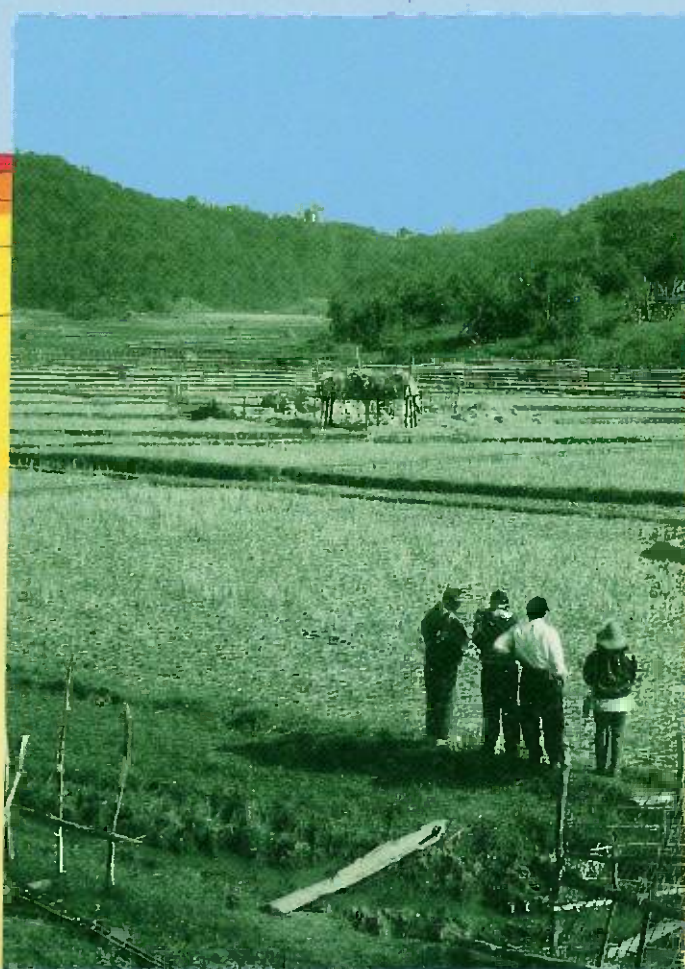


MEKONG RIVER COMMISSION



ANNUAL REPORT 1997



TOWARDS SUSTAINABLE DEVELOPMENT

MEKONG RIVER COMMISSION

Background

The Committee for Coordination of Investigations of the Lower Mekong Basin (or The Mekong Committee) was established in 1957 with four members: Cambodia, Lao PDR, Thailand and Viet Nam, under the umbrella of the Economic Commission for Asia and the Far East. The Committee was known later as the Interim Mekong Committee from January 1978 to April 1995, due to the absence of Cambodia in the Committee. In 1991 Cambodia submitted its request to rejoin the Committee. The rapid economic and environmental changes in all four countries were the reasons for a new organization with an expanded mandate. Preparation for the establishment of the new Mekong cooperation framework started in late 1992.

The *Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin* was signed on 5 April 1995, establishing the Mekong River Commission (MRC).

Structure, Mandate and Areas of Cooperation

As an intergovernmental organization, the MRC has three permanent bodies, namely, the *Council* (at ministerial and cabinet level) making policies and decisions, the *Joint Committee* (at Department Head level) implementing policies and decisions, and the

Secretariat rendering technical and administrative services. The MRC Council and Joint Committee meetings serve as a forum for the member countries to discuss how to implement the 1995 Mekong Agreement and matters of mutual interest in sustainable development of the Lower Mekong Basin.

The MRC's mandate is to cooperate in and promote, in a constructive and mutually beneficial manner, the sustainable development, utilization, conservation and management of the Mekong River Basin water and related resources for navigational and non-navigational purposes, for social and economic development and the well-being of all riparian States, consistent with the needs to protect, preserve, enhance and manage the environmental and aquatic conditions and maintenance of the ecological balance exceptional to this river basin.

In the Agreement, the four members agree to cooperate in all fields of sustainable development, utilization, management and conservation of the water and related resources of the Mekong River Basin, including, but not limited to, irrigation, hydropower, navigation, flood control, fisheries, timber floating, recreation and tourism, in a manner to optimize the multiple-use and mutual benefits of all riparians and to minimize the harmful effects that might result from natural occurrences and man-made activities.

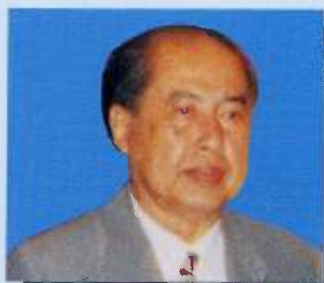
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Cover front page: Geographic Information System is not an end in itself but a tool to achieve more informed and analytical planning, suitable for watershed management in particular (photo taken at Xieng Khouang, Lao PDR).

Cover back page: Ta Prohm, the first ferry completely built in Cambodia in 1997 under the Danish-funded Upgrading of Ferry Facilities in Cambodia, in operation at Neak Leung.

MESSAGE FROM THE CHAIRMAN OF THE MEKONG RIVER COMMISSION COUNCIL



As you all know, the present Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin signed in April 1995 reaffirmed the determination to continue to cooperate in and promote, in a constructive and mutually beneficial manner, the sustainable development, utilization, conservation and management of the Mekong River Basin water and related resources.

The substantially increased support by our generous donors in recent years has not been too easy to manage. As for most organizations growing fast with limited human resources, the Commission had to address some bottlenecks. Recruitment of staff was more complicated and time consuming than anticipated. However, the situation improved by the end of the year and the projects which had suffered could be implemented.

One important task related to implementing the Agreement, which is to prepare a Water Utilization Programme, started in October. Another one, the modalities for the Basin Development Plan process, was agreed upon with donors, and the MRC Council decided in November to start the process with a planning phase.

Among the numerous projects implemented during the year, I would like to highlight the completion of the two ferries constructed in Cambodia under Danish assistance. They are of vital importance in the overall road network of Cambodia for crossing wild rivers. The other project that I would like to mention is the German-funded Forest Cover Assessment and Monitoring Project which produced a Lower Mekong Basin forest classification map. It gives us a most accurate and up-to-date information on our forest resources and watershed management.

On the relocation in Phnom Penh, planning and preparation have started during the year. The renovation of the Secretariat office building in Phnom Penh is ahead of schedule. The move to Phnom Penh is still planned as scheduled, that is, in July 1998. Furthermore, funds have been secured for training of new Cambodian staff and recruitment of trainees is in progress.

In regard to donors' support, open and frank discussions and exchange of views were held with the donor community at informal meetings as well as at the Donor Consultative Group meeting. To further improve the work of the Commission, the Council decided to prepare a plan of action that would provide implementation of strategies for immediate and medium-term vision of the MRC. UNDP has been kind enough to offer support in achieving this in close consultation with other donors. I am confident that these steps bringing the right direction will lead to improvements and a more efficient Commission with clearer goals and priorities.

The Commission continued to have dialogue with the other two non-member riparian states, that is, the People's Republic of China and the Union of Myanmar. There are encouraging signs of increased cooperation between the upper and lower basin countries. On behalf of the MRC and its member countries, I would like to take this opportunity to express to the donor community our deep gratitude for all the support, both financially and by giving advice and constructive proposals to the Commission.

A handwritten signature in blue ink, appearing to read 'Y. Manasikarn', written in a cursive style.

Yingpan Manasikarn
Chairman of the MRC Council for 1997-98

1997 was a year we had to try hard to implement many recently funded new activities and projects. The commitments of the donors amounted in 1996 to nearly USD 27 million (almost the same as in 1995). The commencement or continuation of the activities under various projects was not easy since the recruitment of riparian staff has been found to be more difficult than expected. Another reason was the suspension of some activities because of the events that occurred in the region in July. These have played considerable parts in the delay in implementing the project.

However, actions were taken to rectify the situation and by the end of the year most of the programmes could be implemented. The planning of the Secretariat's move to Phnom Penh has been orderly progressing, and in December 1997 the renovation of the building was in full swing. Cambodia and MRC are working together to finalize the Headquarters Agreement in order for Cambodia to be ready for accepting the staff of the MRC Secretariat. The recruitment process of Cambodian general service staff has commenced.

The implementation of the 1995 Mekong Agreement continued. The most important activity during the year was the preparation of a MRC Water Utilization Programme (WUP). One obvious component in such a programme (Rules for Water Quality) has already been funded. Another encouraging step was that two donors decided to fund the planning phase of the Basin Development Plan (BDP) process with the following strategic guidelines:

- key stakeholders to be well informed;
- recommendations to be based on realistically achievable future ownership of the national stakeholders; and
- the Secretariat to be organized to maximize the efficiency of staff working with BDP and WUP.

Under the MRC Human Resources Development Programme, the Secretariat arranged a number of activities. The seminar on *Legal Aspects of International Cooperation and Water Resources Development* contained analyses, conclusions and recommendations on many issues relating to the 1995 Mekong Agreement, useful for the members of the Sub-Committees on Water Quality and Quantity in particular.

RIVER COMMISSION'S ACTIVITIES IN 1997

The participants were briefed about the text of the recently adopted UN Convention on the Law of the Non-navigational Uses of International Watercourses. All MRC member States voted in favour of its adoption which is of importance for our future tasks when implementing the Agreement.

The seminar on *Integrated Basin Development and Management* reviewed the experiences of Rhine and Murray-Darling River Basin Commissions with regard to environmental protection and public participation, and developed a framework for application of those experiences in the context of the Mekong River Basin. Among the conclusions of the seminar it could be mentioned that the National Mekong Committees should play a stronger coordinative role; women should participate more in basin planning and management; an effective MRC with strong commitments from the riparian governments is required; integrated planning and management require, among other things, a good data and monitoring system; and a comprehensive BDP must be backed by strong institutions.

As pointed out in the message of the Chairman of the MRC Council, the ferry project in Cambodia and the Watershed Management and Forestry Programme progressed very well. However, the Environment Programme faced difficulties mainly because of delay in staffing in the first half of the year. During the autumn, the situation improved and later in the year most of the components could start or continue. The Fisheries Programme also faced some difficulties due to the complicated recruitment process.

Although the situation of the Secretariat has improved greatly in late 1997, much remains to be done. The Secretariat is doing all it can to ensure that affects on the moving of the office to Phnom Penh is minimized. Replacement of staff who will not be going is in progress. The understanding on this issue of the donor community as well as cooperating agencies and organizations would greatly enhance the morality of the staff of the Secretariat.

Another important point worth noting is that the MRC Council has recently instructed the Joint Committee to prepare a work programme in such a manner that it follows the clear vision and direction of the MRC in line with the 1995 Mekong Agreement. A list of activities that require additional commitments by the MRC member countries will also be presented to the Council in 1998.

DECISIONS BY THE COUNCIL AND JOINT COMMITTEE IN 1997

Below are decisions made by the MRC Council and Joint Committee at their respective meetings in 1997:

24-25 March: Fifth Meeting of the Joint Committee, Chiang Rai

- Approval of a proposal to form an ad hoc auditing panel;
- Approval of a proposal on cost-sharing arrangements with donors;
- Approval of undertaking to maintain projects after completion by national agencies concerned;
- Approval of a project proposal on Rules for Water Quantity;
- Approval of a draft Final Report of the Diagnostic Study;
- Approval of, among other recommendations in 'Note for Decision on National Mekong Committees-Needs Assessment', that the NMCs and the Secretariat should be kept informed of other sources of funding for water resources development projects in the Mekong Basin in order to avoid project duplication;
- Decision on budget for relocation to be covered by Administrative Reserve Fund;
- Decision on a new recruitment policy for professional riparian staff; and
- Endorsement of a new Riparian-on-Stipend scheme.

