



Mekong River Commission

Annual Report 2006





The Vision for the Mekong River Basin

An economically prosperous, socially just and environmentally sound
Mekong River Basin

The Vision for the Mekong River Commission

A world class, financially secure international river basin organisation
serving the Mekong countries to achieve the basin vision

The Mission of the Mekong River Commission

To promote and coordinate sustainable management and development
of water and related resources for the countries' mutual benefit and
the people's well-being.

Meeting the needs, Keeping the balance

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This report is also available as a free download on the MRC website
www.mrcmekong.org



The Mekong Basin



The Mekong Programme

The Mekong Programme is a Regional Cooperation Programme for the Sustainable Development of Water and Related Resources in the Mekong River Basin, which puts into practice the 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin. It is a country-owned partnership programme implemented by Cambodia, Lao PDR, Thailand and Viet Nam, in conjunction with donors, development banks and the private sector. China and Myanmar are Dialogue Partners.

The Mekong Programme's vision is to make optimum use of the basin's water and related resources to promote socio-economic development for the benefit of all people in the basin, especially the poorest – such as the fishing communities of the floodplains and farmers in dry regions and in the Delta – while maintaining the ecological balance and contributing to the UN Millennium Development Goals. Using the principles of Integrated Water Resources Management, the Mekong Programme is seeking to promote balanced and well-coordinated activities in all water resources sectors, but principally in the areas of irrigation and drought management, hydropower, navigation, flood management, fisheries, watershed management, environment management and tourism as specified in Article 1 of the 1995 Agreement.

The Mekong Programme is coordinated and supported by the Mekong River Commission (MRC), a knowledge-based river basin organisation created in 1995, which provides the institutional framework for this cooperation and regional integration. MRC supports member countries and investment partners through technical assistance, integrated development planning, knowledge and expertise that focuses on basinwide needs and employs the recognised triple bottom line procedure of duly considering, and giving equal weight to, economic growth, environmental impacts and social and cultural outcomes.

The Mekong Programme works in close relationship and is complementary to regional initiatives such as the Greater Mekong Sub-region Programme supported by the Asian Development Bank (ADB); the Association of South East Asian Nations Mekong Basin Development Cooperation Framework and the United Nations Economic and Social Commission for Asia and the Pacific. It offers a cooperation platform for bilateral development programmes in the water sector and for regional initiatives such as the Mekong Water Resources Partnership Programme promoted by the World Bank and the ADB, and the Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy, which involves the MRC's four member countries and Myanmar.

The Mekong Programme also works in partnerships with such organisations as the World Conservation Union, the United Nations Development Programme and the World Wide Fund for Nature, as well as civil society and academic institutions.

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The Mekong River Commission

The Mekong River Commission (MRC) is a river basin organisation built on a foundation of nearly 50 years of knowledge and experience in the region dating from 1957, when it began life as the United Nations-founded Mekong Committee.

On 5 April 1995 the governments of Cambodia, Lao PDR, Thailand and Viet Nam signed The Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin and agreed on joint management of their shared water resources and development of the economic potential of the river. This agreement formed the Mekong River Commission.

A dialogue mechanism has been set up with the two upstream countries, China and Myanmar. This is a framework of cooperation under which concrete joint activities are undertaken. In 2002, the MRC and China signed an "agreement on the provision of hydrological information on the Lancang/Mekong River in the flood season". Through this agreement, China contributes effectively to MRC's flood forecasting activities.

The MRC provides the institutional framework to promote regional cooperation in order to implement the 1995 agreement. It serves its member states by supporting decisions and promoting action on sustainable development and poverty alleviation as a contribution to the UN Millennium Development Goals. It also acts as a conduit through which the member countries can exchange information on formulating and implementing a joint basin development plan.

The work of the MRC is governed by the wishes of the four member countries and they hold regular consultations to decide strategy and policy.

The Council consists of one member from each country at ministerial or cabinet level and meets once a year to make policy decisions and provide other necessary guidance concerning the promotion, support, co-operation and co-ordination of joint activities and programmes in order to implement the 1995 Agreement.

The Joint Committee consists of one member from each country at no less than head of government department level and meets twice a year to approve budgets and strategic plans. This body functions as a board of management.



The MRC Secretariat provides technical and administrative support. The Secretariat is based in Vientiane, Lao PDR and employs more than 120 people including engineers, scientists, administrators and technical experts. The Secretariat is under the direction of a Chief Executive Officer. The Assistant CEO is appointed by the Council and serves a one-year term.

National Mekong Committees in each member country provide a link between the MRC and national governments and coordinate MRC-related activities at the national level through line agencies.

The MRC is funded through member country contributions and international development aid agencies from many countries. Formal consultation with the donor community is carried out through an annual Donor Consultative Group meeting.

The MRC's work is carried out through a broad range of partnerships and community involvement. The Commission coordinates and works directly with the governments of each member country, their line agencies, the local communities, development banks, UN agencies, the private sector and civil society.

Message from the Chairman of the MRC Council



On behalf of the Mekong River Commission (MRC), I am pleased to present this MRC Annual Report 2006 to all Member States, donors and partners. We have made significant progress on our work programme during the past year and I thank the MRC Secretariat, the National Mekong Committees, our line agencies, our development partners and our donors whose joint efforts helped MRC realise these achievements.

The Year 2006 brought with it some interesting and positive steps forward for the MRC, both in its future direction and its consolidation of its good relationships with donors and civil society. This was exemplified by the finalisation and approval by Joint Committee, Council and the Donor Consultative Group of the MRC's Strategic Plan 2006-2010. This Strategic Plan has been driven by the Member States and has been formulated in a highly participatory way. MRC sought input from donors, stakeholders and civil society and the result was a well constructed plan which we feel has set a new benchmark for the MRC's future development. Now we look forward to enacting this plan for the benefit of all our countries and in particular the poorest people. In 2006 we also undertook an internal organisational review to assess the regional capacity required to implement this strategic orientation.

Last year we saw some endings and some beginnings. While the Basin Development Plan Programme and the Water Utilisation Programme completed Phase 1 of their programmes, the Council approved the establishment of two new programmes – the Drought Management Programme and the Information and Knowledge Management Programme. Now, thanks to a new funding agreement, the BDP will move onto Phase 2 (BDP2) whereby our Member States will see some concrete outcomes which will see this planning put into action. The WUP has also received funding and it will be reformed into a new, more cross cutting programme which will work in conjunction with the Environment Programme and BDP2.

In mid 2006 the WUP achieved a milestone when Ministers from our four member states came together in Ho Chi Minh City to sign an important agreement on the Procedures for the Maintenance of Flows on the Mainstream, the fourth of the WUP's procedures to be agreed. It is expected that the fifth and final Procedure for Water Quality will be signed in 2007.

The Navigation Programme started up full operation in 2006 and is already well advanced with its first major project - the installation of navigational aids in Cambodia. The Flood Management and Mitigation Programme celebrated its first full year of operation with its own Regional Flood Management and Mitigation Centre operating at nearly full strength and supplying flood forecasts throughout the 2006 flood season. The Programme also produced the first of what will now be Annual Mekong Flood Reports.

The Environment Programme completed drafting a framework of the guidelines for transboundary environmental impact assessment and will be continuing its work on guidance and institutional support. Over the year the EP engaged in various ecological risk assessments and transboundary impact diagnostic studies. The EP also gathered data on wetland values which will be added to the current wetland maps so they can be used as a tool for BDP Phase 2.

Meanwhile the Fisheries Programme played a vital role in its work supporting sustainable livelihoods in the all-important fisheries of the Mekong, through aquaculture programmes and research. The Fisheries Programme also assisted in facilitating the end the annual Mekong giant catfish hunt and instigating several successful breeding programmes of indigenous and endangered fish species.

Projects under the Agriculture, Irrigation and Forestry Programme continued to seek improvements in water use efficiency, better irrigation and improved watershed efficiency and pilot projects were established in the basin.

Sharing knowledge and learning lessons from others are both very important to the MRC and in November 2006 MRC hosted the Challenge Programme's International Forum on Water and Food, an exciting forum held in Lao PDR which brought together more than 250 experts from nine river basins around the world and delivered key messages from the research world to the development world on how to improve livelihoods and water productivity in agriculture.

On the international scene MRC took an active role in the 4th World Water Forum in Mexico City, when representatives presented many papers, participated in the expo and joined in the Asian Pacific Water Forum Ministerial Meeting.

The MRC's relationship with our Dialogue Partners, China and Myanmar, strengthens year by year and we have continued to enjoy close working ties in 2006, continuing our technical collaboration.

As before the international donor community has maintained its generous support for the work of the MRC. Many donors have renewed or increased their funding for new projects and in doing so they have demonstrated their faith in the work of the MRC. I should like to take this opportunity to express, on behalf of the MRC, our warm and sincere gratitude to our donors for their continued support. The Member States have continued to increase their contributions to the MRC, which is now well placed to implement its Work Programme 2007.

H.E. Dr Cao Duc Phat
Minister of Agriculture and Rural Development
Chairman of Viet Nam National Mekong Committee
Member of the MRC Council for Viet Nam
Chairman of the MRC Council for 2006/2007

STRUCTURE OF THE MEKONG RIVER COMMISSION

Members of the MRC Council

Members at Ministerial and Cabinet level, responsible for policy and decision-making



H.E. Mr Lim Kean Hor

Minister of Water Resources
and Meteorology

Member of the
MRC Council for Cambodia



H.E. Mr Khamlouat Sidlakone

Minister to the
Prime Minister's Office

Member of the
MRC Council for Lao PDR



H.E. Mr Kasem Snidvongs

Minister of Natural Resources
and Environment

Member of the
MRC Council for Thailand



H.E. Dr Cao Duc Phat

Minister of Agriculture
and Rural Development

Member of the
MRC Council for Viet Nam

Members of the MRC Joint Committee

Members at Department Head level or higher, responsible for implementing policies and decisions



