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### SPECIAL ISSUE

for the 3rd World Water Forum  
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## One river, many needs to fill

Pongsak Piyawadee struggles up the steep bank, two large plastic buckets of water balanced on a pole across his shoulders. At the top he sets the buckets down and wipes his brow. "I water my garden twice every day, otherwise the plants will wither and die in the heat".

Pongsak cannot afford an electric or diesel pump like some of his neighbors. "The only source of electricity is too far from my house anyway."

Looking out on the river from Pongsak's garden, the many uses of the river are evident. Whole families are fishing from small boats near the bank. Further out, a barge filled with goods is heading to a distant market. A ferry swings expertly into the shore and people stream off its crowded deck. Near the landing, a woman is doing the family laundry, her children splashing about in the cool water. For centuries the river has provided food, transport and water for daily needs. But the number of people and their needs are increasing year by year. In the last 100 years, the world population has tripled. In that same period of time, demand for water has increased sevenfold. Can the river continue to meet these many and varied needs?

The largest share of water goes to agriculture. Over 40 percent of the basin's land area is devoted to farming and uses 80 to 90 per cent of all the water taken from the lakes and rivers and from under the ground. Farmers in the Mekong Basin produce enough rice to feed an estimated 300 million people a



Jim Holmes

year. Even so, yields from crop production are generally low by international standards but the scale, intensity, and efficiency of production is increasing quickly. Demand for agricultural products from the basin is estimated to increase by 20 to 50 per cent in the next 30 years. Small farmers like Pongsak will gain, but increased production will come at the cost of greater pressure on both land and water resources.

The Lower Mekong Basin is considered one of the most productive fisheries in the world. The varied landscape provides a wide range of breeding habitats for over 1300 species of fish. The annual rise and fall of the river ensures a nutrient-rich environment on which fish can feed. Conservative estimates indicate that basin dwellers eat over one and half million tonnes of fish per year. The fishery provides livelihoods for thousands who are employed full or part-time making and selling food products and fishing gear, repairing boats and providing hundreds of related services.

As productive as it is, the fishery cannot absorb the growing labour force. National development plans in all the Mekong countries call for increased industrialization, and

## One river, many needs . . .



hydropower potential has been developed.

In terms of quantity, water for domestic use and sanitation makes up only around five or six per cent of the overall quantity of water actually used. Although the water used for these purposes is relatively small, it is important. Water is quite literally life, and every person living in the basin depends on water for his or her daily needs. By the same token, every basin dweller produces wastes that are often removed by water, or have the potential to pollute water sources or transmit diseases. Water used for domestic purposes also has the potential to carry natural trace chemicals or industrial or agricultural pollutants that can be harmful to health. And water for domestic use is not always evenly distributed geographically or seasonally, or equitably available to all.

For now, thousands of small farmer/fishers like Pongsak will continue to fill their fish baskets and watering pails.

But the number and size of the pails is increasing rapidly. Maintaining sufficient quantity and quality of water for all users will depend on some form of mutual agreement on how it is used and how to maintain the forests and watersheds that store and filter this precious substance. That is the intent of the Rules for Water Utilization now being hammered out by the member nations of the Mekong River Commission. Powered by state-of-the-art mathematical models and real-time data streaming in from hundreds of field stations, the Rules are meant to ensure an equitable distribution of water, including water for wetlands and aquatic habitats for the thousands of plant and animal species that make up the delicate fabric of life in this vast river basin. It is possible. The Mekong can be 'many rivers in one', meeting the needs of fishers, farmers and traders, providing food, power and transport to growing towns and cities, keeping alive age-old traditions as it flows into the future.

industry needs power. As economies develop and people's living standards improve, requirements for electric power increase. Only 5 percent (some 1,600 MW) of the Lower Mekong's