22-23 September: Sixth Meeting of the Joint Committee, Bangkok

- Approval of the draft Headquarters' Agreement;
- Decision on setting-up an informal working group to further discuss the draft Operational Agreement;
- Approval of Murray-Darling Basin Commission's proposal on further cooperation;
- Approval of Terms of Reference for Sub-Committee and project proposal on Rules for Water Quality;
- Endorsement of revised operational expense budget for 1998;

- Endorsement of budget for relocation;
- Endorsement of draft Work Programme 1998;
- Agreement on a proposal by Denmark and Sweden to consider a planning phase for the formulation of the BDP; and
- Agreement on strengthening of National Mekong Committees by member countries.

26-27 November: Fourth Meeting of the Council, Bangkok

- Endorsement of draft document on UNDP Preparatory Assistance to MRC;
- Approval of proposal on future of the MRC including the following: (1) Preparation of the Work Programme with clear vision and direction in line with the Agreement; (2) Preparation of list of activities requiring commitments of the riparian countries regarding budget requirement; (3) Authorization to the CEO to employ staff with sufficient freedom in keeping quota rules; and (4) Submission of revised structure of Secretariat, when activities under (1) are finalized, to Joint Committee and Council for consideration. An extra session of the Joint Committee to discuss draft refined vision and future direction of the MRC in line with the Agreement to be convened;
- Approval of draft Work Programme for 1998;
- Approval of the Operational Expense Budget for 1998;
- Approval of relocation plan and budget;
- Authorization to Council Chairman to sign Headquarters' Agreement with the Government of Cambodia; and
- Instruction to Joint Committee Chairman and CEO to follow-up better exchange of information between upper and lower Mekong River Basins and arrangements for a visit to upper stream of Mekong River in China.

STRUCTURE OF THE MEKONG RIVER COMMISSION

COUNCIL

(MINISTERIAL AND CABINET
LEVEL, MAKING POLICIES AND
DECISIONS)



H.E. Mr Ing Kieth
of Cambodia



H.E. Dr Kithong Vongsay
of the Lao PDR



H.E. Mr Yingpan Manasikarn
of Thailand
Chairman of the Council
(1997-98)



H.E. Mr Le Huy Ngo
of Viet Nam

JOINT COMMITTEE

(DEPARTMENT HEAD LEVEL,
IMPLEMENTING POLICIES AND
DECISIONS)



H.E. Mr Khy Tainglim
of Cambodia



H.E. Mr Sitaheng Rasphone
of the Lao PDR
Chairman of the Joint
Committee (1997-98)



Dr Itthi Bijayendrayodhin
of Thailand



H.E. Dr Phan Sy Ky
of Viet Nam

SECRETARIAT

(RENDERING TECHNICAL AND
ADMINISTRATIVE SERVICES)



Mr Yasunobu Matoba, Chief Executive Officer

ORGANIZATION CHART OF THE



MEKONG RIVER COMMISSION SECRETARIAT

CHIEF EXECUTIVE OFFICER

(Mr Yasunobu Matoba)

ASSISTANT CEO (1997-98)

(Mr Thevet Insisienmay)

Agriculture Division

Major Functions:
Project Formulation and Execution

Agriculture & Irrigation Unit

Major Activities:

- Agriculture
- Irrigation
- Rural Water Supply
- Socioeconomic Studies

Activities/Projects in 1997-98:

- Sustainable Irrigated Agriculture
- Natural Resources-Based Development Strategy for Tonle Sap Area
- Preparation of an Agriculture and Irrigation Programme

Forestry Unit

Major Activities:

- Watershed Management
- Watershed Analysis
- Forest Resources Assessment
- Forest Functions
- Farm and Agro-Forestry

Activities/Projects in 1997-98:

- Watershed Classification
- Forest Cover Assessment and Monitoring
- Sustainable Management of Natural Resources
- Strategy Watershed Management/Forestry Study
- Forestry-Based Development in Mekong Delta

Fisheries Unit

Major Activities:

- Fisheries
- Aquatic Resources
- Aquaculture

Activities/Projects in 1997-98:

- Freshwater Capture Fisheries
- Reservoir Fisheries
- Assessment of Mekong Fisheries-Fish Migrations and Spawning and Impact of Water Management
- Rural Extension for Aquaculture Development in Mekong Delta
- Support to Fisheries Management and Development Cooperation
- Field Guide to Identification of Mekong Fish Species
- Preparation of Projects on Mekong Fisheries Statistics, Aquaculture of Indigenous Fish Species and Highland Fisheries Development

Resources Development Division

Major Functions:
Project Formulation and Execution

River Works & Transport Unit

Major Activities:

- Navigation and Transportation
- River Training
- Bank Protection
- Transport Studies

Activities/Projects in 1997-98:

- Mekong Bank Protection Programme
- Updating of Hydrographic Atlas
- Upgrading of Ferry Facilities in Cambodia
- Study for Improvement of Access Channel to the Bassac River

Water Resources Unit

Major Activities:

- Hydropower Generation Studies
- Power Transmission Studies
- Water Resources Management
- Flood Control

Activities/Projects in 1997-98:

- Pilot Microhydropower Project
- Rural Electrification
- Action Plan for Sre Pok Basin
- Sekong-Sesan and Nam Theun River Basins Hydropower Study
- Flood Control Planning for Development of the Mekong Delta

Tourism Unit

Major Activities:

Project Formulation

Finance and Administration Division

Finance & Accounting Unit

Major Activities:

- Accounting
- Financial Analysis
- Payroll
- Treasury
- Programme & Project Compliance Review
- Financial Controls & Internal Audit
- Financial Accounting Databases

Personnel Unit

Major Activities:

- Recruitment
- Staff Training
- Transfer
- Performance Review
- Secretarial Pool
- Support to Riparian-on-Stipend Programme

Administration Unit

Major Activities:

- Administration & Logistic Support
- Computer Support, Trouble Shooting/Maintenance
- Contracting of Procurement and Consultants
- Travel Arrangements
- Archives and Records
- Maintenance/Facilities Management

DONOR SUPPORT

In 1997 the commitments received from donors amounted to approximately USD 10 million, compared to USD 27 million the year before. It appears that there has been a decline but this could be attributed to several reasons. One of the reasons is, of course, that an organization growing too fast will face certain bottlenecks that will take some time to overcome. The 1995 Agreement on Cooperation for the Sustainable Development of the Mekong River Basin requires the MRC to implement many new and somewhat different tasks compared to the former Interim Mekong Committee. In order to implement the Agreement, a lot of groundwork has to be done. Among these, one of the main tasks is to find and recruit riparian staff who are well qualified and meet all the requirements.

At the informal meeting with the MRC Council and Joint Committee Chairmen in May 1997, several donors expressed their serious concern regarding the capacity of the MRC because implementation of some projects had been delayed due to lack of staff and other bottlenecks in the Secretariat and the National Mekong Committees. There were doubts that the relocation of the Secretariat would have a further negative impact on the activities.

In order to quickly rectify the situation, it was decided to accelerate the recruitment process. Several new positions and vacancies have been filled by the end of the year. One key officer post (Director of Finance and Administration) was recruited in September.

During the year some donors expressed their concern about the slow implementation of the Agreement. As explained in the following pages, actions have been taken for preparing a Water Utilization Programme (WUP, articles 5, 6 and 26 of the Agreement) and for formulating a Basin Development Plan (BDP, article 2) to identify and prioritize projects and programmes. As regards the protection of the environment and ecological balance (articles 3 and 7), implementation of the Environment Programme is ongoing and can be expanded. The same could also apply to the Fisheries Programme. Preparations were made to start a review of the watershed management and forestry sector in order to coordinate future activities and propose a new strategy.

The BDP will be a dynamic process and mechanism for planning, implementation and monitoring. Since the concept goes beyond typical "masterplans" by including the necessity of balancing water and related resources with protection of the environment and ecological balance to achieve sustainability, it has been agreed with two donors to start the process with a planning phase. Consequently, it will take more time than firstly envisaged to formulate the BDP, and in the meantime an implementation strategy will have to be developed. The Council decided in November 1997 that an extra session of the Joint Committee be convened to solely discuss the refined vision and future direction of the MRC in line with the Agreement. The Council also endorsed a Draft Preparatory Document prepared by UNDP for its future support to MRC and requested that the activities (assist MRC and other stakeholders to develop a strategy to implement the Agreement and to develop an integrated programme for institutional strengthening of MRC, National Mekong Committees and line agencies, etc.) be coordinated with the Secretariat. Another major output will be a Work Programme that provides a clear vision and direction of the MRC in line with the Agreement.

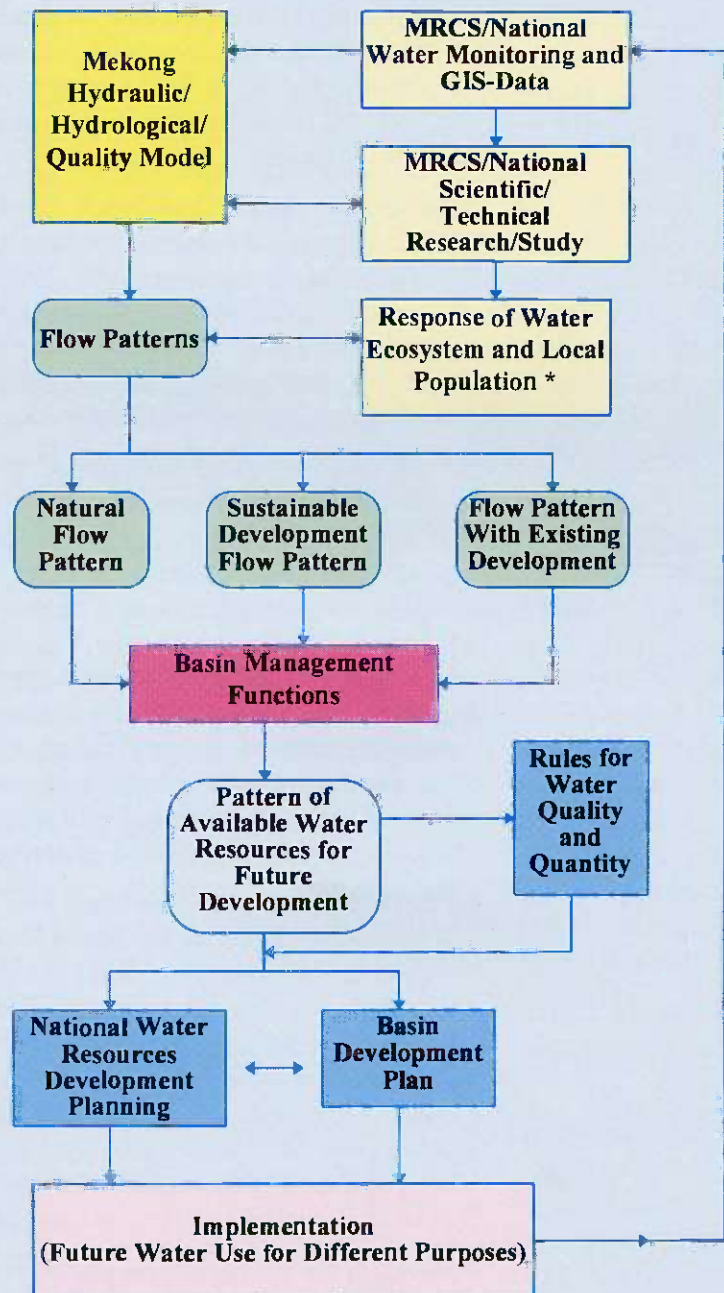
The MRC is fully committed to carry out to the best extent as possible to ensure that the 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin is implemented in an efficient manner.