H.E. Mr Sin Nin

Vice-Chairman of Cambodia
National Mekong Committee

Member of the MRC Joint
Committee for Cambodia



Mr Chanthavong Saignasith

Director-General of Lao National
Mekong Committee

Member of the MRC Joint
Committee for Lao PDR



Mr Petipong Pungbun Na Ayudhya

Permanent Secretary, Ministry of
Natural Resources and the
Environment

Member of the MRC Joint
Committee for Thailand



Mr Nguyen Hong Toan

Secretary-General of Viet Nam
National Mekong Committee

Member of the
MRC Joint Committee for Viet Nam

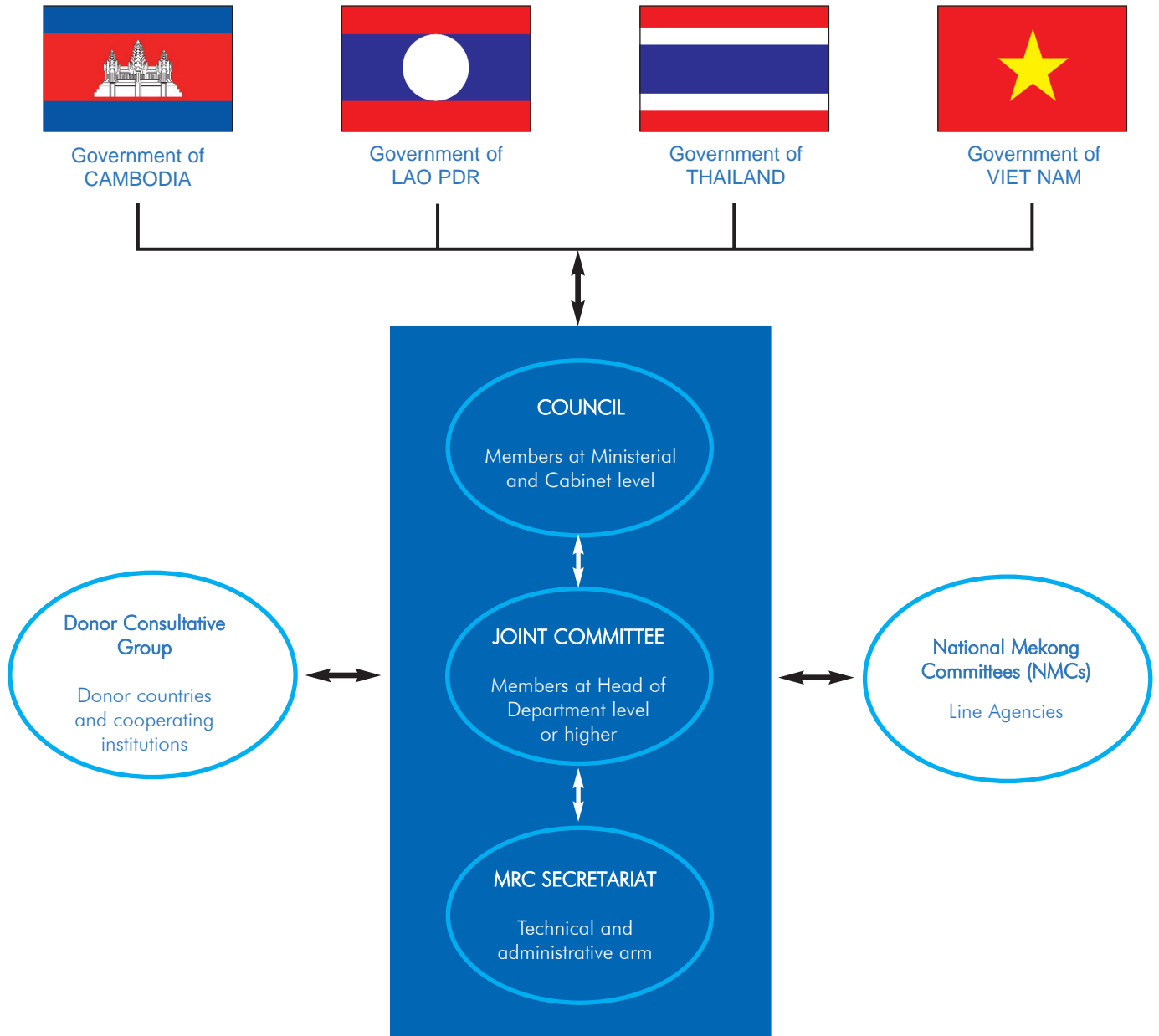
MRC Secretariat

Responsible for technical and administrative services



Dr Olivier Cogels
Chief Executive Officer

ORGANISATION OF THE MEKONG RIVER COMMISSION



Our Dialogue Partners

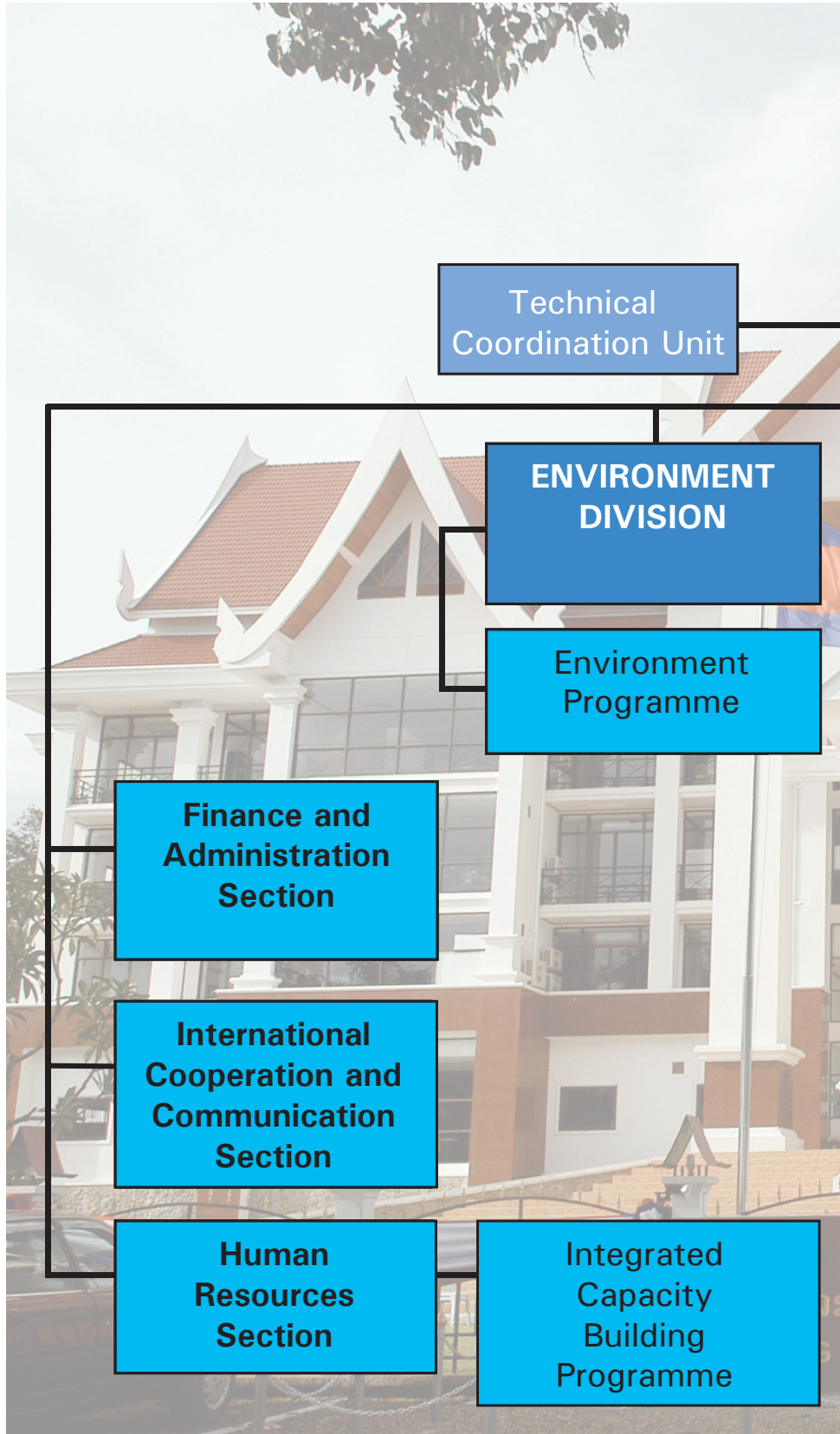
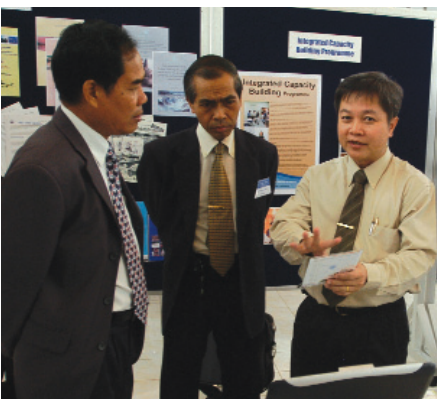


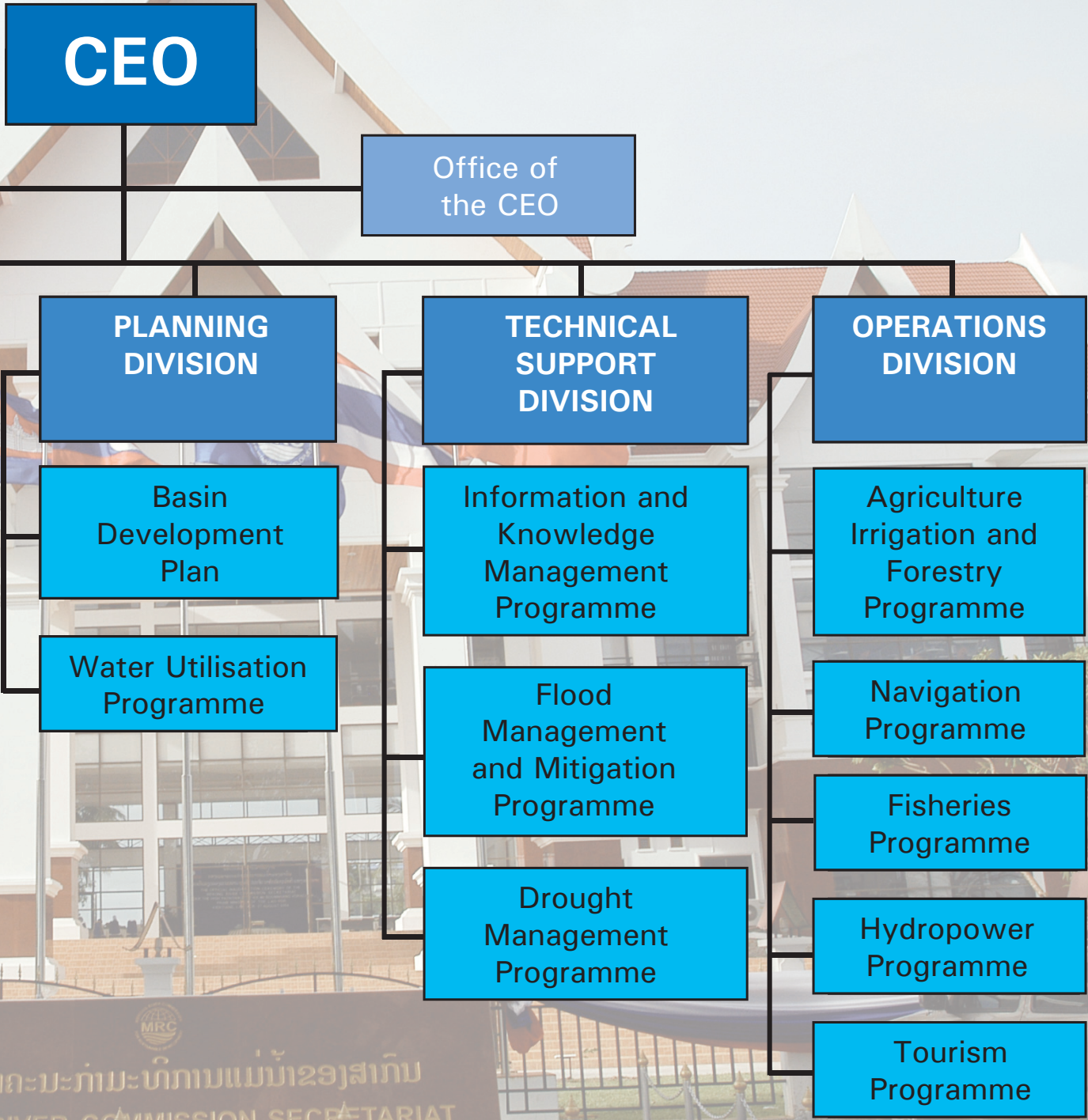
China



Myanmar

Structure of the MRCS





MRC
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MEKONG RIVER COMMISSION SECRETARIAT

Setting the scene for the future

After a decade of building a first class river basin organisation, the MRC is now ready to move into a new phase whereby it will instigate a more comprehensive application of the 1995 Mekong Cooperation Agreement through the implementation of the Mekong Programme for sustainable development of water and related resources in the Mekong Basin.

This is the basis of the MRC's new Strategic Plan 2006-2010. The plan was formulated to support development goals as articulated in such declarations as the UN's Millennium Development Goals, the Ministerial Declaration on Managing Water Resources in Southeast Asia, as well as goals emerging from an extensive consultation process involving member countries, donors and civil society.

There is a high demand for developing the economic potential of the river for food, energy and transport. Therefore, more investments in irrigation, navigation, fisheries, flood management and mitigation and hydropower are bound to occur. It is the role of the MRC, as an International River Basin Organisation, to ensure that these investments will be well-coordinated, sustainable, and of benefit to the poor.

The key orientations of the new Strategic Plan 2006-2010 include the adoption of an Integrated Water Resources Management approach with emphasis on basin-wide development plans, fuller integration and cooperation with the work of our regional development partners, closer cooperation with Dialogue Partners China and Myanmar, and an effective utilisation of MRC's knowledge base and expertise to turn the previous years of work and achievements into action.

The overall goal of the MRC is "To Support the Member States for More Effective Use of the Mekong's Water and Related Resources to Alleviate Poverty while Protecting the Environment". This support to the Member States is the core business of the MRC.

The Strategic Plan's four goals correspond to the four roles of the MRC with regard to water and related resources:

- Goal 1:** To promote and support coordinated, sustainable, and pro-poor development.
- Goal 2:** To enhance effective regional cooperation.
- Goal 3:** To strengthen basin-wide environmental monitoring and impact assessment.
- Goal 4:** To strengthen the Integrated Water Resources Management capacity and knowledge base of the MRC bodies, NMCs, Line Agencies, and other stakeholders.

Three broad issues were identified as central to the development of the Strategic Plan 2006-2010:

1. Tangible results focused on poverty reduction through sustainable development.
2. Creating ownership and value-added with a broadened interpretation to include better integration of MRC and national development plans.
3. Adopting an integrated water resource management approach which is necessary for the MRC to jointly promote development and conservation to ensure sustainable cooperation for the utilisation of the Mekong's common resources.

The most pressing priority for all the Member States is to achieve higher levels of economic and social development.

The role of the MRC in serving the joint interests of its Member States is to promote sustainable development in the Mekong River Basin.

The primary added value of MRC as an international river basin organisation is to focus on joint and basin-wide developments, including long-term development scenarios, identification of important joint and basin-wide projects and programmes, and the analysis of implications (economic, social and environmental) of ongoing and proposed developments in the basin including the cumulative impacts of national developments. In this role, the MRC will work to find long-term solutions to common problems in the region.

With its unique legal mandate, knowledge base and expertise in the areas of water and related resources development together with its effective regional cooperation framework in these areas, MRC is particularly well-placed to provide guidance and support to sustainable development. In particular, the MRC will focus its efforts on:

- Supporting joint and basin-wide projects and programmes, initially including the four riparian states of the LMB, later, hopefully, also the two upper riparian countries China and Myanmar.
- Transboundary projects, or suites of complementary projects, between two or three riparian states.
- National projects, or land and water policies, with significant or cumulative basin-wide implications. Given this emphasis, the MRC will avoid dispersing its efforts over a large number of small projects that have no significant impacts.

Within this structure, the basin planning function through the Basin Development Plan (BDP) will take on a pivotal role in a



highly integrated and coordinated manner. This planning function will use acquired knowledge from the MRC Programmes to build an overall perspective of what the development needs and knowledge gaps are, and that will eventually set the agenda of the MRC Programmes. The BDP will further ensure that project programming is done in harmony with the IWRM Strategic Directions.

The Integrated Basin Flow Management (IBFM) process is another important and effective vehicle for implementing IWRM in MRC. IBFM is a set of multi-disciplinary activities providing information and knowledge to decision makers on economic benefits and environmental and social impacts of development as related to changes in the flow regime.

The present general organisational structure of the Secretariat will be continued. There will be four Divisions reporting to the CEO, each headed and managed by a senior riparian officer (one from each country).

By the year 2010 the MRC aims to have made major progress towards:

- Being acknowledged as a leading International River Basin Organisation operating by the best practice principles of sustainable development and management of the basin's resources and in organisational processes and practices.

- Being accepted as a “centre of excellence” for information and knowledge backed by excellent analytical and management systems pertaining to the water-related and environmental resources of the basin.

- Supporting implementation of feasible and justifiable development projects that reflect the social and environmental aspirations of the riparian countries, and grouping priority projects into a basin-wide Mekong Programme.