## Mekong River Commission at the 3rd World Water Forum

### Presentation Sessions

#### **A Navigation Strategy for the Lower Mekong Basin** Presentation followed by discussion.

Tuesday 18 March Kyoto International Convention Hall (KICH)  
Room J 0830 - 1130

#### **River Management and Water Uses** with MRC resource person

Wednesday 19 March  
KICH Room E 1230-1515

#### **The Mekong: Meeting the needs, keeping the balance**

Presentation followed by discussion of possible futures for the Mekong River Basin

Friday 20 March  
Otsu Prince Hotel  
Ohmi Room 2 1545-1830

#### **Mekong 5 Countries Open Forum - Use of Mekong River: towards coexistence** with MRC resource person

Saturday 22 March  
KICH 15:45 - 18:30

### Exhibits and displays

#### **KICH Lobby**

Photo exhibit on Mekong River Basin

#### **KICH Event Hall**

Video documentary on the Mekong River

#### **Biwako Water Fair Mizu-en (Shiga) Piazza Ohmi:**

Photo exhibit on fishing in the Mekong River Basin

#### **Day of Asia and Pacific 18 March**

Video documentary on the Mekong River.

**Check Forum timetable for changes**

**For more information please contact Minoru Kamoto Tel: 090 5430 7306**

**16-23 March only**

# MEKONG: The challenge of planning for the future

By Joern Kristensen



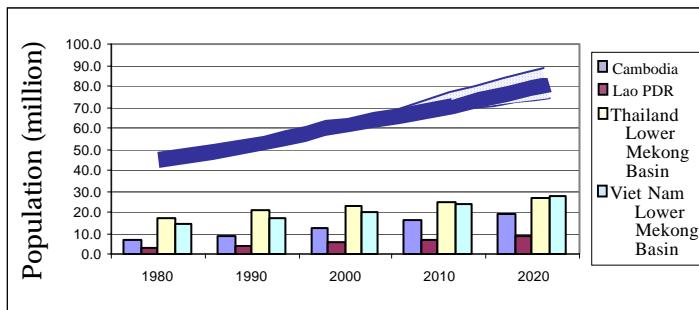
*The Lower Mekong countries have now undertaken to notify each other on river-related projects that may have effects on their neighbors.*

The Mekong has always played a central role in the lives of the people who live around it, as a source of food, water and transport. Now, in these opening years of the 21st century, the region is undergoing rapid change, and the way the river is used is changing as a result. Under increasing pressures, can this mighty river - the 8th largest in the world, ranking with the Amazon and the Congo for sustaining a vast diversity of plants and animals - continue to feed its people? When decisions about river development taken in one country affect the river's resources in another, how is its bounty to be shared?

While activists questioned the impacts of Mekong river-related development in November last year, the member countries of the Mekong River Commission - Cambodia, Lao PDR, Thailand and Viet Nam - released information on a new pact. With the Preliminary Procedures on Notification, Prior Consultation and Agreement, the countries have now undertaken to notify each other on river-related projects that may have effects on their neighbours. A 6-month period is set for prior consultation and agreement, before work can begin.

The new Procedures have been negotiated under the umbrella of one of the strongest agreements on natural resource-sharing arrangements found in any group of developing countries in the world. The 1995 Agreement on the Sustainable Development of the Mekong River Basin, signed between the countries of Cambodia, Lao PDR, Thailand and

Viet Nam, recognises the significance of maintaining the river's resources, which underpin the livelihoods of the people in the basin. There have been, and will be, countless planning decisions taken by the governments in the region, which affect the river one way or another. The 1995 Agreement is about finding ways to get the best



*Population growth in the Lower Mekong Basin*

possible benefits from the river, and to ensure that these benefits are shared among all the countries.

In this vital enterprise, we have to recognise that it is not a realistic option to maintain the Mekong River Basin - still one of the cleanest in the world - in an untouched state. Population growth and the pace of industrialization mean that development will occur whether or not governments choose to consult each other on the best possible strategies.