PREPARATION OF MRC WATER UTILIZATION PROGRAMME

With financial assistance provided by the Global Environment Facility (GEF) through the World Bank, preparation of the MRC Water Utilization Programme (WUP) started in the beginning of October 1997. Preparation of this project is one of the important parts of the mandate of the MRC in providing the Mekong countries with the basic tools to commence implementation of the Agreement signed in 1995 and in achieving sustainable resources management and development in the Mekong River Basin. The project will permit better coordination with all ongoing and future activities related to water utilization in the Mekong Basin, and will propose activities to build necessary knowledge and databases, to provide organizational arrangements and capacity-building to support the water utilization programme. In setting the rules for water quantity and quality management, monitoring and notification, it will be the means for maintaining the desired criteria throughout the Basin. The two specific objectives of this preparation stage are the following:

- to develop and reach consensus with the two Sub-Committees on rules for water quantity and water quality on a conceptual framework for a WUP including priorities, alternative concepts and approach to formulate and implement the rules for water quantity and quality; and
- to design a project to develop, start up and implement an operational WUP which aims to achieve the goal of reasonable and equitable use of water, to be presented for donor support including future potential GEF funding.

Preparation will be conducted in two parts: the first part will permit a Conceptual Framework for the WUP to be developed, and the second part will be dedicated to the preparation and design of the WUP Project. Workshops will be organized at the end of each phase to discuss and build consensus on the Conceptual Framework and on the Project. The outcomes will then be submitted to the Joint Committee in July 1998. The MRC Council, at its Fourth Meeting in November 1997, fully supported this programme which is considered by the four member countries as one priority in implementing the 1995 Agreement.



*This should include environmental, social and economic evaluation. Needs to consider local knowledge. Also variations in response locally/ basinwide and between sectors.

Proposed General Organisation Chart of Conceptual Framework Proposal
Prepared by Consultants

FORMULATION OF BASIN DEVELOPMENT PLAN

In accordance with Article 2 of the 1995 Mekong Agreement, the Basin Development Plan (BDP) will play a key role in guiding the principal steps of project identification, selection as well as implementation to be carried out by the MRC, aiming particularly at sustainable development of the Mekong River Basin in the long-term. The BDP is expected also to lay down a firm foundation of new planning process which will help strengthen the decision-making mechanism with full commitment of the riparian countries and participation of stakeholders. Commencement of the BDP formulation has been delayed due to the lack of readily available resources and the pending full appraisal of project by the prospective donors.

After the approval of the Council, the *Proposal for Formulation of the Mekong River Basin Development Plan* was submitted to Denmark and Sweden in early 1997, for possible financial assistance. In September, a six-member team of *Danida/Sida Joint Pre-Appraisal Mission* visited the Secretariat to appraise documents and gather necessary information on the subject including the countries' requirements on BDP.

As the outcome of its assessment, the Pre-Appraisal Mission recommended that the project be divided into two phases, starting first with a detailed planning phase which was expected to cost around USD 500,000 and take about five calendar months to complete. The major expected outputs would be an elaborated conceptual framework of the BDP and a draft *Project Document* which would outline a mechanism as to how the BDP process can be organized in the MRC and how it will cooperate and coordinate with the Water Utilization Programme process, the MRC environmental programme, fishery programme and other relevant MRC programmes as well as the relationship to national planning and programmes, and other regional initiatives.

At its Sixth Meeting in September, the Joint Committee endorsed this recommendation of the Mission, and accordingly contacts with the donors have been made for funding arrangements. It was anticipated that this planning phase of the project would commence in early 1998. The Fourth Meeting of the Council held in November was informed of the BDP progress. The Council expressed its appreciation for the assistance being extended by the donors in these activities and showed its willingness to fully cooperate in the implementation including the provision of counterpart national experts.

Apart from the above, as a parallel activity supporting the BDP, a strategic study on *Public Participation in the Context of MRC* commenced in October. The study was expected to present eventually a set of recommendations and guidelines for involving the stakeholders in the BDP formulation process as well as other projects and programmes of the MRC in general. The study was supported financially by Sweden and expected to be completed in April 1998.

HUMAN RESOURCES DEVELOPMENT

1997 was another year that MRC human resources development effort was actively pursued. The project on *Training on Legal Aspects of International Cooperation* was successfully completed. Funded by the Government of Japan, the project helped strengthen the legal expertise among key riparian officials and enhanced the understanding on the cooperation framework and international water law as well as their implications on water resources development and management.

The very first activity in the series was a basinwide forum for the core legal teams and concerned officials from the four riparian countries to exchange ideas and perspectives, and explore avenues for the promotion of cooperation under the 1995 Mekong Agreement. This basinwide seminar was held in May 1997. Some of these legal team members then later served as key resource persons for the national seminar held for about 40 officials in each country during the latter part of 1997. The national seminars succeeded in increasing an understanding among riparian officials of international and national water resource institutions as well as related legal aspects and implications.

The Seminar on *Integrated River Basin Development and Management* was another event held in May 1997. Supported by the Government of Switzerland, the seminar brought together 40 participants from each riparian country. It featured the experiences of the Rhine River Basin and the Murray-Darling River Basin with particular emphasis on environment protection. The lessons learnt included the necessity to have effective institutional frameworks and mechanism for cooperative arrangements for basin management, adequate databases and community participation being crucial to the environment protection.

Riparian expertise in gender research and analysis in the water resources sector was further strengthened this year through the New Zealand-funded Study on the *Role of Women in Water Resources Development in the Lower Mekong Basin*. Four country papers on Gender Issues in Water Resources Development were prepared by core teams in each of the four riparian countries. The major findings of these studies were presented to high-ranking officials in each country at both national meetings and a basinwide seminar, the

latter held in Nong Khai, Thailand in December 1997. Common cross sectoral findings of the studies show the necessity for increased access for women to decision-making positions in the community and in development activities in order to effectuate improvements in the well-being and status of women. In line agencies, gender policies and focal points were identified as a priority for the future as well as more research and training in this field.

Starting this year was the Swiss-funded project on *Strengthening the Institutional Framework for Effective MRC Human Resources Development System*. This project forms part of the MRC's institutional development effort with the main objective of establishing and strengthening the Human Resources Development (HRD) focal points in all four riparian countries with the National Mekong Committees (NMCs) playing the coordinating role among the focal points. Consultative meetings to identify the best modality were held and facilitated by the NMC of each country.

The end of 1997 found 12-15 HRD focal points who are mid management and senior level officials working in HRD in various line departments in all four countries. The major project component is capacity building for these focal points on HRD planning and management capacities which will be the focus for 1998. This includes a series of seminars, workshops as well as project assignments. It is expected that towards the end of the project, with strengthened expertise among the HRD focal points, the formulation of strategic MRC HRD programmes corresponding to the basinwide and national needs and priorities can be effectively planned and implemented.

Undoubtedly, in the months ahead, HRD will still hold its position as one most important element in the sustainable regional development.

The HRD network which will emerge from the close linkages among the HRD focal points established in the four countries will guarantee more effective HRD planning and implementation in water resources sector of the MRC.

The year 1998 will also see gender training implemented for line agencies on a larger scale, the result of which will be more gender responsive Mekong development projects and programmes.

Long-term economic development and satisfaction of basic human needs in the lower Mekong Basin depend on sustainable use of the natural resources. It is mainly the poor and marginal people whose existence is made difficult, when the basin's natural resources are overexploited or degraded. The Environment Programme will assist the MRC and the riparian countries in enhancing the integration of environmental protection and conservation into their development activities in a coordinated and cohesive manner.

The Environment Programme is strengthening the integration of environmental aspects in the projects and programmes of the MRC and the National Mekong Committees. It consists of a number of components, and the assistance includes both technical assistance and financial support. Activities focus on environmental policy development, institutional strengthening and capacity building, integration of environmental aspects in projects, environmental planning and impact assessment, specific monitoring/studies of environmental baseline conditions, and the development of a comprehensive natural resources database.

The riparian countries benefit from the support of experienced professionals to gain skills in environmental management and environmental impact assessment. In general, the development of the human resources in the responsible riparian institutions is the first and most urgent priority.

The programme is designed so as to be coherent with the plans and priorities of the riparian governments. It is implemented through the national institutions in order to ensure sustainability of the results, and in close coordination and cooperation with regional and international institutions in the sector.

With continued assistance from Denmark, Sweden, Switzerland, the United Kingdom and other donors, the Environment Programme is implemented on the basis of two complementary inputs:

- 1) The provision of long-term assistance of professionals for supporting environment policy planning, institutional strengthening, and integration of environmental aspects in projects;
- 2) The provision of support for programme components/activities aiming at developing

information, means and tools for solving and managing environmental problems e.g. EIA, monitoring, information management, capacity building, training, and studies of measures for management and conservation of natural resources.

Experience from other natural resource management projects has shown that commitment and responsibility for proper natural resource management can be generated if a participatory approach is followed. This means that target groups participate in identification of problems and solutions, and in planning of interventions and implementation, monitoring and evaluation of activities. The programme is built on this basic philosophy.

Programme Components

The Environment Programme consists of a number of components, and the assistance includes technical assistance and financial support. The present components/activities of the Environment Programme are the following:

1. Environment Policy and Planning;
2. Institutional Strengthening and Capacity Building;
3. Integration of Environmental Aspects in Projects;
4. Environmental Planning and Impact Assessment;
5. Inventory and Management of Cambodian Wetlands;
6. Integrating Catchment Conservation with local Development (Basinwide);
7. Water Quality Monitoring Network for the Mekong River Basin, Phase III;
8. Inventory and Management of Wetlands in the Lower Mekong Basin (Basinwide), Phase II;
9. Soil Erosion and Sedimentation Studies, Phase II;
10. Groundwater Investigation Programme;
11. Environmentally Sound Management of Soil and Water in the Plain of Reeds (Cambodia and Viet Nam);
12. Environmental Training, including ISO 14000;
13. Integrated Database and GIS for Natural Resource Management (Basinwide);
14. Financial Support for two Long-term Regional Specialists to the Environment Unit;
15. Pilot Study for Water Resources and Environmental Management (Basinwide);

PROGRAMME

16. Mekong River Basin Diagnostic Study;
17. Greater Mekong Sub-Region, State of the Environment;
18. MRCS contribution to UNEP/ADB "Subregional Environmental Monitoring and Information System (SEMIS)

As examples of the progress of the Environment Programme can be mentioned the following:

Integration of Environmental Aspects in Projects

Concerning preparation of guidelines for integration of environmental considerations in the activities of the MRCS and its national counterparts, some progress has been achieved. In connection with the preparation of MRC's Agriculture and Irrigation Programme, the Environment Programme has contributed to full integration of environmental considerations in the programme concept paper, and an Environmental Impact Assessment System has been drafted for agriculture and irrigation projects in the Lower Mekong Basin.

For MRCS projects in general, and for the coming BDP process in particular, a proposal for a Basinwide Environmental Assessment Framework has been prepared, and the functionality between national and basinwide EIA systems has been outlined. A technical paper on Environmental Assessment Methodology for the MRC has been prepared, as well as note proposing and discussing a draft EIA Policy for MRC.

Inventory and Management of Cambodian Wetlands, Phase I

Since the starting date of the project on 1 September 1997, the project has been mobilized and the Inception Phase concluded. In coordination with other parallel activities, the project will contribute to capacity-building in wetlands management, improving data inventory and management of Cambodian wetlands, for Tonle Sap in particular, and to involve communities in sustainable wetlands utilization.

Environmental Management

Switzerland supports implementation of training in ISO 14000 which is a family of environment management guidance documents. The ISO 14000 series comprises several standards and only *Environmental Management Systems (ISO 14001)* will be covered by this project. Part of the training should be directed towards tools for involvement of the broader public in policy and project preparation and implementation.

Soil Erosion and Sedimentation Studies; Phase II

Following a thorough review of the results of Phase I of the project, Phase II aims at preventing environmental degradation through erosion and siltation of critical and potentially critical areas, and providing means for proper interventions, in terms of erosion mitigation and sound catchment management practices.



