, and cause significant financial loss and threaten the safety of downstream areas.