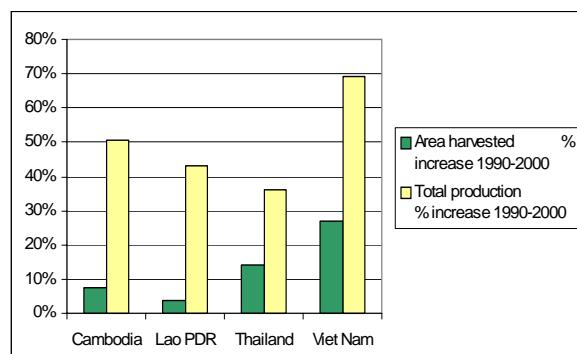
Population is expected to double between 1980 and 2020. Rice production increased dramatically from 1990 to 2000 (see chart) to provide for the growing population, meet the countries' requirements for food sufficiency, and provide export income. This has been achieved partly by increasing areas under production, but mainly by intensification of cropping, with a rise in the areas irrigated and an increase in inputs such as fertilizers. The demand for water for irrigation has resulted in the construction of reservoirs on the Mekong tributaries, clearly visible on current satellite images.

Market-oriented policies adopted by the governments of the Lower Mekong will also change the nature of demands on the natural resource base, for example as subsistence fishing gives way to commercially-oriented fisheries - together estimated currently at 1.5 to 2 million tonnes per year.

Although agriculture is still by far the major sector in the Lower Mekong Basin, industrial development is beginning, and is being promoted by the national governments - in particular, agro-processing industries which complement the basin's agricultural base.

In anticipation of industrial growth, dams have been built for hydropower. On the Lower Mekong tributaries there is currently a total installed capacity

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*Rice production in the Lower Mekong Basin*

of 1800 megawatts, including 150 MW from the Nam Ngum dam in Lao PDR, 720 MW from the Yali dam in Viet Nam, and 2 MW from the Ubol Ratana dam in Thailand.

All these uses of the water place pressures on the river system and its ecology. The question is how to allow for development without threatening the resources on which the development is based.

The 1995 Agreement is about finding a balance - between the development needs of the different countries and their water requirements; between resource use in different sectors; and maintaining ecosystems which provide those resources, so that they will continue to be productive. For example, the need for more dry-season irrigation upstream in Lao PDR and Thailand must be balanced against the need for fresh water to be a buffer against saltwater intrusion into agricultural land downstream in Viet Nam. Another example is that plans for power generation need to take into account possible impacts on fisheries, a sector which is often underestimated in its value.

It is up to the countries to decide where that balance lies. The Mekong River Commission's core programmes over the last few years have focused on building up an understanding of the river and its ecosystems, so that these decisions can be based on scientifically proven facts.

For example, an important question for the basin is the effect of dams in Yunnan province, China. Through the upgrading of the hydrological monitoring network on the length of the Mekong, the Commission has been collating historical data on flows. The preliminary data coming out of this process shows that the average inflow of water from China is less than 20 per cent, and that the largest proportion of total flow is in fact contributed by the left bank tributaries of the Mekong in Lao PDR. In the flood season, water

flows mostly originate within Lao PDR and the Lower Basin; in the dry season, though, the flow from China becomes more important, meaning that this is when the impact of the dams in Yunnan is potentially much greater.

Through the Commission's monitoring of water quality, trends in sedimentation can be tracked.

Data from the last 15 years indicates a decrease in sedimentation in most areas, probably due to sediment being trapped in upstream water storage facilities such as dams. This data then leads to more questions: on the impact of changes in sediment loads for ecology, bank erosion, and the rich Mekong Delta of Viet Nam.

Through a planning process known as the Basin Development Plan, such information goes to the governments of the four Lower Mekong countries at the national and regional levels. The aim is to eventually identify a short list of high priority projects with regional significance. The Basin Development Plan is not a master plan but a way of linking up diverse and disparate national planning processes to identify those initiatives that have the most potential to bring regional benefits. This is in tune with the role of government in today's world, where its task is to create the right conditions for development to happen, with the involvement of public and private sectors as well as civil society.