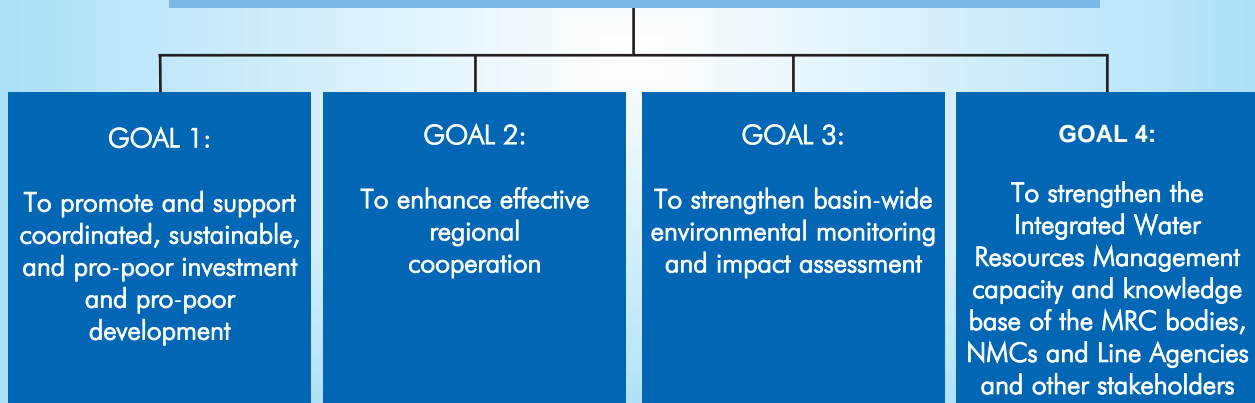
- Building awareness and understanding throughout the basin of the MRC as a world-class International River Basin Organisation that contributes to poverty alleviation and sustainable development.

The MRC Strategic Plan 2006-2010 will provide the basis for enhancing the MRC's support to the sustainable development of water related resources in the Mekong Basin and thus be a major step forward in contributing to poverty reduction in its riparian countries.

MRC Strategic Plan 2006-2010

Contributing to the Millennium Development Goals

Overall Goal: More Effective Use of the Mekong's Water and Related Resources to Alleviate Poverty While Protecting the Environment





Basin Development Plan

The overall programme objective of the BDP was derived from the 1995 Mekong Agreement and supports the MRC vision of "an economically prosperous, socially just and environmentally sound Mekong River Basin", in line with the MRC mission "to promote and coordinate sustainable management and development of water and related resources for the countries' mutual benefit and the people's well being".

Using the principles of Integrated Water Resources Management the BDP aims to achieve a balance between socio-economic development and environmental concerns and to create a framework for development based on technical knowledge as well as public, stakeholder and political views. Through the formulation of development scenarios, the BDP is able to provide models for future water needs of the Lower Mekong Basin from which strategies and planning guidelines can be developed to assist the Member States plan their development in a sustainable way.

Over the past five years the BDP has developed a comprehensive IWRM Strategy which will provide a

development intervention and investment plan for the Lower Mekong Basin to:

- Foster sustainable development
- Respond to the needs of the poor; and
- Ensure economic growth and development is in harmony with the environment.

The BDP covers all major types of water-related activities such as irrigation, watershed management, fisheries, hydropower, navigation, flood management and mitigation and domestic and industrial use.

BDP Phase 1 started in October 2001 as a three-year project. In 2003, it was decided to extend Phase 1 until the end of June 2005 and then to July 2006. A further no-cost extension provided a bridging arrangement up to the start up of the second phase, planned for January 2007. Financial support to the BDP Phase 1 formulation and the interim period is being provided by Denmark, Sweden, Japan, Switzerland and Australia.



In 2006 BDP Phase 1 achieved many final outputs:

- Establishment of an ongoing basin planning process
- Implementation of functional data systems
- Building of capacity and provision of training within MRCS, NMCs and national organisations resulting in well qualified staff and relevant institutional capacities available at MRCS and the NMCs
- Formulation of sub-area and basin-wide scenarios and strategies
- The setting up of a Projects Database (long-list) and prioritisation of water-related development projects
- An agreed shortlist of priority development initiatives, to be maintained by the JC as a continuous activity
- A functional network of more than 200 agencies actively collaborating on basinwide water-related development.
- An agreed "Strategic Directions for IWRM in the Lower Mekong Basin"
- Tools and routines for project identification, initial documentation, and screening of impacts and significance, classification and ranking (DSF, Resource Allocation Models, Social Impact Assessment and Strategic Environment Assessment, Screening toolkits)
- An underlying comprehensive knowledge base and documentation, readily available to users within and outside the BDP, MRCS and the NMCs (the Core Library and the BDP Planning Atlas)
- An agreed programme for BDP2, formulated with full country input. The project document for BDP phase 2 is also regarded as a main output of BDP Phase 1.

The BDP has established a planning network in the Lower Mekong Basin built on a range of BDP planning tools and features. National BDP Units have been established in each Member State under the National Mekong Committees. In the near future, the collaboration between the BDP team at the MRCS, the BDP units in NMCs and other MRC programmes will be strengthened.

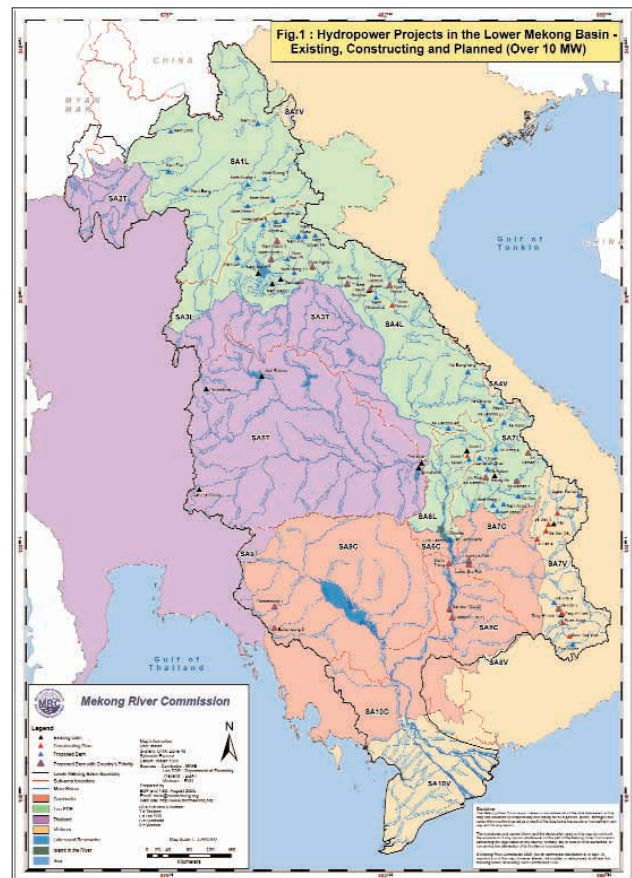
Strong links will be maintained with regional initiatives of external agencies, such as the Asian Development Bank's Greater Mekong Subregion programme, UNESCAP, ASEAN and the South East Asian Technical Advisory Committee of Global Water Partnership. There will also be scope for coordination with the upstream riparian countries.

Published out puts include the Strategic Directions for IWRM in the LMB, together with a portfolio of projects and programmes to support it (the MRC-BDP Projects Database).

The BDP Phase 2 programme objective is to ensure that the water resources of the Mekong River Basin are managed and developed in an integrated, sustainable and equitable manner for the mutual benefit of all riparians.

It will develop and maintain a rolling IWRM based Basin Development Plan produced in support of sustainable development in the Mekong River Basin. It will further develop and effectively utilise the knowledge base and assessment tools in the MRC and the NMCs and it will build capacity at MRC and NMC levels for IWRM planning and for facilitation/mediation in areas where trade-off management is required

The BDP Phase 1 is funded by the Governments of Australia, Denmark, Japan and Sweden. BDP2 commenced on 6 December 2006 with the signing of a funding agreement between the MRC and the Government of Denmark. The MRC is now seeking to cover the difference between the Danish grant and the total budget.





The Water Utilisation Programme

The six-year Water Utilisation Programme aims to improve water management and ensure mutual beneficial water use management in the Lower Mekong River Basin while maintaining its ecological balance. In order to accomplish these objectives, the Water Utilisation Programme has created an integrated knowledge base, providing data and decision support, as well as a comprehensive hydrological modelling package. These have served as the basis for the creation of a set of procedures governing water use. To date four of these procedures for water use have been agreed upon by the four governments of the Lower Mekong Basin.

In addition, the implementation of the programme has improved the institutional capacity of the MRC, the National Mekong Committees and national line agencies.

The MRCS is the implementing agency of the WUP. A WUP Management Team (WMT) leads and coordinates programme implementation. Each NMC has established a permanent national WUP unit, responsible for coordination of national participation and WUP implementation at the national level.

The WMT organises and supervises three Working Groups: Working Group 1 – Basin modelling and knowledge base; Working Group 2 – Environmental and transboundary analysis; and Working Group 3 – Procedures formulation.

The current phase of the WUP was originally scheduled to end in 2006, but has been extended until 2007 to complete its work and to develop a successor project funded by the Global Environment Facility through the World Bank. Formulation of this new programme will be undertaken through national and regional consultations following advice of the MRC Joint Committee throughout 2007.

In 2006 Council Members from the four Member States signed off the Procedures for Maintenance of Flows on the Mainstream (PMFM) on 22 June 2006, in Ho Chi Minh City, Viet Nam. The flow procedures are required under the provisions of the 1995 Mekong Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, which formed the Mekong River Commission.



The Agreement requires the member states to cooperate in the maintenance of:

- acceptable minimum monthly flows in the dry season,
- acceptable natural reverse flow of the Tonle Sap during the wet season; and
- prevention of peak flows greater than occur naturally.

The PMFM clarify these provisions of the Mekong Agreement through further defining objectives, principles and scope of their application as well as the roles and responsibilities of the various parties required for their implementation, including the MRC Council, the MRC Joint Committee, the National Mekong Committees and the MRC Secretariat.

Most notably the Procedures delegate the responsibility to prepare Technical Guidelines for their implementation to the members of the Joint Committee. These Technical Guidelines will define in concrete terms the actual flow and level values and the location of the Mekong mainstream hydrological stations which will be used to monitor these flows and levels. Preparation of these guidelines is now underway.

In 2006 the Decision Support Framework (DSF) modelling team actively supported the preparation of the revised Technical Guidelines for Implementation of the PMFM based on 1) the newly calibrated models, 2) the proposals to simplify and improve the presentation based on experiences/understanding of the requirements gained during the past year, and 3) the insights gained under its Integrated Basin Flow Management (IBFM) work.

Drafting of the final set of procedures – the Procedures for Water Quality (PWQ) – has also been finalised and it is expected these will be signed in early 2007.

The DSF developed under the WUP is a powerful suite of modelling tools used to undertake its scenario development work. In 2006 new contracts were signed for continued improvements on the DSF. Two DSF maintenance contracts were also approved, thus enabling urgent bug-fixing and other maintenance activities to be carried out. The Integrated Quality and Quantity Model maintenance contract is now also under implementation.

Progress was made in moving forward with the selection and implementation of national case studies (two from each NMC) providing an opportunity for the modelling teams in the MRCS and the NMCs to apply the DSF and other models to real water resource management issues in the member countries.

A programme of DSF modelling training was developed in association with experts from the National Institute for Rural Engineering of Japan and the World Bank Institute (WBI). This programme was executed in May and June directed mainly at the Lao National Mekong Committee and the

Cambodia National Mekong Committee and with the support of the modelling team, and due to its success, and continued funding available through the WBI, will likely be continued in 2006/2007.

The WUP-FIN team continued the Phase 2 model set-ups, calibration, validation and application. In addition, a more active participation in the Environment Programme-driven IBFM Phase 3 activities is being planned.

The results of the Flow Regime Impacts Workshop (held on 7-11 November 2005) were synthesised by the Integrated Basin Flow Management Team with IBFM Report No. 8 finalised in 2006. This report represents an important milestone in IBFM 2 activities. An overview of the conclusions was presented to the Members of the Joint Committee during the Preparatory Meeting for the Twenty-Third Meeting (April 2006). WUP proceeded with further national consultations and Technical Reporting Group meetings including preparation of revised Technical Guidelines for Implementation of the PMFM, which constituted completion of IBFM Phase 2 activities. The Environment Programme will now move forward with detailed research and stakeholder consultation under IBFM Phase 3.

The formulation of the MRC Drought Management Programme was started in May and was presented for consideration by Council in December 2006, where it was approved as a basis to solicit donor funding.

The WUP supported execution of a GEF2 Scoping Mission by two international consultants during May 2006 to assess whether or not the member countries see a need to move to a new phase of GEF support as a follow-up to the WUP as it neared completion in 2006. The study concluded that a second project could be justified, but more discussion was needed on how the project would be designed. The GEF2 project concept was further developed in consultation with the World Bank and the Member States, and approved by the Council at its meeting in December 2006.

WUP unit members participated in review and comment on the formulation of three regional studies being promoted under Mekong Water Resources Partnership Programme by the World Bank and the Asian Development Bank.

The Joint Committee, at its 23rd Meeting in April 2006 agreed to include the WUP with the Basin Development Plan Programme under the new Planning Division. This re-organisation was endorsed by the World Bank during the May 2006 supervision mission.

The WUP is a GEF-funded project managed by the World Bank and implemented by MRC. It is also funded by the Government of Finland.



Environment Programme

The immediate objective of the Environment Programme is to ensure that the riparian governments have the capacity to secure a balance between economic development and protection of the environment to ensure a healthy Mekong River Basin capable of supporting the natural resource diversity and productivity which are central to the livelihoods of the people.

The Environment Programme has a two-pronged approach in that it is aiming to assist the Member States in fulfilling the articles in the 1995 Agreement related to the protection of the environment and maintaining the ecological balance of the basin. It is also supporting the other programmes through provision of environmental data and development of tools for environmental planning and management.