Wetlands preservation in Tram Chim, Mekong Delta

PROTECTION OF THE ENVIRONMENT AND ECOLOGICAL BALANCE

36% Forest Cover - Too Little Or Too Much? Basinwide Forest Cover Assessment Completed

What Makes a Forest?

At first the question 'what makes a forest' looks like asking a common place and most people would readily find the answer. However, to draw conclusions from such a survey would turn out to be very difficult. There would be almost as many different definitions of 'forest' as number of people asked. If this survey would be carried out among institutions and countries the variation would be not much less. Does it really matter to have a common understanding on this issue?

As far as individuals are concerned, certainly not. But when it comes to resource management across administrative and national boundaries, generally accepted standards and definitions are of great importance. As long as they are not in

place all endeavours for coordinated basinwide natural resource management will be doomed to failure. For example, in the past deforestation was often not perceived as a serious problem for reason that it was hidden by a blurred definition of forest which feigned high degrees of forest cover.

Process Oriented Assessment

The *Forest Cover Assessment and Monitoring Project* has now come up with a basinwide forest classification. This was not achieved by a few advisors but in a tedious time consuming process with dedicated staff of the riparian forest departments. It is obvious that the result is not always pure science but includes compromises. In this way, it became acceptable to all riparian countries and compatible with existing national classifications. Based on this common understanding the forest cover assessment was tackled. It involved advanced remote sensing and GIS technologies, checked with verifications on the ground. Similar to the classification approach, and even more vigorously, the challenging forest cover assessment was carried out by the countries themselves. In each country, a team was established in order to carry out the assessment according to agreed procedures and standards supported on the job by technical advisors. The completion of the forest cover assessment is an achievement which constitutes the most accurate and up-to-date information on basinwide

forest resources. Equally important is, however, the way this accomplishment was achieved. Starting with rather reluctant cooperation, which was not surprising considering the sensitive issues at stake, the national teams gradually transformed into one truly basinwide team. Such a process is, of course, not automated but requires a great deal of good will, facilitation and patience. Training is an equally important factor. All this is time consuming and depends on sufficient funding. Germany granted the latter through GTZ

with a generous contribution of approx. USD 3.6 million spread over six years.

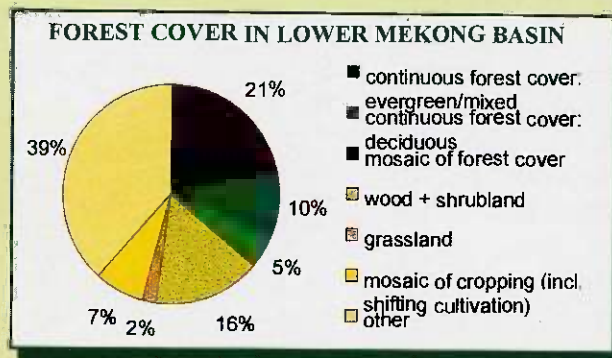
Is It Worth It?

The above stated time frame and budget triggered of many critical comments. However, with a view on sustainability and capacity building such inputs are not an option but a requirement; the assessment is not an objective per se. It was

carried out to provide the baseline for continuing forest cover monitoring in the Lower Mekong Basin. The monitoring design is already in place and the first monitoring cycle was launched recently. The MRC Secretariat and all four countries have been provided with state of the art equipment and intensive staff training in order to sustain this important activity single-handed.

Results to be Taken into Account by Policies

Ultimately the forest cover assessment aims at providing information and capacity to natural resources management on basinwide scope and in the wider context of watershed management. However, it can only contribute to this challenging objective but not answer conclusively the critical question whether or not the recurrent forest cover is sufficient and adequately distributed to meet the requirements of watershed management and as renewable natural resource for the people living in the Lower Mekong Basin. It is only through the combination with other existing information and further studies that clear indications in this respect may be obtained. Whatever the outcome will be, the MRC and its Secretariat will have the mandate to initiate and maintain a process by which the results of the assessment are taken adequately into account in riparian natural resource policies and planning.





10/1997



scale 1:4,500,000

A Fisheries Unit Created

1997 was a good year for the MRC Programme for Fisheries Management and Development Cooperation. The project *Support to Fisheries Management and Development Cooperation*, which was approved by Denmark in November 1996 as part of a programme support package worth approx. USD 8.5 million, started on 1st of January 1997. With this project the coordination and information exchange under the programme is secured until the end of 1999. Also in January 1997, the Fisheries Focal Point of the MRC Secretariat was upgraded to Fisheries Unit and two more positions were created, indicating the increased importance of the Fisheries Programme in the basinwide cooperation.

Amazing Results in Cambodia

The project *Management of the Freshwater Capture Fisheries of Cambodia* consolidated its valuation of the fisheries resources, indicating actual catches in the size of 150,000 to 200,000 tonnes, up from a previous official estimate of 65-70,000 tonnes. Recently started surveys under the Department of Fisheries of the subsistence fisheries in rice fields and swamps, never registered or surveyed before in a systematic way, may increase this figure to 300-400,000 tonnes. This is a quite amazing perspective, which indicates a value of the sector in food security and income for the rural poor 5-6 times bigger than what was previously believed. Similar results may be expected from other parts of the Mekong Basin when systematic and scientific surveys are taken up there. These results underline the need to manage the aquatic resource and maintain it at a sustainable high level of output. The project has been extended until the end of April 1998. Phase II has been prepared with focus on how to use the results in planning and implementation of fisheries management systems.

New Knowledge on Management of Reservoir Fisheries

Under the *Reservoir Fisheries Project*, a study on *Impact of Reservoir Development on the Aquatic Resources* was carried out with the assistance of the internationally recognized reservoir fisheries expert, Dr. Garry Bernacsek, and with substantial inputs from the Department of Fisheries of Thailand and the Ministry of Fisheries of Viet Nam. The study gave a number of guidelines for how best to manage reservoir fisheries in the region. *Tilapia* and *Common Carp* are the two species which most efficiently adapt to reservoir conditions, and establish themselves as part of the

natural stocks. Most other exotic species have to be restocked repeatedly. The study, however, also points to the fact that stocking of exotic species in large reservoirs may not necessarily lead to an increased total fish production, but only to a replacement of indigenous species with exotic ones. Use of indigenous Mekong fish species may be preferred, if they can be supplied, in order not to risk any changes in the original ecosystem of the Basin. Massive introduction of exotic species might lead to reduction and, in extreme cases, even to extinction of indigenous fish species with which they compete for food.



One of nearly 300 fishing lots which constitute large-scale fisheries and significant producers of fish in Cambodia, blocks one of the many arms of the Tonle Sap River. The barrier is built to intercept fish migrating from the Great Lake to the Mekong River. The background shows floating village inhabitants involving in one way or another in fishing activities on the Kampong Chhnang town.

MORE IMPORTANT THAN EVER

Aquatic Impact Assessments Must Be Improved

The study also went through all available pre-impoundment impact assessments on fisheries for larger dam projects in the four riparian countries forming the MRC. Few pre-impoundment studies have been carried out on a total of 46 larger dam projects, many of them dating back to the 1960's and 1970's, and only one of these could be considered a "modern era" EIA study. In most cases baseline studies of fish populations have been far too short, cursory and incomplete to provide an accurate and reliable baseline. In the report from the study on Large Dam Fisheries of the Lower Mekong Countries, guidelines are given for how to carry out a proper aquatic impact assessment prior to impoundment, and some indications of mitigating measures which may limit the negative impacts on the environment and the fisheries.

At the very minimum, a baseline study should span a complete annual cycle, preferably from dry season minimum river water level, to the dry season minimum of the following year. Moreover the study should track events continuously in a monthly basis rather than on an intermittent seasonal or quarterly basis. Problems arise from one year duration studies if the study takes place during a "hydrologically" very dry or very wet year. The study therefore recommends that pre-impoundment baseline field studies cover two complete years, with sampling at monthly intervals. The study also recommends the adoption of "No Loss in Fish Biodiversity" as the central environmental criteria of dam design and operation, practical tests of improved fish passes, trials to refine cage culture methods, and a number of other actions in order to increase the output from reservoir fisheries.

Put a Price on the Resources

The project *Assessment of Mekong Fisheries - Fish Migrations and Spawning and Impact of Water Management*, part of the programme support from Denmark, takes up the economic valuation and management of the fish resources on a basinwide scale. The project, which started on 1st of September 1997 comprises three main areas of work. The description and valuation of the wild fish resources, the studies of fish migrations along the main river and tributaries, and aquatic impact assessments of selected larger water projects. It is the intention that the migration patterns and the use of characteristic habitats for spawning and feeding, etc. of some 30-40 important Mekong fish species will be clarified during the project period. These results will give important inputs on how to

manage the aquatic resource in basinwide cooperation. The economic valuation of the resources will show what is on stake, and the impact assessments will form the basis for decisions by the Governments on establishment and design of water management projects and on how to avoid or mitigate negative side effects. Without a price tag on the resources it may be difficult to take them into account in the economic calculations which often form the most important background for decisions on development. Still biodiversity issues may have to be dealt with in a more qualitative way.

A Basinwide Fisheries Statistics Needed

To serve its purpose as a management instrument, an effectively operating basinwide fisheries statistics is needed together with a body which coordinates the efforts of the four countries in managing the shared fisheries resources. A project for establishment of the fisheries statistics has already been planned and pre-appraised. It is hoped that funding may be obtained for start of project implementation in late 1998. It will build on the experience of the existing MRC fisheries projects and will utilize a large part of their data. Joint basinwide fisheries management may be established when the database is comprehensive enough to allow for thorough data analyses and subsequent implementation of a fisheries management system. A project proposal supporting this development entitled "*Joint Management Schemes*" will be prepared under the Fisheries Programme and the time for its implementation may come within approximately two years.

A Great Need for Aquaculture Development

The fish production from inland aquaculture in the Mekong Basin still remains below 10% of the total inland fish production, underlining the continuing importance of the wild resources. The potential for fish culture, however, is considerable, and it is badly needed in order to increase the fish production and ensure sufficient supply for the growing population. The project *Rural Extension for Aquaculture Development in the Mekong Basin* was approved as part of the Danish financed programme support to Fisheries. Preparations have been made for the project to start in early January 1998. The project aims at increasing considerably the fish production in southern Viet Nam and south Cambodia. At the same time plans are being shaped to develop aquaculture techniques for indigenous Mekong fish species in a new project, making it possible to replace or complement the introduction of exotic fish species to the Mekong Basin through aquaculture.

HYDROLOGY PROGRAMME

The overall objective of the *Hydrology Programme* is to achieve a reliable and sustainable hydro-meteorological information system of the Lower Mekong Basin which will provide basic scientific information necessary for common understanding of the basin water resources among stakeholders. There are two core activities for this purpose which are closely interrelated each other: (1) regular and problem-oriented observation of the hydro-meteorological conditions of the river basin, and (2) database management and hydrologic analysis for routine and special purposes. The outputs of both activities will directly or indirectly support the strategic planning and development of water and related resources, especially the *Water Utilization Programme* and the *Basin Development Plan*.

With regard to the observation network, the *Improvement of Hydrometeorological Network* project is being carried out with financial assistance of Governments of Japan and Australia. It aims at rehabilitating and reinforcing the major hydro-meteorological stations along the mainstream and in major tributaries which were lost or damaged during the last three decades. It is providing equipment, technical assistance, training of personnel and funds for operation and maintenance. Especially the training of technical staff at the riparian line agencies is essential to establish a reliable and sustainable network of the basin and was one of the core activities of the project this year. The *Joint Hydrologic Measurement of the Mekong River* by the Lao and Thai Governments at seven stations between their national boundary was also supported by the project.



Water sampling and current velocity measurement in Mekong Delta.