Together with the national governments, the Mekong River Commission is currently studying "sub-areas" in the four countries, based on catchments and administrative units, in order to capture some of the diversity of planning issues in the Lower Mekong Basin. During this process, the views and opinions of provincial-level governments, resource-users and other local



*Population growth and the pace of industrialization mean that development will occur whether or not governments choose to consult each other on the best possible strategies*

Mikkel Østergaard

## Mekong River Commission Programmes

### Core Programmes

1. Water Utilisation
2. Environment
3. Basin Development Basin

### Sector Programmes

1. Water Resources Management
2. Agriculture, Irrigation, Forestry
3. Fisheries
4. Navigation
5. Flood Management
6. Tourism

### Support Programme

1. Integrated Capacity Building

groups will be sought. It is expected that regional strategies will eventually develop based on a strong understanding of issues at the grassroots level.

The pilot process has already begun and is expected to take up to a year for the first few sub-areas, with work to be continued in up to 10 areas in the year after that.

Meanwhile, through the Commission, rules for water-sharing will continue to be developed; by the end of 2004, the countries expect to finalise the preliminary rules on notification, prior consultation and agreement, as well as to make new rules for monitoring of water use.

It is a long journey and a challenging

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# River Basin Management

The Mekong River Commission (MRC) is an inter-governmental agency of the four countries of the Lower Mekong basin, Cambodia, Lao PDR, Thailand and Viet Nam. The MRC replaced the Mekong Committee (1957-1976) and the Interim Mekong Committee (1978-1992), and was formed with the signing of the 1995 Agreement on "Cooperation for the Sustainable Development of the Mekong River Basin".

The MRC consists of three permanent bodies: The Council, Joint Committee and the MRC Secretariat. National Mekong Committees are established in each member country and act as the key focal points for liaison between the MRC Secretariat and the national

ministries and line agencies. Important stakeholders include the donor community (supporting the organization with US\$15-20 million annually), international organizations, civil society, research institutes and national organizations.

During the early decades of Mekong cooperation (1957 - 1975), the focus was largely on technical and economic development. MRC is now guided by a programme approach to development. It does this through three core and five sector programmes. The three core programmes represent the strategic focus of MRC's work and reflect the priorities of the '95 Agreement. The Water Utilisation Programme is developing a decision-support framework for sustainable development, rules for water utilisation and a system for monitoring and managing water use. The Basin Development Plan identifies sustainable and environmentally sound trans-boundary development opportunities. The Environment Programme provides a knowledge and information base for use in the Water Utilisation and Basin Development Planning programmes. To ensure broad stakeholder input into these programmes, the MRC now has formal partnerships with a range of organizations and institutions both within the region and internationally. Starting in 2002, civil society representatives have also been invited to attend MRC's Joint Committee and Council meetings as observers.

Since its inception in 1995, the MRC has made good progress in implementing the Agreement. Progress includes an agreement on data and information sharing among the four countries; a web-based flood forecasting and



Mikkel Oestergaard

dry-season river monitoring system; signing of a historic hydrological data exchange agreement between China and MRC in April 2002 and development and adoption of water utilisation rules. The most recent milestone is an agreement on preliminary procedures for notification, prior consultation and agreement of development projects that affect water and related resources. Other accomplishments include agreement on a regional flood management programme; a hydropower strategy; and research coordination within the Mekong under the CGIAR Challenge Programme. Improved communication strategies have raised awareness of the issues MRC is addressing. Information is now available via internet, technical publications and media exposure. Perhaps most importantly, the MRC is preparing the next generation of river basin managers through its integrated training programme and Junior Riparian Professionals scheme.

Much has been learned in the process. A transboundary approach to river basin management must include all the stakeholders involved in the decision-making process. Dialogue must be sustained among upstream and downstream partners. The partners in this dialogue must have faith that the Commission can maintain a neutral role and provide high quality scientific data and information.