Assessment and monitoring of water quality and ecosystem health form an important basis for data provision. The programme also aims to improve environmental policy and management through advice to and promotion of cooperation among environmental agencies, directly supporting the BDP process.

Through compilation of existing knowledge and facilitation of

research activities it also promotes a better understanding of the environmental and ecological aspects of the Basin.

The programme has five components:

- Environmental Monitoring and Assessment.
- Environmental Decision Support.
- People and Aquatic Ecosystems.
- Environmental Knowledge.
- Environmental Flows Management.

In 2006 the Environment Programme continued development of a water quality index based on its accumulated water quality monitoring network data. The Quality Assurance and Quality Control (QA/QC) system for the water quality monitoring network's laboratories' analytical accuracy is fully operational. As part of its ecological health monitoring work, the Environment Programme completed the second part of the three-year rotation covering the flood plains of Cambodia and the delta region, undertaking a water quality assessment which will be published in 2007. The first part of the social impact monitoring, was completed 2006, will be complemented by field work in 2007.

The framework of the guidelines for transboundary



Environmental Impact Assessment (TbEIA) was essentially completed, and work on guidance and institutional support is continuing. The Programme undertook transboundary Environmental Risk Assessments (TbERA) for Chiang Rai/Bokeo area (Thailand/Lao PDR) and for Takeo/Chao Doc area (Cambodia/Viet Nam). The TbERA focused on water quality and the results will be finalised in early 2007. Upon request from the Cambodia National Mekong Committee the EP initiated a transboundary impact diagnostic study for the Sesan, Sre Pok and Sekong sub-basins in Cambodia, Lao PDR and Viet Nam. The results from the 2004-2005 monitoring of the water quality in the Sesan River were presented to government officials, NGOs and local residents at a workshop held in Rattanakiri, Cambodia. The results showed the water quality was still good, albeit it did not measure pathogens or filamentous algae.

The EP also took the lead in coordinating awareness raising and capacity development in conflict management and mitigation, which has now become part of the capacity building at the MRC Secretariat and which the EP together with other programmes will build on in 2007.

Information on wetland economic values was collated and added to the wetland database, which will be linked to the wetlands maps and will be combined with the wetland valuation as a tool for BDP Phase 2. The vulnerability assessment continues focussing on spatial aspects of dependence on aquatic resources.

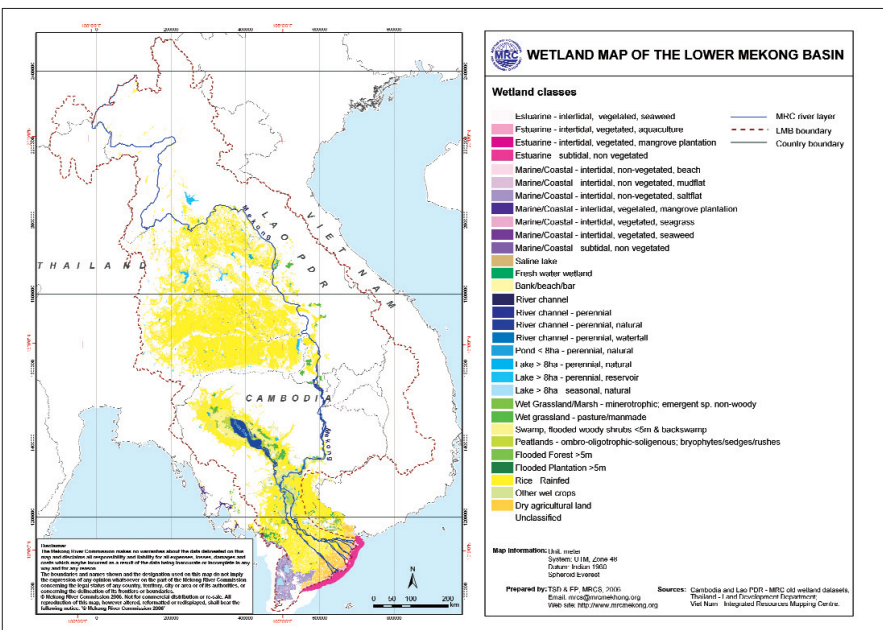
Work on the environmental impact of tourism was also initiated in 2006 under this component. The Environment Programme Annual Technical Meeting for

2006 was held in January 2007 in Chiang Mai, Thailand. The delay was due to clashes with other important meetings in late 2006. The meeting heard reports on water quality, ecological health, wetland valuation and Integrated Basin Flow Management (IBFM). The proceedings will be ready in early 2007.

Based on identified knowledge gaps, IBFM work in 2006 focused on improving hydrological modelling, sediment and geomorphology and fisheries studies. The IBFM team also initiated development of a database-driven expert tool for Environmental Flows Assessment in the Mekong River Basin, called "The Mekong Method". The IBFM work included modelling, research and field investigations guided by feedback from stakeholder consultations, which were undertaken in parallel to the research programme. A set of easy-to-read and understand booklets and a brochure on the IBFM initiative was prepared and will be disseminated in early 2007.

The flow assessments possible through the IBFM tools together with development and management plans developed based on such assessments will ensure that longer term impacts are anticipated and a proper trade-offs analysis can be performed contributing to sustainable development under the Mekong cooperation.

The Environment Programme is funded by the governments of Denmark, the Netherlands, Sweden and the United Nations Development Programme.





Flood Management and Mitigation Programme

The development objective of the MRC Flood Management and Mitigation Programme (FMMP) is: “to prevent, minimise or mitigate people’s suffering and economic losses due to floods, while preserving the environmental benefits of floods”. This objective is the key to a balanced approach to Flood Management and Mitigation (FMM) and reinforces the region’s commitment to “living with floods”.

The heart of the programme is a Regional Flood Management and Mitigation Centre, which provides technical and coordination services to the four countries in the Lower Mekong Basin. Forecasts, flood data, technical standards and training packages are key outputs of the programme.

The programme has five components:

1. Establishment of a Regional Flood Centre
2. Structural Measures and Flood Proofing
3. Mediation of Transboundary Flood Issues
4. Flood Emergency Management Strengthening
5. Land Management

After one year of full operation, the Regional Flood

Management and Mitigation Centre (RFMMC) is nearly fully staffed and has completed its overall work plan. A communication link between the centre and the secretariat has been established. The construction of the new headquarters progressed well and it is expected the centre will move in mid-2007.

During 2006 the RFMMC reviewed hydro-meteorological, topographic, land-use etc data available in MRCS and the riparian countries and established a GIS database. Short-term forecasting (1-5 days) was implemented and improved by increasing the accuracy and lead time and a review of existing flood forecasting systems in MRCS and member countries was completed.

The RFMMC developed a road map for medium term flood forecasts. Following the recommendations, the medium term flood forecasting system is being developed with establishment of an operational monitoring database and by strengthening the regional networks and national networks for real time data collection. The RFMMC also formulated a pilot project in the 2T sub-basin in Thailand for flood risk



mapping and analysis and this project is now under implementation.

The USAID/ Office of Foreign Disaster Assistance-funded pilot project on provision of Flood Early Warning (FEW) in Cambodia for 40 villages entered its fourth year and trained 238 people on FEW and disaster management, while improving local understanding on FEW, dissemination of flood forecasts via the Internet, media, NGOs and direct information to communities.

During 2006 the FMMP produced the first Annual Mekong Flood Report and conducted the 4th Annual Mekong Flood Forum. These annual events are becoming increasingly important as avenues for the dissemination of flood information within the basin.

Under the Structural Measures and Flood Proofing Component, various essential administrative functions such as tendering processes were initiated, a framework for development and implementation of Integrated Flood Risk Management (IFRM) Guidelines for BDP was completed and a pilot project on roads and floods in the flood plain of Viet Nam and Cambodia is being implemented in conjunction with the Delft Clusters and the WorldWide Fund for Nature.



The FMMP's Component 3 deals with the important topic of mediation of trans-boundary flood issues and in 2006 this component completed a draft of a concept paper on MRC mediation and coordination and a discussion paper concerning MRC's mandate on conflict prevention and dispute resolution. It also completed an initial outline of a framework mechanism for mediation process of transboundary flood issues.

While the FMMP places an important emphasis on forecasting and managing floods it is also aware of the necessity of learning to live with floods and this is where the Flood Emergency Management Strengthening component is involved. In 2006 this component prepared and implemented flood preparedness programmes (FPP) in selected provinces and districts; completed institutional role analysis for FPP capacity at provincial level; developed provincial and district flood preparedness programmes; and identified priority sub-projects with provincial and district authorities. In order to raise public awareness of flood preparedness, several activities were organised and province-to-province trans-boundary emergency assistance schemes were prepared.

Changes in land use can exacerbate floods and in 2006 the Land Management Component evaluated the MRC's geospatial data, hydrologic/hydrodynamic models and related documentation as part of its work to provide more reliable flood probability information in selected provinces. It also requested source identification and acquisition of topographic data on selected areas of Viet Nam; acquired, processed and incorporated in its geo-database orthophotos, digital elevation map (DEM) and other data on selected areas of Cambodia; and conducted organisational analysis of national partner agencies in Cambodia and Viet Nam.

As part of MRC's continuing commitment to capacity building in the basin, a number of training courses and workshops on database management, disaster management, radio network communication and satellite rainfall estimation, and planning and implementation of flood preparedness programmes were held throughout the region.

The FMMP is funded by the Governments of Denmark, France, Germany, Japan, the Netherlands and the United States; as well as the Asian Development Bank and the European Union.



Navigation Programme

The development objective of the Navigation Strategy reflects the content of Article 9 in the 1995 Mekong Agreement, and aims to: "promote freedom of navigation and increase the international trade opportunities for the MRC member countries' mutual benefit, and to assist in coordination and cooperation in developing effective and safe waterborne transport in a sustainable and protective manner for the waterway".

The MRC Navigation Programme (NAP) has the following immediate objectives:

- Legal Objective: Establish an appropriate legal foundation and navigation regime for International Mekong Navigation, and ensure its implementation and sustainability
- Trade, Transport and Safety Objective (Physical and Non-Physical): Reduction of non-physical and physical barriers, integrating navigation in the regional transport network and reduction of navigation-related accidents.
- Environmental Objective: To promote the concept of "clean" river transportation, focusing on strategic prevention of environmental damage from waterway infrastructures/works or from shipping or port accidents rather than remedying or combating the impacts.
- Social Objective: Distributing benefits from navigation

to the riparian people, improving water transportation during floods, increasing river-based employment.

The NAP started its full implementation in 2006. A total of five components have been identified and will be implemented within a timeframe of five years.

- Socioeconomic Analysis and Regional Transport Planning.
- Legal Framework for Cross-border Navigation.
- Traffic Safety and Environmental Sustainability.
- Information, Promotion and Coordination.
- Institutional Development.

During 2006 the Navigation Programme Office was established. The NAP also established the Navigation Advisory Body (NAB), a high-level body responsible for stimulating a more detailed input of the Member States which will free the MRC Joint Committee from dealing with technical issues. The NAB held its first meeting in October 2006 in Phnom Penh, Cambodia.

As part of Component 1 of the MRC Navigation Programme, but implemented through indirect bilateral cooperation between Belgium and Cambodia, the "Design of the Master Plan for Waterborne Transport on the Mekong River System in

Cambodia" was completed in November 2006. It is the first time that a comprehensive action plan and investment portfolio has been prepared to improve Mekong Navigation in Cambodia. In order to increase regional and international trade, a cross-border development strategy was prepared which will, once implemented, cut transport costs of container shipping by around US\$ 42 million per year. Improvement of tourist landing facilities in Siem Reap is among the planned projects. Apart from commercial shipping an integrated action plan and project portfolio is now available to improve accessibility between remote villages along the Mekong shores.

The NAP is in the process of establishing relationships with international partners such as the International Maritime Organisation, the Permanent International Association of Navigation Congresses, the Central Commission for Navigation on the Rhine and the Danube Navigation Commission. These will be important partners to develop and assist in the implementation of the international standard for navigation safety and environmental protection measures.

Under Component 2 (through the project Master Plan for Waterborne Transport on the Mekong River System in



Cambodia) a comprehensive legal study of the current regime on the Mekong River between Cambodia and Viet Nam to assess and evaluate the existing Hanoi Navigation Agreement of 1998, including the new Draft Protocol, was completed.

Improving the safety of navigation on the Mekong and providing for increased use of the waterway is of paramount importance to the Navigation Programme. In 2006 the NAP collected topo-hydrographic data in digital format for the stretch of the river between Phnom Penh Port and the Cambodia-Viet Nam border. A detailed design for a system of aids to navigation including buoys, beacons and shore installations to international standard was prepared, the contractor/consultant firm selected and the contract signed. The national counterparts in Cambodia who will perform normal maintenance and operational repairs these aids to navigation have been fully trained and are ready to take up their duties. Installation of the navigational aids is due to commence in early 2007.

Transport of petroleum and other hazardous products by waterway is being undertaken on most navigable waterways in the world, but on the Mekong River, commercial shipping is relatively new, and unfortunately not always up to internationally accepted safety standards, in particular when referring to transport of dangerous cargo. In order to prepare the MRC's Member States for this and provide added value, MRC has formulated the Traffic Safety and Environmental Sustainability component to establish safety rules and regulations and harmonise them into one set of regulations for all riparian countries.

A Management Information System for Phnom Penh Port was developed and in 2006 is now operational. A further output formed the basis of a Navigation Programme presentation on water and transport at the 4th World Water Forum in Mexico City, 16-22 March 2006.

The NAP is partly funded by the Government of Belgium.





Agriculture, Irrigation and Forestry Programme

The goals of the MRC's Agriculture, Irrigation and Forestry Programme (AIFP) are to ensure that sound watershed management will preserve the watershed functions for the future; to develop improved irrigation and water use methods and to engage in research on the best methods for monitoring land-use changes and complete important baseline studies on watershed management, forestry and land use planning.