The *Groundwater Investigation Program Phase II* has been started for monitoring basinwide hydro-geological conditions of the groundwater resources under the financial support by the Government of Sweden. It is further developing the groundwater monitoring network throughout the basin, regularly collecting chemical samples, and upgrading the database systems.

Flood Forecasting of the Mekong Mainstream has continuously been carried out during every flood season by the Secretariat in cooperation with the national agencies. In 1997, the water level surpassed the flood stage at some parts of the river during the peak of the flood, which caused damages in agricultural farmlands and in cities. Especially in the lower parts of the mainstream, this was a consecutive big flood year since 1994. In early November after the normal flood season finished, many lives were unfortunately lost in the Viet Nam delta and on its offshore sea by the attack of Typhoon Linda.



Inspection of the steel tripod for a current meter at Nong Khai Station, Thailand, by delegates from Murray-Darling Basin Commission, accompanied by Mr Somchet Swangnetr (far left), Director, Region 2 Office, Department of Energy Development and Promotion.

With regard to database management and hydrologic analysis, the Government of New Zealand continued to provide support for the printing of the *Lower Mekong Hydrologic Yearbook* which covers more than one hundred hydrologic data, almost two hundred rainfall data and so forth collected in the basin.

The Government of the Netherlands supported a review/appraisal mission of *Mekong Hydrology Programme* by UNESCO. All the outputs by the mission converged into a new program proposal aiming at strengthening the institutional capacity of the Hydrology Unit of the Secretariat and line agencies in hydrologic modelling and data management in line with technical requirements of WUP and BDP.

AGRICULTURE AND IRRIGATION

Agriculture and Irrigation Programme (AIP)

The MRC intends to establish an AIP that will incorporate a practical and integrated approach for agricultural development in the LMB. The AIP will reflect an agreeable course of action and a broad consensus of cooperation among all affected stakeholders, which will be in line with the policies and strategies of the riparian countries. It will serve as a strategic tool to the MRC and to the riparian countries in order to improve the quality of decision-making and managerial performance in the planning, formulation, and implementation of ongoing and future agricultural and irrigation programmes and projects. During 1997, a first draft AIP has been prepared by the MRC Secretariat based on the report *Integrated Land and Water Use for Sustainable Agricultural Development in the Lower Mekong Basin* financed by Denmark with inputs from line agencies in the riparian countries as well as various international organizations such as FAO, ADB, the World Bank, IRRI and others. A revised draft AIP will serve as the basis for discussions at an Expert Consultation. The Expert Consultation aims at consolidating a broad consensus of cooperation among affected stakeholders that will be consistent with the policies and strategies of the riparian countries, if necessary, the lending bodies such as the World Bank and ADB, and the donor community. The establishment of an agreeable and practical approach for agricultural development will be accomplished with the help of international and regional individual experts and international agencies such as FAO, IRRI, etc. with vast experience in the agriculture and irrigation sector in the region. The final draft AIP will be presented to the Joint Committee for approval.

Sustainable Irrigated Agriculture Project

The Consolidation Phase of the Sustainable Irrigated Agriculture Project (SIRAP) in Lao PDR and Thailand is under implementation with continuous financial support from the Royal Netherlands Government. The SIRAP Consolidation Phase concentrates on the improvement of the group development process for production, particularly in the development of production and socioeconomic monitoring and evaluation methods at scheme, district and provincial levels. In Lao PDR, the project is concentrating on the implementation of the Irrigation Management Transfer (IMT) process and in assisting the Lao Government to establish a long-term strategy for nationwide IMT. In Thailand, the project is concentrating on support for the elaboration of Farmer Farm Plan under the Agricultural and Production

System Adjustment Programme.

Development Strategy for the Tonle Sap Area

The objectives of the UNDP-supported project *Natural Resources Based Development Strategy for the Tonle Sap Area, Cambodia* are (1) to enhance capacity building/institution strengthening for coordination of development and management of the project area, and (2) to formulate a sound development strategy for water and related resources of the Great Lake-Tonle Sap area together with an Action Plan. Through the efforts of well-trained staff of the Cambodian counterpart agencies and based on data collected in 1996, the project has progressed well in 1997. A workshop and a tripartite meeting were arranged in May and October to review and discuss the problems encountered, and prepare detailed plans for the remaining part of the study. Importance was attached to the complexities and difficulties of the project, especially the diffuseness of decision-making processes, the multiplicity of actors in the Tonle Sap area and the conceptualization and internalization of what is sustainable development. The moving from a *project mode* to a partnership between the Cambodian Government, MRC as executing agency and UNDP has been emphasized.

Modern Irrigation Technology Training Course

The MRC Secretariat organized a regional training course on *Modern Irrigation Technology and Extension* that took place in Khon Kaen, Thailand from 16 January to 5 February 1997 with financial support from the State of Israel and the Republic of Korea. The training objectives were: (1) to promote awareness of modern irrigation technology and extension as tools for improving crop diversification and production, water distribution and water use efficiency; and (2) to train the participants in the planning, design, and implementation of irrigation systems, methods and scheduling, and systems maintenance, and assessing of the need and possibilities for future modernization of irrigation schemes. Thanks to the success of the first training course of the kind, similar training courses are planned to take place in the following years.

Newsletter - Agriculture and Irrigation (AIM)

The first three issues of AIM were distributed during 1997 with financial assistance from the Government of State of Israel. AIM provides a communication channel for exchange and sharing of ideas, research experiences and information among farmers, extension offices, government officials and the scientific research community on agriculture and irrigation activities within the Mekong River Basin.

HYDROPOWER/WATER RESOURCES ACTIVITIES

Hydropower Programme

The hydropower programme was revised in 1997 with a view to ensuring that activities in energy sector at both national and regional levels would be well coordinated, taking into account activities being conducted or planned by other regional/international institutions, in order to develop the Mekong hydropower resources in a sustainable and effective manner. The programme aims at identifying appropriate options for supplying the basin power requirement for both short- and long-term needs for consideration in the Basin Development Plan. Hydropower planning for tributaries and mainstream, as well as transmission interconnections among the Mekong countries, together with human resources development are the main components of the programme.

During 1997, the MRC cooperated closely with various international organizations such as the Asian Development Bank, the World Bank and E-7 Group, etc. The MRC Secretariat acts as Coordinating Agency for the ADB's project *Sekong-Sesan-Nam Theun River Basins Hydropower Development Study*. The study started in January 1997 and was expected to be completed by the end of 1998. Preparation of the Interim Report, with initial environmental and socioeconomic impact evaluation, is being underway for discussion at the second workshop to be held in February 1998.

Rural electrification with pilot micro-hydropower with standardized equipment is another element of the hydropower programme. Provision of energy to remote areas to alleviate poverty is the main purpose. Study in this field was started in 1993 and with the assistance from the Japanese Government, two micro-hydropower projects were completed and handed over to the riparian countries for operation: (1) the Ea H'leo in Viet Nam, with a capacity of 200 kW, together with a diesel generator, supplying power to a newly established district in the Central Highlands with a population of few thousand of people; and (2) the Huay Saloy, which is located in Savannakhet province near the border between Lao PDR and Viet Nam, providing 75 kW of power to some 200 families in its vicinity. It is planned that a study will be conducted for selection of a suitable project from three candidate sites in Cambodia.

Flood Control Planning for the Mekong Delta

Planning for flood control in the Mekong delta in both Cambodian and Viet Nam is required for immediate and long-term perspectives to alleviate hardship for people and prevent crops and properties from damage. With the financial assistance recently received from the Government of the Republic of Korea, the study on *Flood Control Planning for Development of the Mekong Delta* will be started soon and it will take 18 months to complete.

TOWARDS A MODERN INFO SYSTEM: REMOTE SENSING AND GIS ACTIVITIES

Under its programme for the development of an information system, the MRC Secretariat has continued its efforts and develop resource spatial database, utilizing remote sensing and GIS technology, to provide necessary data for the planning of the sustainable development of the Lower Mekong basin's water and related resources. In 1997, the following activities were carried out by the MRC Secretariat:

Aerial Photography for Resources Mapping

The aerial photographic coverage at 1:25,000 scale of the whole of Cambodia is now complete. With additional funds from Finland, the remaining non-covered areas have been flown during the 1997 dry season. The aerial photographs produced under the project facilitated the creation of detailed data to support the design and implementation of numerous

mapping and development projects, benefiting not only one agency but the whole sector of development programme.

Land Resources Inventory

To increase the capability of the MRC and riparian agencies to make decisions for the sustainable development of the agricultural sector and avoiding land degradation, a comprehensive land resources information is required. For this purpose, with the financial support of the Ministry of Agriculture, Forestry and Fisheries of Japan, the MRC has initiated in 1997 the *Land Resources Inventory for Agricultural Development Project*. Land resources information encompassing basinwide spatial database on soil types, inundation and a database with updated information on irrigation schemes will be developed using remote sensing and GIS tools combined with

conventional methods. The land resources data layers will supplement the existing Mekong GIS and water resources databases, which data will in return serve the needs of the land evaluation.

Inundation Mapping

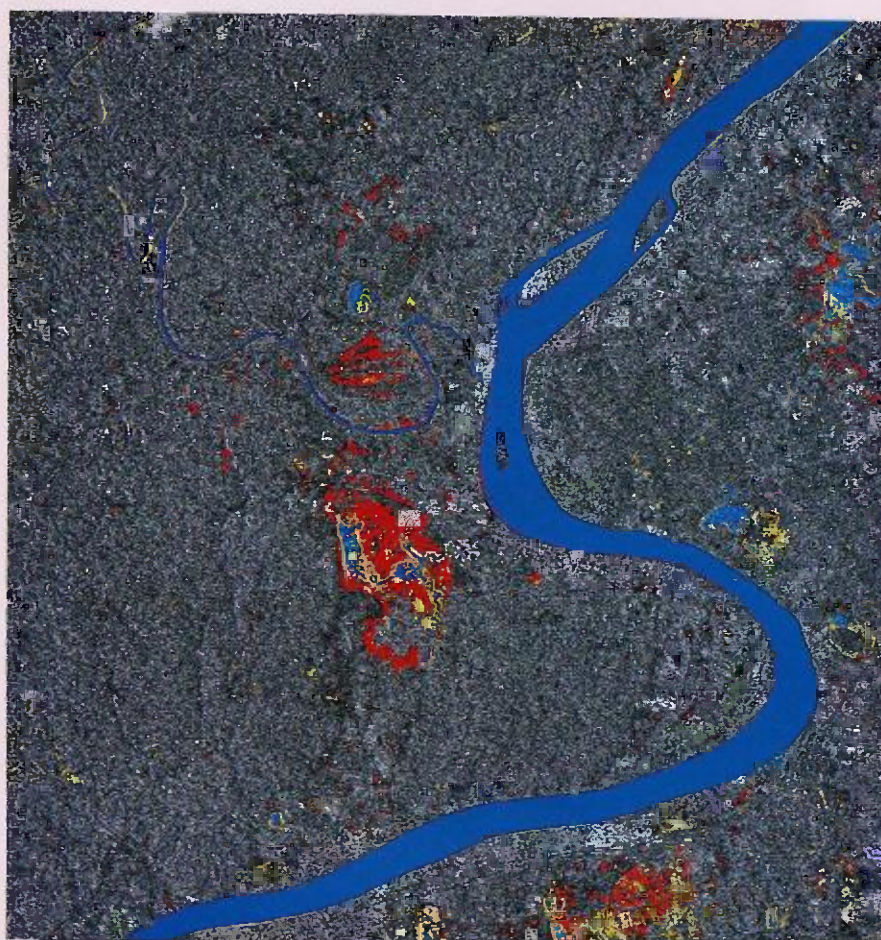
Frequent flooding from the Mekong river and its main tributaries affects especially the low-lying rice growing areas along the river banks. However, reliable data on inundated and flood prone areas needed for the planning for a sustainable agricultural development are lacking. In view of this, a joint study with the Japanese Institute for Irrigation and Drainage to map inundated areas using Radarsat imageries has been initiated in 1997. The product of the inundation mapping will be provided for use in the land resources information system.