## River traffic set to increase



Jim Holmes

*Lack of a coherent legal framework is a major obstacle to improved navigation development*

The Mekong River Basin is about to undergo a rapid transformation in terms of economic development. Among the basic requirements for development are improved road, rail and air links. In the rush to improve these links, there is a danger that planners may neglect or overlook one of the oldest and most efficient forms of transport in the Mekong Basin - its rivers. For centuries, the people here have used the river as their highway. River transport is far less polluting, does not require appropriation of land, and has a broad range of socio-economic benefits including improved access for people in remote areas to schools, hospitals, markets and jobs. With all these benefits, why has river-based trade and transport fallen into decline in the last few decades? The answer: modern high-speed highways, railroads and air transport.

Initiated in 1959, plans for an extensive Asian Highway Network have been interrupted but not forgotten. The UN

Economic and Social Commission for Asia and the Pacific (ESCAP) recently endorsed the Asian Land Transport Infrastructure Development project that includes the Asian Highway Network and Trans-Asian Railway. In the not too distant future, it will be possible to drive a car or take a train from Singapore to London. Perhaps the most rapid advances in the region are taking place in the air. It is now possible to reach over 60 cities in the Lower Mekong Basin by air.

Most of this infrastructure development now under way is driven by plans formulated by ESCAP and the ASEAN Greater Mekong Subregion Initiative in conjunction with national governments. While many millions of dollars have been allocated to improving road, rail and air links, inland waterway transport is receiving relatively little attention, despite widespread appreciation of its potential.

There are over 2000 kilometers of navigable waterways along the Mekong and its tributaries. Lao PDR, often referred to as a 'landlocked' country, has a fleet of over 1000

passenger and cargo boats. Thailand's interest in river transport has diminished over the years as its road network steadily improved. However, both countries are about to experience a revival of river transport. Already, the river ports of Chiang Saen and Chiang Kong have seen a threefold increase in shipping traffic.

In terms of navigation, the 'great divide' on the Mekong is the Khone Falls, a 30 km stretch of falls and rapids and home to the Irrawaddy dolphin. While there has been little growth in Cambodia's fleet over the past five years, Viet Nam is looking to become the maritime gateway to the Mekong hinterland.

The Mekong has been considered an international river for over 75 years. Since the signing of a treaty between France and Siam (Thailand) guaranteeing freedom of navigation in 1925, there have been 18 treaties, conventions and other legal agreements among and between the six countries along the Mekong, most of them still in effect. This patchwork of overlapping,

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*Freedom of navigation would create thousands of jobs*

Jim Holmes

## River traffic ...

sometimes contradictory legal agreements is one of the most serious obstacles to promoting greater use of the regions' waterways. The second major obstacle is the lack of a coherent strategy for navigation development and coordination. The Mekong River Commission hopes to address this problem through a common strategy developed in cooperation with its member countries.

It took two years for the MRC to formulate a draft strategy in close cooperation with member countries. In January 2003, a group of high-ranking government officials from the six riparian states along with international experts in maritime law and navigation met in Phnom Penh to review the outcome. The draft outlines three broad objectives: freedom of navigation; coordination and cooperation in developing efficient, safe waterborne transport that respects the environment, and an overall increase in trade for mutual benefit. The strategy reviews the existing physical, institutional and regulatory conditions concerning clean and environmentally friendly navigation, the prospects for trade and the many possible benefits and the environmental and social issues. Following a final revision based on the outcomes of this meeting, the draft strategy will go to MRC's decision-making bodies for approval.

A comprehensive navigation development strategy will do much to increase trade and improve safety standards. It will bring the river back into the lives of a whole new generation.



## Selected articles in past issues of Mekong News

October - December 2001/4

- People's traditional flood warnings: Signs and omens in Champasak, Lao PDR
- The Mekong Can Become Many Rivers in One

April - June 2002/2

- China signs data-sharing agreement
- Shipping fire highlights need for proper safety rules in water transport guidelines
- Is the Mekong over-fished? Yes and No !

July - September 2002/3

- Protected areas in Mekong region set to expand
- Study of sub-areas to show cross-border impacts

October - December 2002/4

- Lower Mekong countries to alert each other on river developments
- Linking high technology to local knowledge
- Inland fisheries - Lynchpin in the Mekong's future

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