The AIFP completed its first phase in December 2005. Formulation of new AIFP programme document for 2006-2010 is in process, but work is continuing. At present AIFP is conducting activities based on two components: the Watershed Management Component and the Water Use Efficiency Component.

Under these two components, AIFP currently operates four projects:

- The Watershed Management Project (WSMP) executed by GTZ.
- Demonstration of Multi-functionality on Paddy Fields (DMPF)

- Improvement of Irrigation Efficiency on Paddy Fields (IIEPF)
- The Challenge Programme on Water and Food (CPWF),

Watershed Management Component The Watershed Management Project

The Watershed Management Project (WSMP) running under the Watershed Management Component (WSMC) aims at institutionalising watershed management in the MRC Member States.

The objective of this component is that "national and local institutions increasingly and more competently consider the maintenance of watershed functions in their land-use related activities". This will lead to an enhanced capability of the MRC Member States to manage their watersheds sustainably and increasingly in view of national and regional needs.

In 2006 the WSMP held a series of consultations with the Member States to identify and formulate more detailed activities for the second phase of its project. During this

phase the project will focus on policy analysis, information management and capacity building activities.

A Joint Working Group Meeting was organised in Khon Kaen in March to draft and agree on the work plan for 2005-2008 and a draft WSMP Programme document was formulated.

Resulting from the meeting in Khon Kaen, the project conducted its first policy analysis studies as well as capacity needs assessments for watershed management in Lao PDR, Cambodia and Viet Nam, followed by the preparation of an extensive capacity building outline for the next two years. A process design for the introduction of a results-based monitoring system in the WSMP/MRCS has been initiated.

Within the framework of Information Management the project maintains and develops the MekongInfo information website which hosts a diverse range of information and research concerning the Mekong River Basin.

The project also assisted the MRC's Technical Services Division with developing the Information and Knowledge Management Programme.

During 2006 the project continued to work on a Watershed Management Resource Kit which includes the development, documentation and dissemination of watershed management approaches for selected watersheds. This kit will be published in early 2007.

The WSMP also helped to improve regional data, information and knowledge management, through a variety of training programmes.

This component is funded by the Government of Germany.



The Water Use Efficiency Component

This component aims at developing irrigation and agriculture in a sustainable manner taking into account the requirements of a healthy river system by the relevant institutions. The Government of Japan is funding two projects: Demonstration of the Multi-Functionality of Paddy Fields (DMPF) and Improvement of Irrigation Efficiency on Paddy Fields (IIEPF) to address the issues of water use efficiency of irrigated agriculture under this component.

The programme has developed strong links with both national counterparts and international partners such as the Food and Agriculture Organisation and the Challenge Programme on Water and Food.

Demonstration of Multi-functionality of Paddy Fields (DMPF)

In 2006 the major achievements of the Project to Demonstrate Multi-functionality of Paddy Fields (DMPF) include the completion of the project report in January 2006.

The final report on Data Collection for the Project to Demonstrate Multi-functionality of Paddy Fields over the Mekong River Basin by Cambodia was also completed. Final reports on data collection from four Member States have now been submitted and an analysis of selected functions of paddy fields has been identified in Thailand and Viet Nam.

The Japanese donor, Ministry of Agriculture, Forestry and Fisheries of Japan (MAFF), agreed with the planned activities of DMPF and approved an extension of the project until November 2007.

The project also sponsored staff from the MRC Secretariat and relevant Line Agencies to attend and participate in the 4th World Water Forum held in Mexico City in March 2006.

Improvement of Irrigation Efficiency on Paddy Field (IIEPF)

In 2006 the Improvement of Irrigation Efficiency on Paddy Fields over the Mekong River Basin project (IIEPF) held its first regional workshop to finalise the project document, and discuss the outline of the forthcoming activities under the project. The project document has now been finalised and approved by the donor.

The project came to an agreement on collaboration with the FAO, whereby the FAO would provide technical comments through participation in workshops; teach country participants the Rapid Appraisal Process (RAP) irrigation scheme appraisal technique through RAP training workshop and on-the-job training; and identify appropriate consultants to draft guidelines for efficient water use.



A four-day RAP training workshop was held in July at the Secretariat in Vientiane. RAP is a tool to allow qualified engineers to systematically and quickly determine key indicators of how an irrigation project is performing. The tool was developed by FAO and FAO staff conducted the training of around 20 engineers from the Member States. These trained engineers have conducted irrigation scheme appraisal as a part of IIEPF field observation.

In late 2006 subcontracts for fieldwork were concluded with the four Member States. Initial meetings were conducted with NMCs and Line Agencies in November and December to confirm the details of planned fieldwork. Fieldwork started in the 2006/2007 dry season and will continue to cover the next wet season in all the member countries.

CGIAR Challenge Program on Water and Food

The CGIAR Challenge Programme on Water and Food (CPWF) is also placed under this component. The CPWF is an initiative of the Consultative Group on International Agricultural Research (CGIAR) and is a research-for-development programme that operates through a global network of partnerships. It seeks to develop innovative ways of producing more food with less water across nine "benchmark river basins" in the developing world, including the Mekong.

The MRC is the coordinating institution for CPWF projects in the Mekong River Basin, where it monitors the activities of some 10 projects of various sizes. In addition, the MRC is represented on the CPWF Steering Committee, and the AIFP Research Coordinator sits on the CPWF Management Team. Four CPWF Small Grants for Impact projects, each worth about US\$ 75,000, have been contracted and now fall under the purview of the MRC Research Coordinator. In 2006 two additional, major projects (each worth more than US\$ 1 million) were also contracted and held their inception workshops in 2006.

The first of these is CPWF Project No. 11, entitled "Rice Landscape Management for Raising Water Productivity, Conserving Resources and Improving Livelihoods in Upper Catchments of the Mekong and Red River Basins". The second, CPWF Project no. 25 is entitled "Companion Modelling for Resilient Water Management: Stakeholders' Perceptions of Water Dynamics and Collective Learning at the Catchment Scale".

Both have now been contracted and held their inception workshops in 2006.

The CPWF Basin Focal Project (BFP) is progressing well, and

aims to develop water poverty and water productivity maps and data for the Mekong River Basin. The MRC is a partner in this initiative.

In May 2006, the CPWF held its steering committee meeting in Cairo, where the AIFP Research Coordinator represented the MRC. The MRC's AIFP Research Coordinator continues to be an active member of the CPWF Management Team. In November 2006, the CPWF held the International Forum on Water and Food in Vientiane, Lao PDR. The MRC hosted this event, which attracted approximately 250 delegates from around the world and was considered extremely innovative effective.



The International Forum on Water and Food, held in Vientiane, Lao PDR, drew delegates from river basins around the world.



Fisheries Programme

The Lower Mekong fishery supports up to 40 million people and two-thirds of the population of the Lower Mekong Basin are actively involved at least part-time in the fisheries. Therefore it is necessary to manage the productive Mekong fisheries so as to sustain their high yield and economic output into the future. This is why the development objective of the Fisheries Programme is: "Coordinated and sustainable development, utilisation, management and conservation of the fisheries of the Mekong Basin".

The programme has four components:

- Fisheries ecology, valuation and mitigation;
- Fisheries management and governance;
- Aquaculture of indigenous Mekong fish species.
- Programme management and communication;

The Fisheries Programme Phase 2 started in January 2006, directly after completion of Phase 1. Phase 2 is building on the achievements of the first phase of the Programme, specifically in the areas of fisheries ecology; valuation of fisheries in the LMB; mitigation of the impacts of developments; fisheries management and governance; aquaculture of indigenous species; and communication of information to governments and planning agencies.

The programme operates within one shared system of support functions and infrastructure. Activities and staff are maintained in each of the riparian countries, and are building an excellent network with line agencies and institutes. This presence includes a national programme director and the support required for programme activities in the country. Virtually all field-based activities of the programme are conducted through fisheries Line Agencies, however national consultants are also used when necessary for particular activities.

In 2006 the Fisheries Programme achieved five main outputs according to its plan.

Raising the awareness of fisheries

The Fisheries Programme produced many publications over the course of 2006. These include technical papers in the MRC's Technical Series and the Technical Advisory Body's Management Recommendation Series; the regular newsletter *Catch and Culture* (in English and riparian languages); and a film produced by the Vietnamese Research Institute No 2 on the fisheries of the Mekong delta (similar films for Lao PDR and Thailand are currently being finalised). In addition, translation and publication of Technical and Development Series publications in riparian languages continued. One of



these is the Khmer version of the book on “Fishing Gears on the Cambodian Mekong”, which was highly appreciated by parliamentarians during debates on the new fisheries law in Cambodia.

The Fisheries Programme continued to provide input into several regional planning initiatives, such as the Integrated Basin Flow Management studies being organised by the Environment Programme and the Water Utilisation Programme and, and a range of activities coordinated by the Mekong Wetlands Biodiversity Programme.

Development of Human and institutional capacity

The Technical Advisory Body on Fisheries Management (TAB) continued the implementation of its 2004-2006 work plan. Organisationally the TAB is now well established, being supported in its work by a functioning secretariat with presence at both the regional and national levels. The major activity for the TAB in 2006 was the implementation of a series of three-day learning events on regional fisheries management conducted in Member Countries. The learning events targeted mid-level provincial fisheries managers, and were conducted in the national languages.

The TAB also undertook a field study in Myanmar, investigating the very impressive inland fisheries and the relevance of management initiatives for the Mekong. The TAB is now looking to extend the activity in its next three-year work programme. A series of research training activities (on fisheries ecology, economics and management) was completed in March at the Inland Fisheries Research and Development Institute in Cambodia. These activities provided specialised training at all stages of project design and implementation as well as in institutional management of the projects. Further on-the-job training was completed particularly within the Fisheries Management and Governance and Aquaculture of Mekong Indigenous Fish Species components.

Formulation and implementation of Mekong basin fisheries development strategies

Several fisheries development strategies, at country level and for particular fisheries, were elaborated within various activities of the Fisheries Programme. National partners will build on these activities to determine whether a regional strategy will complement the national strategies, or whether the necessary components are already covered at national levels.

The Fisheries Programme worked with a consortium of partners in developing conservation strategies for the giant Mekong catfish. This included technical work in developing models which might assist in indicating the conservation status of the species, as well as the more practical aspects of implementing a moratorium on fishing for the species in the

Mekong in northern Thailand and Lao PDR.

Monitoring of several fisheries continued, with the aim of getting hard data on trends in fisheries in the Basin. Breeding of several indigenous species was achieved for the first time, directly supporting national initiatives in promotion of indigenous species for aquaculture.

Scoping and promotion of Mekong development projects

The Fisheries Programme assisted fisheries consultants to develop a project on fish passage (facilities enabling fish to pass upstream and downstream of barriers) in Lao PDR. While the project will be based in Lao PDR, the programme is ensuring the project has broader regional applicability, and that fisheries technicians in other countries will have observer status during the course of the project. The project is likely to start in 2007 and will probably run for 2-3 years.

A project also is also being planned to review and analyse the data from three fisheries that have been monitored in the Mekong for approximately 10 years. An initial scoping study was conducted in May-June, under funds supplied by the Australian Centre for International Agricultural Research (ACIAR). The report was very favourable, and is now being reviewed by ACIAR to determine follow-up action.

Facilitation of implementation of fisheries development activities

The Fisheries Management and Governance component continued to provide a platform for the development of co-management activities in all MRC-Member States. Of special significance here is the integrated water resource management project taking place at Soc Trang, in Viet Nam, where shrimp farmers and rice farmers are working together to develop sustainable practices for water use by both parties, improving on-farm profitability and environmental management in the area.

The Fisheries Programme continues to be supported by the Governments of Denmark, Sweden and Australia.



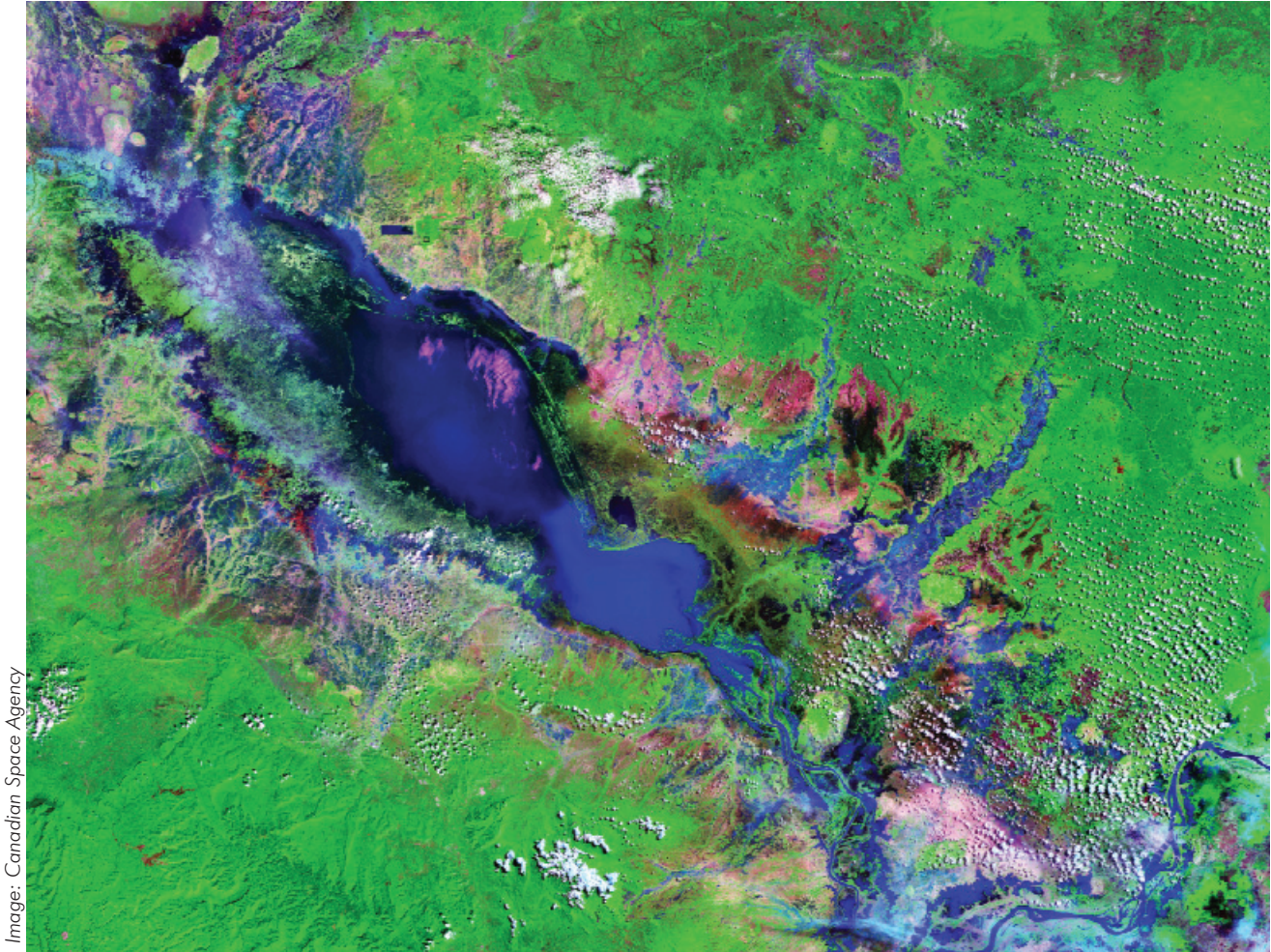


Image: Canadian Space Agency

Information and Knowledge Management Programme

The Information and Knowledge Management Programme is still under development and in 2006 activities related to information and knowledge management were carried out under the Technical Support Division (TSD) of the MRCS. MRC is currently in the process of formulating the IKMP programme document in a consultation process and the programme document was approved in principle by the MRC Council at its 13th Meeting held in December 2006.