Regional Cooperation

The MRC Secretariat is finalizing the linkage of the GIS with the water related resource databases, considered as a project activity of the *Mekong GIS* and a component of the Greater Mekong *Subregional Environmental Monitoring and Information System* or SEMIS project supported by ADB. The linkage has been designed to make use of both the GIS and hydrological and water quality databases developed by separate Mekong projects for monitoring of water and related resources in the Lower Mekong Basin and in its sub-basins. Under the project, basinwide data layers on land use, lithology and open water bodies are being developed with riparian line agencies to characterize the basin and sub-basins. The SEMIS project is expected to be completed in early 1998.

Future Outlook

An updated and integrated database is required to properly manage the water and related resources within the Lower Mekong Basin. The MRC must integrate basinwide spatial and statistical databases for environmental and natural resources planning and management to improve the quality of, and accessibility to the databases, and provide the MRC and riparian institutions with means for efficient management of data collected on a routine basis. It will act as a forum for coordination between data collecting activities of various Mekong projects and programmes, stimulate multiple uses of data sets and facilitate the provision of information to various projects implemented by the MRC and riparian agencies. Taking into consideration the information needs for the preparation of the Basin Development Plan and the Water Utilization Programme, the integrated database will serve as a tool for development planners, decision-makers involved in the sustainable development of the natural resources in the basin.



Inundation Period



Mapping of inundated areas using Radarsat of pilot study area at Thabok, Central Lao PDR, along the Mekong River.

The *New Navigation Strategy of 1995*, endorsed by the four MRC member countries, has identified areas of regional cooperation where the MRC could play an active and useful role. The strategy is based on taking the most benefit of the natural navigation capacity of the Mekong River. It was fostered through *Article 9 of the 1995 Mekong Agreement on Freedom of Navigation* that applies throughout the mainstream of the Mekong River in the four countries without regard to the territorial boundaries. According to the above strategy, the MRC should play a determining role in the developing of a legal framework for international navigation and appropriate common maritime legislation for the application of the four riparian countries. It furthermore should promote common standards for navigation aids and establish common training standards with common core syllabus for navigation training. Institutional and management coordination in such areas as maintenance of river works, safety and rescue operations and environmental protection is another fundamental task of the MRC.

Based on this strategy, the *Mekong Navigation Strategy Review Workshop* in Vientiane and Phnom Penh in 1995 agreed to the following priorities:

- a) Updating of the Hydrographic Atlas on the Mekong River;
- b) Improving navigation conditions on the Mekong River by providing standardized aids to the navigation system, construction of ports and landing ramps, ferry crossings;
- c) Study of sedimentation and morphology problems related to navigation channels;
- d) Navigation training and strengthening of the institutional capabilities in river transport management and maintenance; and
- e) Assisting in studying the issue of the International Maritime Shipping Route to Phnom Penh.

Navigation on the Mekong, exception made perhaps for the Mekong Delta in Viet Nam, is still in the process of searching its maximum natural potential. This requires a sound knowledge of all hydrographic data. Therefore, the *Updating of the Hydrographic Atlas* project with financial assistance from Finland since 1988 is of extreme importance for the inland and

maritime waterway users, navigation experts and waterway engineers who can start planning the establishment of a standardized aids to navigation system and other navigation improvement works. The updated hydrographic maps of the Mekong River *between the Golden Triangle and the Khone Falls* were handed over to the Lao and Thai Governments in 1997. In Viet Nam, the updated Atlas, also available in digital form, will be completed in the beginning of 1998. The final component, the *Hydrographic Atlas of the Mekong River, Tonle Sap and Great Lake in Cambodia* is expected to be published at the end of 1998.



Volume 1 of the first printed four-volume Thai-Lao Atlas of the Mekong River covering bordering stretches between Thailand and Lao PDR and stretches of the Mekong within the Lao PDR.

During the past year not only long-haul river transport was taken into account, but also essential cross river carrier links have been duly upgraded. In this connection, the MRC has, since early 1996, commenced the *Project Upgrading of Ferry Facilities in Cambodia* with financial assistance from Denmark. The project involves the construction of new ferries and rehabilitation of the old ones, as well as improvement of landing facilities and civil work structures at key river crossings in Cambodia which is divided by rivers such as the Mekong, Sekong, Bassac and Tonle Sap. The first new ferry *Ta Prohm*, entirely built in Cambodia, was inaugurated on 4 March 1997. The vessel is helping to relieve the heavy traffic at Neak Leung crossing, linking not only west and east Cambodia, but also Cambodia and Viet Nam. She is in excellent condition since her launching. A second ferry, the *Vishnu* was handed over to Cambodia on 17 December 1997 for operation at Kampong Cham, another busy Mekong Crossing north of Phnom Penh. This ferry will facilitate traffic within Cambodia as

AND TRANSPORT

well as transport to and from southern Laos. Rehabilitation of other three ferries will be completed in 1998.

The MRC had to play also a determining role on the issue of the international maritime shipping route to Phnom Penh, alongside the Bassac, Vam Nao Pass and Mekong River. Amongst complicated transboundary issues, one of the major physical hindrances identified is the *Access Channel to the Bassac River* for which the *Feasibility Study* has been carried out under financial assistance from Belgium. This study aims at defining an optimum technical solution for improving the existing channel for vessels up to 5,000 and possibly to 10,000 DWT. The study has its secondary objectives as technical assistance and on-the-job training provided in support of the two main activities: (a) upgrading of Vietnamese organisations by adopting of modern hydrographic, and hydrosedimentological techniques, and (b) developing the mathematical modelling aptitudes essential for the prediction of channel behaviour. In the above-mentioned strategy, it was proposed that Cambodia and Viet Nam should, with the assistance from the MRC, enter into a bilateral navigation agreement on the use of the Mekong/Bassac channel as international access channel to Phnom Penh. Both countries should

be given all parameters, which may influence their decisions, through a comprehensive technical study on navigation possibilities of both maritime access channels actually being used to reach Phnom Penh.

The *Bank Protection Project*, completed in 1997 under Australian grant, has extensively contributed to the flood protection around the strategic Wattay International Airport and the densely populated Tha Wat Muangwa in the Lao PDR. Training and transfer of know-how have been a major component in the construction programme of these low-cost bank protections.

Finally, with the aim to encourage a cooperation between the six Mekong countries in designing a common river transport infrastructure to improve the safety and quality of river transport of goods and passengers on the Mekong River, efforts were made to foster navigation as the catalyst in the cooperation between the six Mekong countries during the Second Dialogue Meeting between the MRC and its two Upper States in Bangkok on 24 September 1997. The MRC proposal was received with interest but a further study of the proposal would be necessary before a Technical Working Group on Navigation can be established.



Like her first sister *Ta Prohm*, the second ferry entirely built in Cambodia *Vishnu*, can take 200 passengers with a carrying capacity of 300 tonnes.

1. Financial Information

Project Funds

The total donor contributions received and project disbursements were as shown in the following table (in USD'000):

Fiscal Year	Project Cash Received	Project Expenditures
1993	10,875	9,947
1994	9,839	9,922
1995	8,891	7,863
1996	12,285	9,057
1997	8,868	8,205
TOTAL	50,758	44,994

The schedule of donors contributions received and funds disbursed during 1997 is shown on pages 33-35.

Administrative Funds

The Secretariat' administrative budget totalling to USD 2.87 million was financed by member countries' annual contributions, Secretariat support cost component of the project expenditures, treasury management, contributions of others than member countries government and others. Comparison of total income and expenditure is shown below (in USD'000):

Fiscal Year	Incomes Received	Expenditures Disbursed	Balance
1993	1,635	1,977	(342)
1994	1,258	1,419	(161)
1995	2,509	2,218	291
1996	2,919	2,244	675
1997	2,011	2,139	(127)

The balance of the administrative budget is transferred to the Administrative Reserve Fund (ARF). The result of the devaluation of Thai Baht is also reflected in the ARF like all currency fluctuations. Combinations of these two elements have had a negative effect on our ARF. However, thanks to the financial policy of the Secretariat and portfolio management, more than two-third of the ARF are in hard currencies and therefore the overall currency positions is favourable. The Programme Reserve Fund (PRF) carries a balance of USD 0.195 million at the time of closing. The PRF has proved to be a successful instrument in supporting the National Mekong Committees.

2. Administration/Personnel

In 1997 the number of staff had to be increased to better cope with the increasing workload. As at the end of the year there were 45 professionals and 42 general service staff, totalling to 87 persons. They came from 14 different countries. Out of these, 24 (including riparian staff) were funded by ten donors and the Trust Fund. The number of riparian staff was 81. In addition there were three Junior Professional Officers supported by UNDP and the Government of Denmark; and 12 riparians-on-stipend coming from the four member countries.

3. Relocation of the Secretariat Headquarters to Phnom Penh, Cambodia

Implementation of the October 1996 Council decision to move to Cambodia started at the end of 1997. The new Headquarters Agreement was formulated and ready for signatures by the parties concerned. Major steps were taken to start establishing new salary scale and allowance package to be applied in Cambodia and the physical renovation work of the four-storey building built 30 years ago which would be used as the new MRC Headquarters. The building is situated on the south east corner of the city of Phnom Penh, approximately 2.5 km from the centre. It has the area of about 2,000 m² with ample surrounding compound. The renovation works including the building restoration, civil works, interior design, installation of electricity and water supply system, and communication networks started in November 1997.



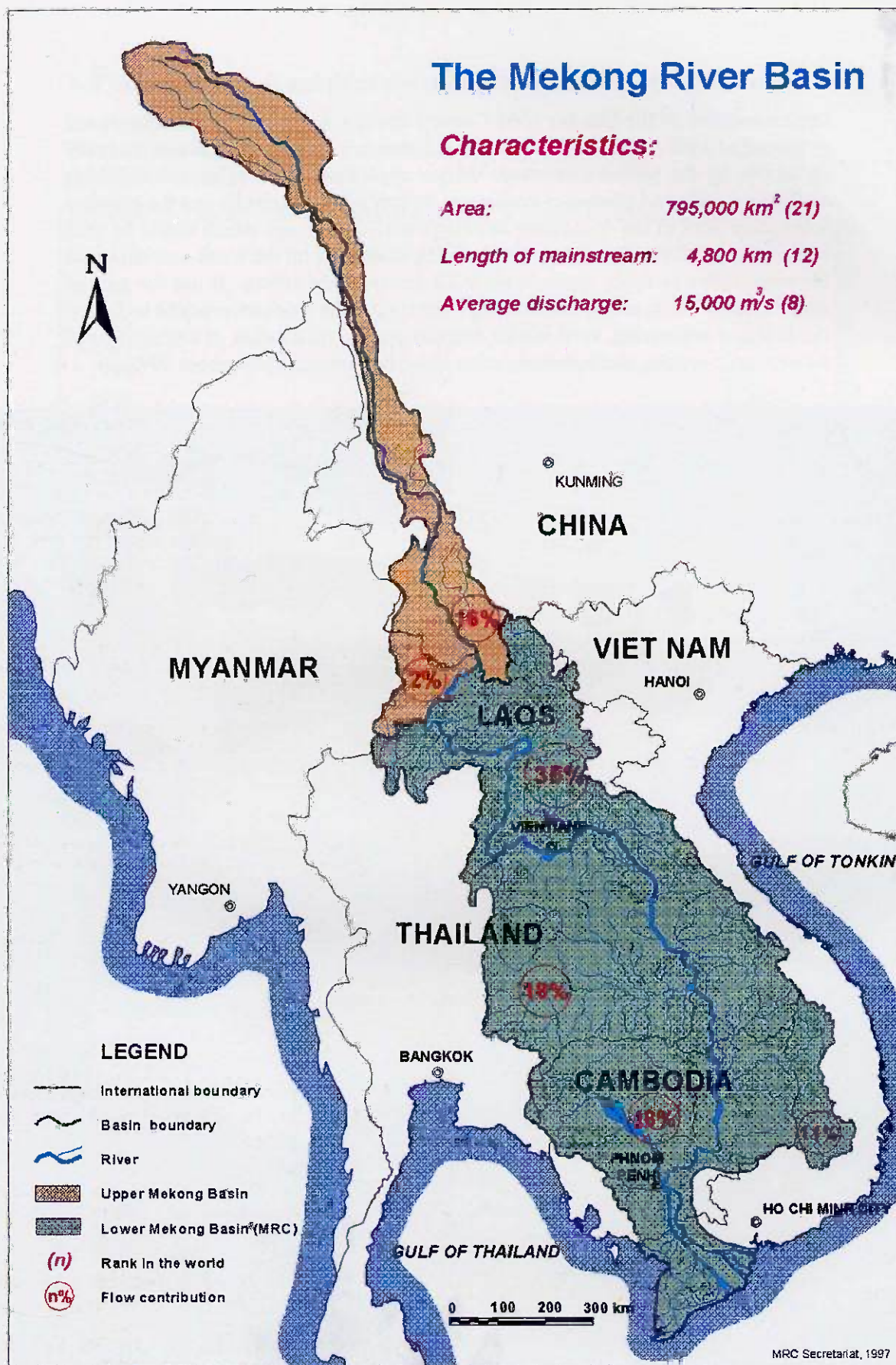
The Mekong River Basin

Characteristics:

Area: 795,000 km² (21)

Length of mainstream: 4,800 km (12)

Average discharge: 15,000 m³/s (8)



MRC Secretariat, 1997

The time frame, available funds and funding source for ongoing projects and projects expected to be started in the near future are illustrated by the chart below:

PROJECT AND EXTERNAL FUNDING	TIME FRAME							PROGRESS
	1993	1994	1995	1996	1997	1998	1999	
Major activities for implementation of the 1995 Agreement								
1. Policy and Planning								
Mekong River Water Utilization Programme (World Bank) \$350,000								Started work in October 1997. The workshop on conceptual framework to be organized in January 1998. Programme proposal to be prepared by June 1998 and to be submitted to the Joint Committee in July 1998
Rules for Water Quality (Sweden/France) \$1,110,000								Project proposal approved by the Joint Committee and submitted to the French Government for funding
Preparation of the MRC Rules for Water Quantity (Japan) \$200,000								Conceptual framework workshop for MRC Water Utilization
Preparation of the Mekong River basin dev. plan (Sweden/Denmark) \$750,000								Study on public participation being carried out. Planning phase will start in second quarter of 1998
2. Environment and Monitoring								
Hydrology sector								
Groundwater investigation programme: (Sweden), Phase I \$525,000 (Sweden), Phase II \$75,000								Review of all activities made with line agencies and sampling of groundwater at more than 350 observation wells made basinwide
Improvement of the hydromet network (Japan) \$1,941,000 (Australia) \$1,039,000								Rehabilitation and improvement of the basinwide hydro-meteorological network, including the provision of logistics and training on hydrometry and data processing
Remote sensing, GIS and database sector								
Geographic Information System (ADB) \$700,000 (Switzerland) \$345,000 (UNEP/GRID) \$242,000								Producing basinwide thematic layers and linking GIS with water resources statistical databases are ongoing. The project will end in March 1998
Aerial photography for resources mapping of Cambodia (Belgium) \$619,000 (EU) \$438,000 (Finland) \$506,000 (UNDP) \$250,000								The whole country has been flown. The photo products of the remaining areas covered during 1997 dry season are being verified
Land resources inventory for agricultural development (Japan) \$471,000								Soil, irrigation and inundation spatial databases of the lower Mekong basin will be developed for sustainable agricultural development and planning. A pilot study is being conducted at Thabok
Environment sector								
Environmental sound management of soil and water in the Plain of Reeds (Viet Nam and Cambodia) (Sweden) \$660,000								Phase II project merged with the environmental management of the Plain of Reeds. Cambodia included. Expected to start in April 1998
Management of wetlands in the lower Mekong basin (Sweden, Denmark) \$1,500,000								Project document prepared. Expected to start in March 1998
Inventory & management of Cambodian wetlands (Denmark) \$1,800,000								Operational from September 1997. Closely coordinated with basinwide wetlands project
Expected extension								

PROJECT AND EXTERNAL FUNDING	TIME FRAME							PROGRESS
	1993	1994	1995	1996	1997	1998	1999	
Diagnostic study (UNEP) \$391,000			█	█	█	█	█	Completed in December 1997. Mekong River Basin Diagnostic Study report available
Environment assessment programme in the Greater Mekong sub-region (UNEP) \$70,000				█	█	█	█	Activities related to environmental assessment/ reporting and capacity-building Ongoing
Water quality monitoring networks in the lower Mekong basin, Phase III (Sweden) \$800,000	█	█	█	█	█	█	█	Phase III due to start in April 1998
Integration of environmental components in projects (Denmark) \$500,000	█	█	█	█	█	█	█	Ongoing
Pilot study for water resources and environmental management (UK) \$625,000						█	█	Project started in December 1997
Soil erosion and sedimentation studies, phase II (Sweden) \$675,000	█	█	█	█	█	█	█	Project document prepared. Expected to start in March 1998
Environmental policy and guidelines (Denmark) \$500,000						█	█	Expected to start in March 1998
Institutional strengthening and capacity-building at MRCS and NMCs (Denmark) \$2,400,000					█	█	█	Implementation pending
Environmental training (Sweden) \$650,000						█	█	Training programme started in January 1998
Environmental training fund (Sweden), Phase I \$320,000 (Sweden), Phase II \$600,000	█	█	█	█	█	█	█	Phase II concentrates on needs assessment, education on the implications of laws, regulations on environmental and natural resources management options
Training in ISO 14000, environment management (SDC, Switzerland) \$330,000						█	█	Training started in January 1998
3. Water Resources Development								
Pilot microhydropower projects (Japan) \$618,000	█	█	█	█	█	█	█	Pilot plants in Viet Nam and Laos were constructed and handed over
Rural electrification (Japan) \$120,000		█	█	█	█	█	█	Cambodian portion basic design will be finalized in March 1998. Lao portion is selected as priority project for further study
Natural resources-based dev. strategy for Tonle Sap area (Cambodia) (UNDP) \$988,000		█	█	█	█	█	█	Most of the information is collected and draft final report is under preparation. The report will be finalized during a workshop to be organized in April 1998
Flood control planning for development of the Mekong delta (Republic of Korea) \$872,000						█	█	Development of an action plan to control floods (for short and long-term horizons), to protect people and properties from damage in the Mekong delta in Cambodia and Viet Nam. The planning will start in April 1998
Expected extension								

PROJECT AND EXTERNAL FUNDING	TIME FRAME							PROGRESS
	1993	1994	1995	1996	1997	1998	1999	
Action plan for Sre Pok basin, phase III (Viet Nam) (Denmark) \$1,710,000 (Denmark) \$123,000								Project completed in 1997. Some immediate actions for small-scale projects were implemented, including 70 ha pilot pilot irrigation scheme at Vang Mao, rehabilitation of Ea Tul irrigation project and improvement of water supply at Buon Ma Thuot city. Rural development is being carried out by the Dak Lak provincial authorities with funding from Denmark
Sekong-Sesan and Nam Theun basins hydropower study (ADB) \$133,000								A second regional workshop will be organized by ADB in March 1998, to discuss the interim report and the initial environmental and socio-economic impacts of the proposed projects to arrive at an appropriate hydropower development plan for consideration in Phase II of the study (MRC coordinating agency)
4. Agriculture and irrigation								
Sustainable Irrigated Agriculture (Netherlands), SIRAP I \$6,667,000 Consolidation phase \$1,009,827								Project activities completed. Consolidation phase implemented as scheduled, concentrating on the implementation of irrigation management transfer in the Lao PDR, and on farmer farm plan and improvement of group development process in Thailand
Training course on modern irrigation and technology extension (Korea/Israel) \$110,000								The first training course was conducted in January 1997 in Khon Kaen, Thailand, and a second one will be held in February 1998 in Hanoi, Viet Nam
Ya-Soup, Phase II (Viet Nam) (Rep. of Korea) \$800,000								Project was completed in June 1997
5. Watershed management and forestry								
Strategy study on development of watershed management/forestry sector in the lower Mekong basin (Switzerland) \$202,000								TOR prepared. Consultants are being recruited. The study will start in April 1998
Watershed classification in the lower Mekong basin (Switzerland) \$2,600,000								Watershed classification of the LMB completed. Phase II launched in July 1997. Project staff recruited and implementation arrangements made. MS staff trained in WSC database
Forestry, Long Xuyen quadrangle (Viet Nam) (Australia) \$1,235,000								Project was completed in January 1997 and final report was prepared. Proposal for follow-up activities formulated
Forest cover assessment and monitoring (Germany, approx.) \$3,500,000								Forest cover assessment completed. Work station installed at the MRCS. Trend analysis designed and first monitoring cycle started
Sustainable management of resources (Germany) \$4,300,000								Preparation phase completed. Project review was made in October 1997. Second phase launched in December 97
6. Fisheries								
Assessment of Mekong fisheries (Denmark) \$5,213,000								Project started in September 1997. National project offices being established in the riparian countries and activities being started up. All expatriate staff assigned. Completion date 30/8/2001
Management of reservoir fisheries, Phase I (Denmark) \$3,491,000								Project has suffered delays, but is now on track. Reviewed recently. Termination date: 12/8/98. Ten-month extension will be sought. A proposed phase II being prepared
Cambodian capture fisheries project (Denmark) \$2,269,000								Project will end on 30/4/98. Phase II appraised by Denmark. Final decision on financing pending
Support to fisheries management and development cooperation (Denmark) \$1,056,000								Project started 1/1/97 and will be completed in Dec. 1999. Going according to plan. Problems: vacancies all through 1997 and manpower shortage
Expected extension								

PROJECT AND EXTERNAL FUNDING	TIME FRAME							PROGRESS
	1993	1994	1995	1996	1997	1998	1999	
Aquaculture extension in the Mekong Delta (Denmark) \$1,820,000								Project started on 10/1/98 in Viet Nam. Start in Cambodia expected in July 1998. Termination date: 9/1/2001
7. River Works and Transport								
Ferry facilities (Cambodia) (Denmark) \$18,600,000								The first new ferry was launched in March 1997 and the second ferry in December 1997. Civil works are carried out as per revised budget
Updating of the hydrographic atlas (Finland) \$4,700,000								Components for Laos and Thailand are completed and a handing-over of the prints-out was held in May 1997 for Laos and in July for Thailand. The components for Cambodia and Viet Nam are progressing well
(Finland), extension \$1,920,000								
Study for improv. of access channel to Bassac river (Belgium) \$1,772,000								The first component, data acquisition and surveys is completed. The second component, the technical and economic feasibility study, is well underway
8. Human resources development								
Role of women in water resources dev. in the LMB (New Zealand) \$300,000								Basinwide seminar was held at the end of 1997 to deliberate on gender issues in water resources development and to formulate strategies and guidelines for gender mainstreaming. Gender training for riparian officials will be the highlight for 1998
Strengthening the institutional framework for effective MRC/HRD system (Switzerland) \$280,000								HRD focal points established in the riparian countries in 1997. Capacity-building programme to start early in 1998 and expected to be completed before yearend
Training on legal aspects of intern. cooperation for water resources development (Japan) \$199,000								Completed in 1997. Core legal team members were strengthened in their legal capacity and riparian officials in the four countries were trained in the legal aspects of international water laws which have impact on their development activities. Final report to be completed in early 1998
9. Programme Support								
Support for Mekong programme (UNDP) \$2,815,000								Arrangements being made for new phase of support for period 1998-2001
Australian Consultancy Fund (Australia) \$490,000								Funds are used for various studies and training
Swedish Consultancy Fund (Sweden) \$1,250,000								Funds are used for studies and training
Japanese contribution to the Commission (Japan) \$274,000								Funds are used for various studies and training
Danish Consultancy Fund (Denmark) \$1,063,000								Funds are used for various studies
10. Others								
Improvement of Documentation Centre (UNDP) \$34,000								Improvements of the Centre are ongoing. The Centre has been equipped with new computer and software
(France) \$114,000								
Israeli support for agriculture and irrigation (Israel) \$20,000								Publication of Agriculture and Irrigation for Mekong Newsletter (AIM)
Core contribution to the MRC (Switzerland) \$1,496,000								Funds allocated for staff establishment, restructuring of the Secretariat, human resources development and Secretariat's running costs
Mekong Trust Fund (UNDP, Japan) \$639,000								Funds allocated for key posts at MRCS and capacity-building at NMCs
(NZ, Switzerland) Expected extension								