The development objective of the Information and Knowledge Management Programme is "to build a solid foundation of data, information and knowledge products, systems and services that supports the goals of the Mekong River Commission".

The Programme has five components:

1. Programme Management.
2. Hydro-meteorological Data
3. GIS and Databases.
4. Modelling.
5. Communications and Knowledge

For the past years, information and knowledge activities were carried out within the framework of the TSD which collaborated with all MRC programmes, and the four Member Countries (e.g. through the Technical Assistance and Coordination Team, TACT) to further develop and implement the MRC-Information System (MRC-IS).

The main outputs of the IKMP for 2006 are:

Component 1

The Initial Draft of IKM Programme Proposal was drafted in June 2006 and then modified in the form of a Programme Work Breakdown Structure in September 2006. This is served as an input for national consultation meetings with all MRC Member States organised in October 2006. The outcomes of these meetings were incorporated into the new draft IKM Programme document discussed at the regional consultation meeting on 20-21 November 2006. All comments received from regional meeting were incorporated into the updated programme document which was approved in principle by the MRC Council at its 13th Meeting in December 2006. Activities have progressed well. Recruitment of staff including the programme coordinator has now been completed.



Component 2

The hydro-meteorological data collected from Member States up to 2004 are being processed. The Hydrological Yearbook for 2001-2002 in electronic version was disseminated to the Member States in December 2005. The Hydrological Yearbook for 2003 was published in 2006 while that for 2004 is under consideration.

The Appropriate Hydrological Network Improvement Project (AHNIP) was extended to August 2007 with funding from the Australian Government. The new activities of AHNIP are (1) interim replacement of field equipment and support of AHNIP objectives; (2) development of the policy and strategy framework for the IKMP; and (3) formulation of the project design document for upgrade of the AHNIP Network and integration with the Mekong-HYCOS Network.

The equipment selection process for interim equipment replacement was finalised in July 2006. The new water sensor produced by OTT Hydrometric was selected and replacement of the current unreliable sensor at some field stations began in October 2006.

The first draft policy and strategy framework for the IKMP was developed and will be incorporated with the results of national and regional consultations. This framework will be used to request for further assistance from the Australian Government in improving the MRC Hydro-meteorological Network.

The MOU for management and operation of the AHNIP Network for the period of 1 April 2006 to 31 December 2006 was renewed. The MOU outlines in detail the roles and responsibilities of the MRCS, NMCs and concerned line agencies, and the provision of funds to the line agencies for operation and maintenance of the AHNIP network, as a consequence the operation of the AHNIP network has been improved. Accurate and reliable data from 15-17 AHNIP stations are now being sent to the MRC Secretariat and delivered to the users every morning. It is expected that after replacing the sensor, all AHNIP stations will operate properly.

The Mekong-HYCOS project was approved and has been funded by French development bank AFD. The main objective of this regional hydrological cycle observing system which has been developed in partnership with the World Meteorological Organisation (WMO), is establishing a basin wide hydrometeorological information system, which spatially covers the mainstream and main tributaries of the Mekong river system. It is expected that under the Mekong-HYCOS project, more than 20 hydro-meteorological stations will be upgraded. The Mekong-HYCOS system will be integrated into the existing MRC monitoring system, while improving the national hydrological networks and river monitoring/forecasting capacities.

The recruitment of project staff has commenced and the procurement of an international consulting firm is now in process. Project implementation started in September 2006. The Mekong-HYCOS project activities in 2007 will focus on two phases; the inception phase and the construction and installation phase.

The technical cooperation with China under the Agreement on the Provision of Hydrological Information of Lancang / Mekong River in the Flood Season has progressed well. The information provided under the Agreement is reliable for the timely flood forecasting operations of the MRC Secretariat. The present Agreement is now under consideration for the renewed Agreement in 2007.

Component 3

A new TSD archive repository has been set up to house valuable archive materials such as aerial photographs, black and white aerographic negatives, backups of various computer workstations, transparency and ink surveys/maps. The collection and supply of improved quality, quantity and timely hydro-meteorological information to all programmes, forecasting, monitoring, strengthening and consolidation of the network and capacity involved is continuing in 2007.

Component 4

The Decision Support Framework (DSF) has been extensively used in the MRC programmes/activities, notably the Basin Development Plan, Integrated Basin Flow Management activities, and the Flood Management and Mitigation Programme with intensive support of the TSD Modelling Team. In parallel, other activities relating to the DSF enhancement and modelling capacity building were also carried-out by the Team. Decision Support Framework modelling and knowledge base enhancements have been realised.

Component 5

The MRC-IS Portal was completed in December 2005 and launched in-house at MRCS in January 2006. The portal includes key information services such as interactive maps, and a geographically enabled metadata explorer with metadata for spatial datasets. The Document Management System is a part of the MRC-IS Portal. It is designed to improve sharing of and access to documents and provide fully controlled access to wide range of documents. A proposal to enable external access to the MRC-IS Portal has been prepared and funds are being sought. An automated library system, the Electronic Library on Web (ELIB) has been implemented at the MRCS Documentation Centre. ELIB provides data entry work forms for all types of materials, including books, CDs, articles, maps, computer files, audio visual material, and mixed formats. The database can be accessed through the MRC portal.

The IKMP is funded by xxxx



Integrated Capacity Building Programme

In order to ensure sustainable development, utilisation, conservation and management of the Mekong River Basin water and related resources there is a need to ensure availability of expertise at regional and national levels as well as the capability of the MRC to carry out activities in advocacy and communication with stakeholders.

The overall objective of the Integrated Capacity Building Programme is to improve the capacity of the MRC to implement its Mission, and play a leading role in coordinating the development and use of the basin's water resources. It aims to develop the technical, institutional and legal water resources management capacity and expertise at local, national, and regional levels. It also aims to promote gender awareness and ensure there is capacity to implement gender responsive organisational structures.

It will achieve this through a systematic, modular training programme. The future pool of expertise available within the region is being broadened through on-the-job training of young professionals to work at the MRC Secretariat.

There are three components in the ICB:

- Integrated Training Component.
- Junior Riparian Professional Project (Phase 2).
- Gender Mainstreaming in Water and Related Resources Development in the Lower Mekong Basin.

Integrated Training Component

The objectives of this component are (i) to raise the level of competence among MRC staff and staff in the riparian Governments in integrated river basin planning (IRBP), and (ii) to consolidate MRC's training activities and allow for both specific and cross programme training in issues of identified priority for integrated river basin management in the Mekong Region.

In 2006 the programme completed its training programme for MRCS staff funded by OEB under the MRC staff training project.

Junior Riparian Professional Project (Phase 2)

The Junior Riparian Professional (JRP) Project phase 1 (2002-2006) completed its activities in June 2006 while the



agreement officially ended in December 2006. The objective of this component is to provide training and hands-on experience to young riparian professionals in the areas of Integrated Water Resources Management.

The final three JRPs completed two years of training in June 2006. This training included programme planning and implementation, data collection and analysis, and results-oriented monitoring, as well as other training activities outlined in the individual training plan. They also attended short courses offered by the MRC Secretariat which were adapted to individual and programme needs and had the opportunity to participate in different technical fieldwork training, mainly at the four riparian countries and in the region.

Two former JRPs are now working with MRCS in consultancy roles and one is working at the Regional Flood Management and Mitigation Centre as an assistant hydrologist, while the others have taken up new assignments with their respective governments or Line Agencies.

The JRP project was funded by the Government of Sweden and the United Nations Development Programme.

A new project document for the JRP Project Phase 2 was formulated in early 2006 and sent to the donor community to seek funding. This project will involve the training of 48 promising young professionals.

Gender Mainstreaming in Water and Related Resources Development in the Lower Mekong Basin Project

The project facilitates the institutionalisation and effective implementation of MRC Gender Policy and Strategy. It is specifically implementing all six components of the MRC Gender Strategy:

1. Application of gender sensitive policies
2. Obtaining commitment and support of top level MRC officials and managers
3. Creation of gender awareness in organisational culture
4. Capacity building in gender and development
5. Institutionalisation of gender responsive organisational structures and procedures and
6. Provision of necessary tools for implementing gender responsive development practices.



The Gender Mainstreaming Project Phase II, which is funded by NZAID for a three year period (2004-2007) has been extended to December 2008.

Activities of the Gender Mainstreaming Project included the establishment of the MRCS Gender In-house Network, re-activation of the gender network in four riparian countries, and revision of the project work plan. In 2006, the project carried out national workshops in four MRC member countries on Gender Mainstreaming in Water and Related Resources Development in the Lower Mekong Basin and conducted several in-house talks on gender issues and the MRC Secretariat.

In 2007 the project will continue to conduct gender awareness and sensitivity and gender mainstreaming in project cycle management training and will provide data and information to personnel of NMCs, Line Agencies and the MRC Secretariat. It will improve MRC capacity in planning, executing, monitoring and evaluating gender responsive water and related resources development programmes and it will provide necessary tools for implementing gender responsive development practices. The project will also conduct basinwide workshops on gender mainstreaming in water resources development in the Lower Mekong Basin.

Programmes in development

The Mekong River Commission is constantly expanding its programme work in order to meet the needs of the Member States and is now in the process of developing several new programmes in response to country requests.

In 2006 Council approved the development of two new programmes: the Drought Management Programme and the Information and Knowledge Management Programme (IKMP). The IKMP encompasses all current data management work as well as the new Mekong-HYCOS project and the MRCS IS-portal. As it is partly in operation already, the IKMP is more fully described in an earlier section of this report.

The Hydropower Programme was approved by Council in 2005 and is seeking funding for full implementation.

Hydropower Programme

The total hydropower potential of the Mekong river system is estimated at 17,000 MW for the tributaries and 13,000 MW for the mainstream. Only 4,450 MW has been developed to date (1,600 MW in the LMB; 2850MW in the Upper Basin).

Demand in the LMB is expected to grow fast over the next 20 years, and there are substantial opportunities for trading of power between the countries in the region.

Hydropower options are included in the power development

strategies of all the Mekong countries and the MRC believes that successful development of the region's hydropower potential will require a well structured and integrated programme founded on a basin-wide strategy, with due regard to environmental and social aspects.

The MRC's Hydropower Strategy, calls for development of the hydropower resources of the Mekong according to true least-cost planning, fully considering environmental and social impacts. It also sets as its objective that:

"The increasing demand for affordable electric energy in the MRC Member Countries is met with minimal negative impacts on the environment and local people, thereby promoting economic growth for the countries' mutual benefit".

To date the Hydropower Programme has had very limited resources at its disposal. Therefore, a wider Hydropower Programme has been under formulation at the MRCS. A programme document defining programme objectives, structure, outputs etc, will be produced in 2007 and funds are being sought for this.

Under the Hydropower Programme best options in the Lower Mekong Basin for sustainable development in the hydropower sector will be identified. At the basin-wide level





MRC will facilitate cooperation among Line Agencies to promote proper planning and development of hydropower as well as monitoring of impacts and mitigation measures.

Participation of stakeholders and coordination with national authorities and international organisations in the formulation of development initiatives will be ensured and activities will be strongly linked to the BDP.

Drought Management Programme

Drought management is a critical issue for the people of the Basin as nearly 75% of the region's population is employed in agriculture, fisheries and forestry. Agricultural production is a significant contributor to and driver of economic growth in the riparian countries, and there is a need for sufficient water to meet these needs.

Availability of water however varies greatly both spatially and over time due to the natural long dry season, unnatural droughts, and lack of irrigation systems.

The Drought Management Programme will address the problem of droughts in the Lower Mekong Basin, their impacts upon agriculture and water resources and what management plans and mitigation policies might be put in place.

The Drought Management Programme will have strong links with the Flood Management and Mitigation Programme and with projects such as the irrigation and water use efficiency activities under the AIFP programme. It will also benefit from strong links with the Water Utilisation Programme.

Development of the programme proposal will be based on a study on Drought Forecasting and Management carried out in 2005 by the MRCS whose main objective was to enable identification of deficient hydrological conditions resulting

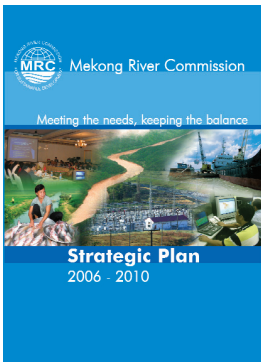
from the natural variability of the regional climate, and to be able to distinguish these from impacts of resource developments and interventions.

In 2007 the MRCS will develop a comprehensive programme proposal, as well as trying to raise the funds to support the programme. The Drought Management concept will build on ongoing conceptual work of the WUP and will be closely coordinated with irrigation sector and water use efficiency work of the MRC.



2006 Corporate highlights

Planning for sustainable development



The MRC Joint Committee endorsed the final draft of the Strategic Plan 2006-2010 at its 24th meeting in Vientiane on 29-30 August, 2006.

The Strategic Plan has an overall goal aimed at supporting our member countries to make "More effective use of the Mekong's water and related resources to alleviate poverty while protecting the environment" and sets the path for the MRC's work for the

next five years. In order to guarantee strong country ownership the Strategic Plan went through an extensive consultation process with the Member States and stakeholders in the basin and demonstrates a strong shared vision of the need for a regional perspective in development.

Because MRC wanted this plan to be as inclusive as possible it also took on board comments from donors and from members of civil society. The MRC now has a very good consensus to support its work over the next five years. A full summary of the main goals of the Strategic Plan 2006-2010 is on page 10.

Increased involvement with stakeholders

Representatives from the Mekong River Commission played an active role in a regional stakeholder forum entitled the Mekong Region Waters Dialogue – Exploring Water Futures Together, held in Vientiane, Lao PDR in June 2006.

The aim of the dialogue meeting was to provide a platform for participants to learn, share and discuss different perspectives regarding decision-making for water development and management in the Mekong Region. The MRC welcomed this opportunity to both inform stakeholders in the Mekong Basin about its work and seek their opinions on how it could work more through active discussion.

The dialogue, which was organised by the IUCN, the Thailand Environment Institute, the International Water Management Institute (IWMI) and the Mekong Programme on Water and Resilience (M-Power) was the first of its kind in the region to bring together representatives from governments, international organisations and development banks, civil society, NGOs, private business and other interested actors from the six Mekong countries (Cambodia, Lao PDR, Thailand, Viet Nam, China and Myanmar).

MRC made presentations on its regional strategy for use and

development of the water resources within the Mekong River Basin and on integrated basin flow management. It also hosted a session focusing on the MRC Strategic Plan 2006-2010. This session provided the MRC with extensive feedback to this plan. This is the second time the MRC has sought to involve stakeholders in its decision-making process for the sustainable development of water and related resources in the Mekong River Basin in the context of its strategic planning process. The first meeting was in August 2005 and the MRC plans to continue this process on a regular basis.

Warmer relationships with Dialogue Partners

Over the past year MRC's relationship with China and Myanmar has strengthened. MRC is now poised to move toward more concrete technical cooperation within its established dialogue partnership and is in the process of discussing and identifying a number of possible work areas, particularly with China.

In January 2006 the MRC Secretariat commenced supplying China with monthly flow data from hydrological stations in Chiang Saen, Thailand and Stung Treng, Cambodia.

The MRC in close cooperation with China has made good progress under the AusAID-funded Appropriate Hydrological Network Improvement Project (AHNIP) in the improvement of the two hydrological stations at Jinghong and Man'An, and the establishment of the Data Centre at the Provincial Bureau of Hydrology and Water Resources in Kunming, People's Republic of China. In June 2006 the MRC organised a technical mission to these stations to make necessary



China's Minister of Water Resources H.E. Mr Wang Schuheng chats with Dr Cogels at the 4th World Water Forum in Mexico City.



arrangements for the provision of data for the flood season 2006 and to consolidate the capacity of local technical staff in using automatic equipment provided by MRC. As a result, the supply of regular data commenced successfully from 15 June 2006 onward.

Strengthening Partnerships in the Basin

The MRC has strengthened its partnerships with development banks working in the region, such as the World Bank, the Asian Development Bank, French Development Bank AFD and KfW German Development Bank and also formed a new relationship with the Japan Bank for International Cooperation. The MRC has been heavily involved in the preparation of the water resources programme being developed by the World Bank and the ADB in close consultation with the country governments, the MRC and civil society and using MRC data and expertise.

These partnerships reaffirm the recognition of the role of the MRC as a leader in strategic planning and management of the basin's water and related resources and an organisation ideally placed to identify important joint and basin wide projects and programmes, while supporting line agencies with knowledge and expertise.

Co-hosting international conferences

During 2006 MRC also co-hosted two important international conferences.

The first, hosted with Japanese research groups, An International Conference on Mekong Research for the People of the Mekong was held in October in Chiang Rai, Thailand. At this conference, Mekong research groups met to discuss the common agenda from different perspectives, focusing on the people of the Mekong River Basin. Themes of the conference were: Water Resources Development, Food and Environmental Impacts; Climate and Basin Changes and Water Hazards Management; Eco System and Biodiversity; and Future Opportunities and Transboundary Collaboration.

The second conference – the International Conference on Water and Food, held in November in Vientiane, Lao PDR, was co-hosted with the Challenge Programme on Water and Food and brought together more than 250 water experts from nine river basins around the world. It focused on research achievements in the field of water productivity in agriculture and recommended areas for research as well as showing how water productive research results could be better translated into positive developments.

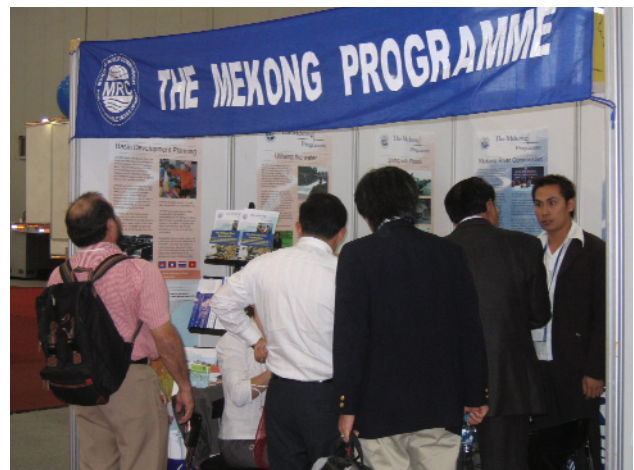
MRC makes mark at 4th World Water Forum

A delegation from MRC participated in the 4th World Water Forum held in Mexico City in March 2006 and in the accompanying World Water Fair. The MRC made presentations on the Hydropower Potential and Development

in the Mekong River Basin, the Mekong Programme, Regional Economic Integration through Improved Mekong Navigation; and Satellite Observations with Regard to Floods.

MRC's CEO Dr Olivier Cogels was also present at the Ministerial Meeting to inaugurate the Asia Pacific Water Forum and took this occasion to explain the role MRC played as a river basin organisation in the region and the importance of transboundary issue management.

The forum represented an excellent chance for MRC to promote its work and for delegates to meet others working in river basin organisations or involved in water management from all over the globe, to interact with senior members of



The MRC's booth at the 4th World Water Forum drew much interest.

governments and to cement good relationships with our donor countries and international organisations who are interested in working in partnership with MRC. It also provided an informal opportunity to meet with representatives from MRC's Dialogue Partner, China. The booth illustrating the work of the MRC and the Mekong Programme drew a wide range of international visitors.

Time for an organisational review

In late 2006 an organisational review team spent two months examining the structural, management and financial workings of the MRC, its Secretariat and the National Mekong Committees. The team comprising eight regional and international experts visited all the countries and spoke to a broad spectrum of representatives of all these bodies and then presented their findings at the 13th Council Meeting in Ho Chi Minh City in December 2006. The review was financed by the Governments of Australia, Denmark, France and Sweden. The report expressed a positive view of the MRCS and its operations and also provided some very useful recommendations on enhancing efficiencies.

BDP2 – the plan goes forward

The next decade will bring many challenges to the basin and its people. As the population grows there will be increased pressure on the basin's economic resources and it will be essential to make better and more efficient use of the basin's water and related resources to meet development needs.

However joint planning of these developments at basin scale is crucial if they are to be well-balanced and sustainable and this is where the MRC, through its Basin Development Plan is planning to play a leading role in the region. Now entering its second phase (BDP2) the programme will focus on the consolidation of its planning capacity and on its use for planning development solutions, concentrating mainly on projects with transboundary impact and fostering regional cooperation in the water resources sectors.

In its first phase, the BDP focused on the building of a participatory process for assessing priority needs and development issues, including trans-boundary issues. This planning will now be used as a blueprint to identify, categorise and prioritise the projects and programmes to seek assistance for and to implement the plan at basin level. In the current terminology, the plan is an Integrated Water Resources Management (IWRM) and Development Plan.

BDP2 will play a strong promotional and facilitating role for a wide range of projects to be implemented by national authorities and suitable regional service providers and implementing partners. One of the main tasks under BDP2 is to identify these

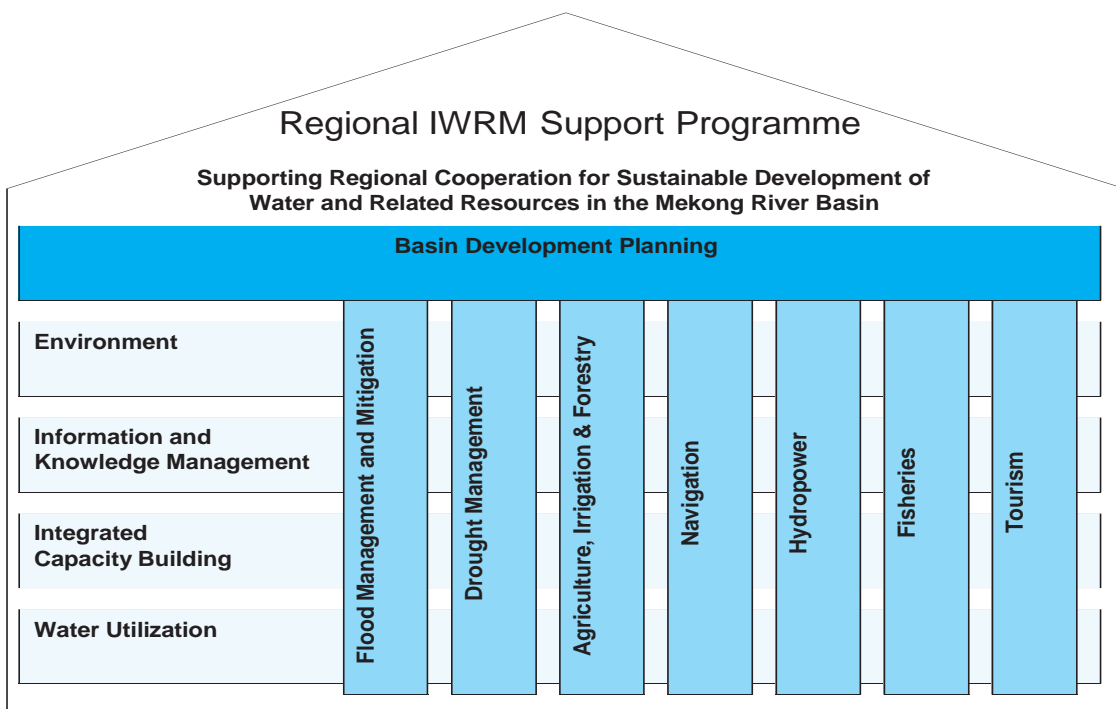
projects and programmes and to seek assistance for implementation at basin level, with a balanced and equal consideration of the environmental, social and economic aspects.

MRC anticipates a stream of projects will be identified and promoted for implementation by line agencies, national authorities and other relevant service providers and implementing agencies. This will be achieved in close partnership with the international donor community and development banks.

The mechanisms, tools and criteria developed under Phase 1 will be used to ensure long-term sustainability of all planned developments. Special attention will be paid to financial and institutional sustainability of a selected undertaking.

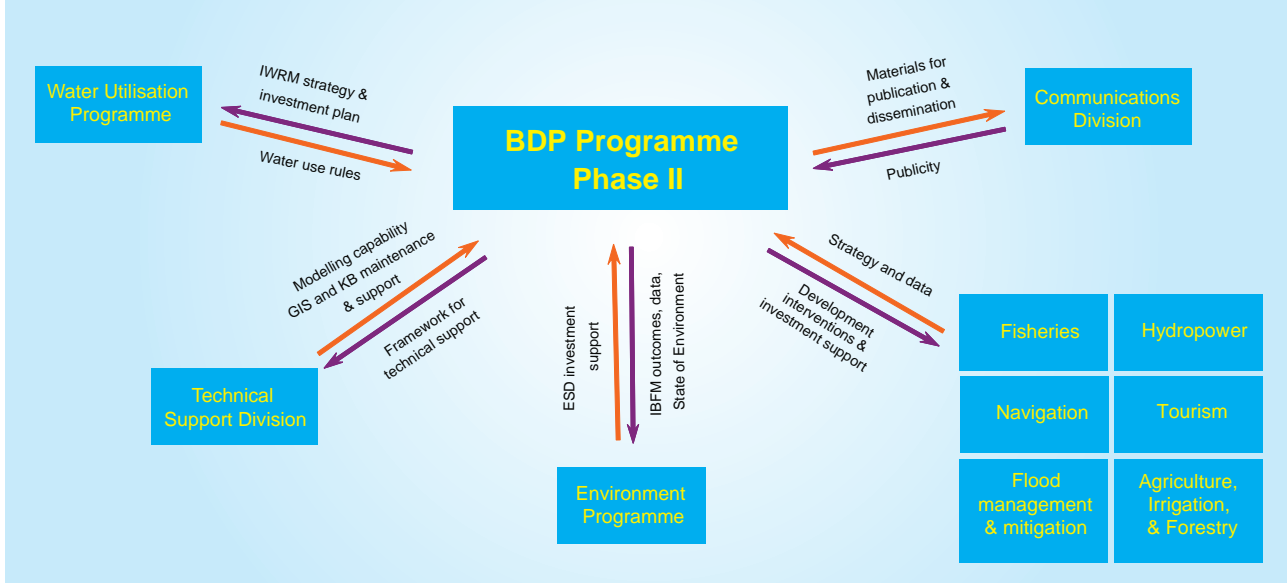
BDP Phase 1 laid some groundwork on institutional framework and legal basis for national integrated water resources development. These initial analyses will be enhanced further under BDP2 and lead MRC to a thorough understanding of the national medium and long-term strategies of the member countries and their implications for the river basin, which will allow a more pro-active engagement of MRC in relevant matters.