(AMOUNTS IN U.S. DOLLARS)

DONORS	1993	1994	1995	1996	1997	TOTAL
Australia	596,676	435,982	784,025	1,213,468	0	3,030,151
Canada	0	0	52,632	0	0	52,632
European Union						
Austria	200,000	219,000	0	0	0	419,000
Belgium	0	0	235,830	0	425,328	661,158
Denmark	1,102,519	1,247,796	2,834,470	6,897,396	1,981,724	14,063,905
Finland	689,509	627,233	0	616,915	843,008	2,776,665
France	303,555	181,836	137,238	0	0	622,629
Germany*	30,439	27,164	42,373	37,219	24,598	161,793
Italy	0	0	0	0	0	0
Netherlands	2,173,378	1,576,911	1,128,700	900,000	276,833	6,055,822
Sweden	1,124,493	1,419,440	657,506	0	1,861,082	5,062,521
United Kingdom	0	37,300	0	38,441	0	75,741
Commission of EC	348,781	164,000	0	0	0	512,781
Sub-total - EU	5,972,674	5,500,680	5,036,117	8,489,971	5,412,572	30,412,014
Israel	0	0	0	5,000	31,500	36,500
Japan	382,000	857,000	807,000	1,125,000	455,459	3,626,459
Republic of Korea	275,000	175,000	200,000	344,990	284,401	1,279,391
New Zealand	42,728	47,850	38,868	158,777	93,000	381,223
Switzerland	532,850	90,000	629,990	90,774	1,559,000	2,902,614
UN Agencies:						
UNDP/Cambodia	247,111	692,371	175,900	109,428	350,661	1,575,471
UNDP/Thailand	684,500	579,600	0	422,816	230,748	1,917,663
UNDP/OPS	31,313	28,500	0	0	249,591	309,404
UNDP/World Bank	331,965	0	0	0	0	331,965
UNEP/AIT	129,360	98,000	98,000	197,324	0	522,684
UNEP/Nairobi	177,000	80,000	219,980	91,750	0	568,730
UN/FAO	0	113,562	0	0	70,900	184,462
WHO	0	0	0	0	0	0
Sub-total - UN Agencies	1,601,249	1,592,033	493,880	821,318	901,901	5,410,380
Others:						
The Mekong Trust Fund						
Asian Development Bank	403,672	167,252	21,385	36,000	30,000	658,309
World Bank	0	0	0	0	100,000	100,000
Miscellany	32,000	25,500	20,040	0	0	77,540
Sub-total - Others	435,672	192,752	41,425	36,000	130,000	835,849
Total	9,838,849	8,891,297	8,083,937	12,285,298	8,867,833	47,967,214

* Secretariat support cost only, projects carried out on direct funding basis.

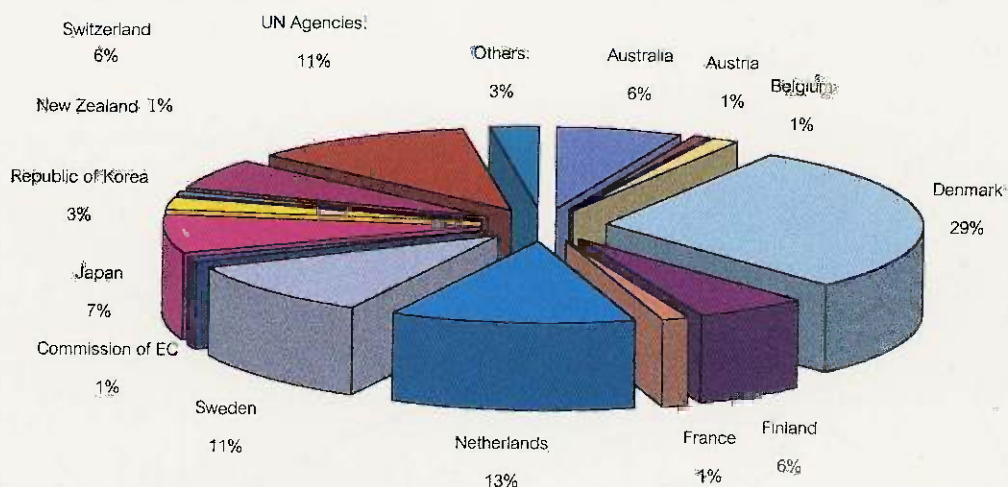
DONORS' FUNDS DISBURSED: 1993-97

(AMOUNTS IN U.S. DOLLARS)

DONORS	1993	1994	1995	1996	1997	TOTAL
Australia	939,554	429,532	872,993	480,985	217,701	2,940,765
Canada	2,591	0	11,399	41,233	0	55,223
European Union:						
Austria	17,823	221,295	181,302	5,217	4,326	429,963
Belgium	422,391	12,161	175,156	89,549	649,530	1,348,787
Denmark	344,870	790,409	1,682,632	3,079,005	2,917,144	8,814,060
Finland	728,526	439,436	452,777	230,925	877,523	2,729,187
France	171,979	189,419	1,544	8,493	48,556	419,991
Germany*	52,592	27,164	42,604	36,987	24,598	183,945
Italy	246,716	93,984	4,269	0	0	344,969
Netherlands	1,993,278	1,725,158	1,557,458	1,019,703	453,448	6,749,045
Sweden	1,730,854	1,328,388	752,568	1,026,195	959,344	5,797,349
United Kingdom	891	8,845	32,352	36,248	0	78,337
Commission of EC	598,847	43,159	0	0	0	642,006
Sub-total - EU	6,308,767	4,879,418	4,882,662	5,532,322	5,934,470	27,537,639
Israel	0	0	0	0	31,129	31,129
Japan	296,285	137,801	575,473	774,945	522,901	2,307,405
Republic of Korea	51,624	351,183	58,837	401,819	290,534	1,153,997
New Zealand	17,273	72,925	41,706	51,917	78,720	262,541
Switzerland	645,531	247,692	368,476	629,477	208,017	2,099,193
UN Agencies:						
UNDP/Cambodia	397,128	655,458	153,140	230,449	94,432	1,530,606
UNDP/Thailand	375,332	582,323	398,969	524,852	72,441	1,953,918
UNDP/OPS	55,368	4,445	0	112,960	249,591	422,365
UNDP/World Bank	189,409	89,651	11,054	0	0	290,114
UNEP/AIT	16,688	86,241	111,577	103,923	69,746	388,175
UNEP/Nairobi	143,154	7,159	209,370	76,692	9,407	445,782
UN/FAO	11,046	66,982	35,533	0	40,860	154,421
WHO	0	27,412	6,434	0	0	33,846
Sub-total - UN Agencies	1,188,126	1,519,671	926,076	1,048,876	536,477	5,219,226
Others:						
The Mekong Trust Fund					183,880	183,880
Asian Development Bank	437,334	182,647	50,556	74,134	68,259	812,930
World Bank	0	0	0	0	61,841	61,841
Miscellany	34,789	42,352	0	21,431	71,455	170,027
Sub-total - Others	472,123	224,999	50,556	95,565	201,555	1,044,798
Total	9,921,874	7,863,221	7,788,178	9,057,139	8,205,385	42,835,797

* Secretariat support cost only, projects carried out on direct funding basis.

DONORS' CASH CONTRIBUTIONS RECEIVED: 1993-1997 *
(TOTAL: USD 47,967,214)

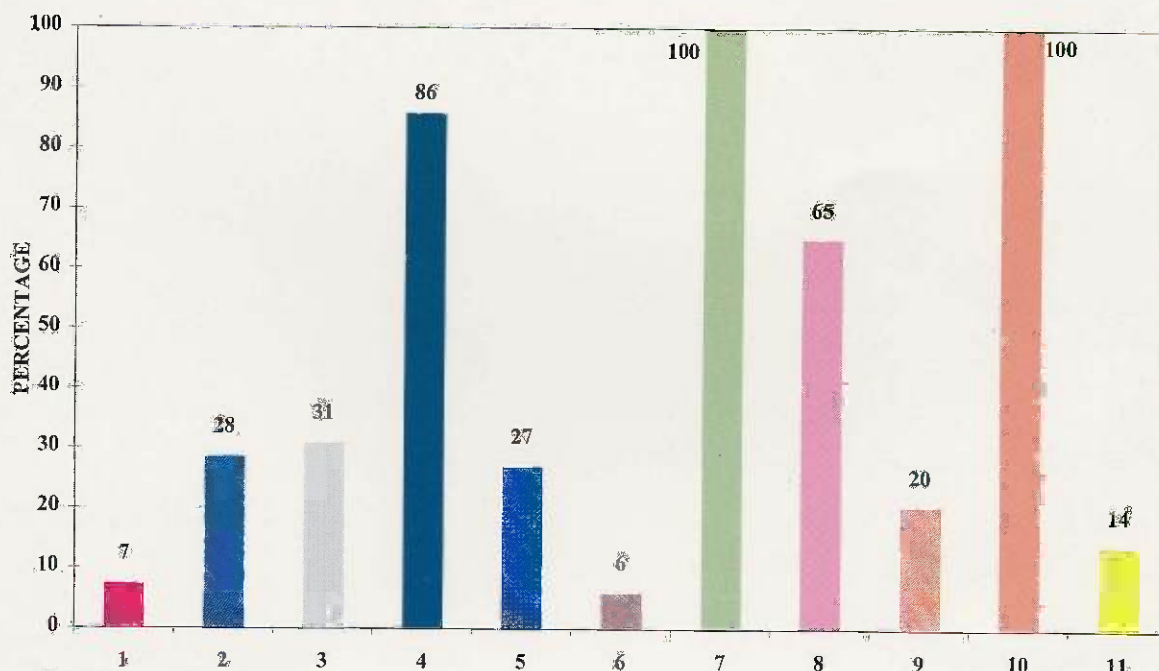


* In some cases, the donors' contributions received do not include special arrangements.

EXPATRIATE STAFF (INCLUDING FIELD PERSONNEL) AND FUNDING SOURCES IN 1997

Funding Sources	Bel-gium	Den-mark	France	Ger-many	Israel	Japan	Rep. of Korea	Sweden	Swit-zerland	UNEP	Trust Fund
No. of Staff	2	10	1	4	1	4	2	2	2	1	2

MRC WORK PROGRAMME 1997-PERCENTAGE OF FUNDED PROJECTS BY SECTOR



1= Policy and Planning; 2= Hydrology; 3= Remote Sensing, GIS and Database; 4= Environment Programme; 5= Water Resources; 6= Agriculture; 7= Watershed/Forestry; 8= Fisheries; 9= River Works and Transport; 10= Ferries (one project); 11= Human Resources Development



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