Planning capacity and tools will be further consolidated. The role of the Geographical Information System (GIS) as central planning tool will be enhanced and the integration between data acquisition, data management, GIS and modelling will





Interlinkages with other MRC Programmes & Divisions



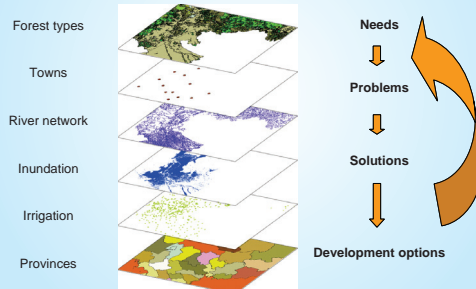
be strengthened. To formulate the plan at basin scale, information sharing and joint analysis is required in each sector, involving the line agencies of the four member countries and, as far as possible, the two upstream countries China and Myanmar. This central planning tool – together with the Decision Support Framework (DSF) – will also be used to support decision-making and IWRM at national level in the member countries.

The MRC Secretariat will be able to provide on-demand specific information, feasibility studies, impacts assessments and other technical services to the Member States. BDP2 will substantially improve the network between line agencies, provincial authorities, river basin committees or organisations and non-government organisations and concerned communities necessary for smooth facilitation and promotion of significant and larger scale development interventions.

As the BDP is strongly linked to all other MRC programmes through the MRC's integrated programme structure, the BDP process will use acquired knowledge from within the other MRC programmes and build up an overall perspective of what the development needs are. This process will also be able to identify "knowledge gaps", which can help set the agendas of the programmes and will contribute to MRC's overall role in promotion of water-related sustainable development, knowledge base development, capacity building and regional cooperation.

BDP GIS

An integrated mapping and analysis system based on sound scientific data and knowledge



Under BDP2 MRC sees a stronger orientation towards the activities undertaken by other organisations and agencies in the Mekong River Basin taking place and it envisages a close interaction with other IWRM actors in the Mekong River Basin both on national and regional level.

The IWRM Strategy prepared during Phase 1 will be revised periodically, to reflect new knowledge and new development needs and priorities.

IBFM puts triple bottom line assessment into practice

Wherever there is water there are people wanting to use it for their benefit. This is natural state of affairs and in this respect the Lower Mekong Basin is no different to any other river basin in the world. What is different is that the water resources of the Mekong are largely untapped and that the ecological health of the river is still robust. This provides the member countries of the MRC with an opportunity to plan development guided by the positive and negative experiences of countries that have developed their water resources to a greater extent.

The countries of the Mekong River Basin have put sustainable development of the Mekong's water and related resources at the top of their economic agendas if they are to achieve their poverty alleviation goals, but they realise that this involves making trade-offs between the demands of competing sectors. These trade-offs could include between fisheries and hydropower, between the modifications to the natural flow of the river and the natural environment; between nations that share a common river basin.

The tools being developed under MRC's Integrated Basin Flow Management (IBFM) initiative aim to provide policy makers and development planners from the riparian countries with information that will enable them to make decisions about water resource development in the light of the full spectrum of the benefits and costs these developments will bring to their people.

One lesson learned from past experiences is that while the benefits brought by developments are tangible in terms of factors such as revenue, increased food production, provision of electricity, improved navigation, and flood mitigation, the costs that are taken into account are often limited to the capital and operational costs of particular projects.

However, other impacts, such as possible damage to fisheries, wetlands, and the ecological health of the river system and consequent impacts of people living by the river, were not taken into account fully. This was partly because these can occur at some distance from the development site and partly because their manifestations can take years to come into effect.

The IBFM tool, taking these experiences into account, will provide a "triple bottom line" environmental, economic and social-assessment of the effects of future development projects. It captures the body of knowledge and experience accrued over the past four decades by scientists working the water-resource development field around the world to build a predictive method designed specifically for the particular circumstances of the Lower Mekong Basin.

The analysis is based on two factors;

- (i) a deep understanding of the river system, the resources it currently provides, the livelihoods it supports, and its



Core samples of soils are used as models of riverside stability.

place in the culture and society of the people who live in the basin; and

- (ii) the ability to model, through computer simulations, how developments will modify the hydrology and hydraulics of the river basin and predict how these will in turn impact the physical, biological and social characteristics of the system.

The early stages of IBFM, therefore, involved building this knowledge base and developing the computer software that could model the complexities of the flow in the Mekong River system and make accurate predictions of changes to the flow that could result from human interventions to the system.

Because understanding the flow of the river (what volumes of water move where and when) lies at the core of IBFM, the first step was to provide a detailed description of hydrology of the basin that was understood and agreed by all the MRC Member States. This work, which was funded by the World Bank, was completed in 2004 and made available to the general public through the MRC publication, *Overview of the Hydrology of the Mekong Basin*.



Results were analysed in a workshop held at the MRC Secretariat.

Building the knowledge base of the river, involves a multi-disciplinary team that included hydrologists, botanists, geomorphologists, biologists, sociologists, and economists.

Their work was initiated in 2005. The comprehensive analysis not only includes details of the geomorphology, ecology and the current human uses of the river, it also defines those factors that are indicative, or susceptible, to changing flows.

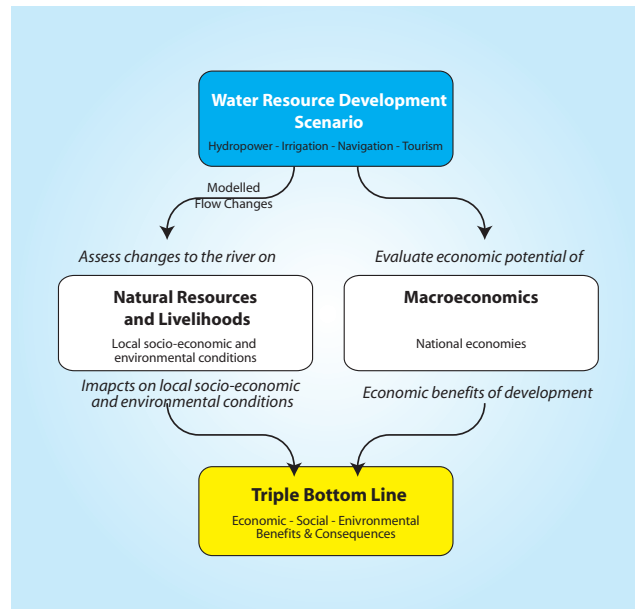
This 'holistic' approach brought together the ecological, economic and social aspects of development. It also brought to light the complex manner in which the physical character and biological character of the basin are closely interlinked and how they, in turn, interact with the livelihoods and way of life of the basin's inhabitants.

One of the early products of the IBFM research was a greater appreciation of the factors that control the natural variability of the Mekong, both in terms of the annual seasonal flux of the wet and dry seasons and the river's ephemeral physical features such as floodplains, channels, sand bars and islands. Understanding this natural variability provides a framework against which to set changes that may occur to the river system stemming from human interventions. For example, analysis of historical records of the annual flood volume and the size of annual flood peak shows that the magnitude of the annual flood-recession cycle has been remarkably consistent showing little variation since records were first taken over 80 years ago. Increasing or decreasing this variability could cause the character of the river to change.

A key element of this part of the work was continuous dialogue between the IBFM development team and various interested agencies, including the National Mekong Committees and other experts from the region. A series of stakeholder consultations will ensure that their invaluable experience is incorporated into the process and that their recommendations are taken into account the planning of the next stages of IBFM.

The work up to 2006 provided the raw ingredients needed to develop an IBFM methodology applicable to the Mekong. The next step is to take these ingredients and the feedback received from the other concerned bodies to develop a predictive tool. This will build on and refine the technical knowledge gained so far and, through models and expert tools, develop the "Mekong Method" for flow assessment.

The MRC will then be then ready to analyse the impacts (both positive and negative) of agreed water resources development scenarios developed under the Basin Development Plan phase 2 which are of interest to the member countries.



Opening up the great Mekong highway



The new navigation agreements will facilitate cross border procedures in places such as the Viet Nam-Cambodia border.

The Mekong River has always been the people's highway. A vital artery linking six countries, it has been used as a prime source of transport since people first settled in the Mekong River Basin, but the real potential of commercial shipping has rarely been used.

There have always been risks with navigating the river and today, with larger, more powerful, craft plying the river, the risks are even greater.

Natural hazards like rocks and rapids can only be negotiated by those who are familiar with the river. Often these skills are passed down through the generations so in some regions only a handful of skilled skippers have intimate knowledge of shallows, sandbars, whirlpools and rapids and even the most experienced sailors do not travel at night. The result is that the economic potential of the river is being seriously under exploited.

In Cambodia exporters who could save money and ship more goods (particularly garments from the flourishing garment industry) from Phnom Penh to the deep sea ports in Viet Nam, or directly to the mother ports such as Hong Kong and Singapore, are halted in their tracks by only being able to sail during the day.

As shippers cannot provide a reliable service, container transport is only undertaken by a few companies.

Although the research and statistical figures clearly show that moving goods and people along the waterways is more economical and more environmentally friendly, it is not always possible for those who wish to use this type of transport to make the most of their waterways.

The Mekong River Commission's Navigation Programme (NAP) is working to change this state of affairs. In November 2006 the newly operational programme commenced a project to increase the efficiency of domestic and cross-border waterborne transport in the LMB by improving the navigation conditions on the Mekong River in the Delta between Phnom Penh, Cambodia and the border with Viet Nam by the installation of a system of aids to navigation. These buoys, beacons and shore marks, will facilitate river traffic for inland traffic between Cambodia and Viet Nam and for sea going vessels between overseas ports and Cambodia and Viet Nam.

The "Procurement, Installation and Training on Aids to Navigation on the Mekong River between the Phnom Penh Port and the Cambodia-Viet Nam border" project will provide, for the first time, a full day and night system of



channel markers on the busiest stretch of the Mekong river in Cambodia.

The installation of this internationally recognised system of aids to navigation such as buoys, beacons and shore marks, aims to improve safety and efficiency of navigation so that sea-going vessels and inland barges can navigate for 24 hours per day in a safe way. As this will increase possible sailing time by 11 hours, it will allow for a rapid increase in trade from Cambodia. Previous experiences have shown that installing proper navigational aids will boost traffic by 35 per cent and this increased trade will help the country meet its goals of alleviating poverty.

It will also increase safety on the river. The lack of aids to navigation is the main cause of various accidents from collisions, ships running aground, and risks for pollution, threatening the ecosystem of the river. Prevention of accidents is a high priority for the MRC for simple reason that millions of riparians depend largely on the resources of the Mekong for drinking water, to support aquatic life and for irrigation and a polluting accident poses a serious threat to their livelihoods.

As the quality of waterborne transport improves, the waiting times will be shortened, night navigation will be possible, and river transportation will be more cost-effective and efficient. In turn, shipping forwarders and insurance fees will become less.

The 12-month project is being implemented by the Australian Maritime System Ltd (AMS) in cooperation with Phnom Penh Autonomous Port (PPAP) and the Waterways Department (WD) of the Ministry of Public Works and Transport. PPAP will be involved in the land-based operations (installation of land-based markers, storing and handling the buoys), and the WD



in the water-based operations (surveys and installation). The Cambodia National Mekong Committee will act as the Coordinating Agency within Cambodia, while the MRC has overall responsibility over the project.

This project will form a basis for new commitments and closer cooperation between Cambodia and Viet Nam to aim for improvement of international navigation on the Mekong estuarine system between the sea and Phnom Penh, and open up for more trade opportunities between Cambodia and Viet Nam.

It will also make the Mekong a more reliable waterway and therefore more attractive for regional and international traders, freight forwarders, investors and shipping agencies to use it as a gateway to the larger Mekong Region.

MRC is also considering improving the navigation conditions on the Upper Mekong River in the Lao PDR and Thailand between Luang Prabang and Vientiane by possible installation of aids to navigation which would facilitate river traffic in Lao PDR, and between Lao PDR and Thailand.

In line with these physical works, MRC is also working on the legal aspects by facilitating a navigation protocol for cross border transportation between Cambodia and Viet Nam. Implementation of such a protocol will abolish all non-physical obstructions and also boost confidence for investors.



Two of the types of buoys being installed between Phnom Penh and the Viet Nam border.

Finance and Administration

MRC has continued its stringent budgeting rules and maintained a surplus in the Operating Expenses Budget. It is expected that in 2007 the accumulated reserve will be at its set target of US\$ 500,000 providing MRC with a safety cushion of three months of funding of its basic services.

In May 2006 the MRCS headquarters building in Vientiane was seriously damaged by a storm but luckily without causing any personal harm. All operational activities were restored within three days and all damage has been repaired since.

FAS has continued its effort to increase transparency. The audit reports and briefing notes on income and expenditures have been made available to the general public via our website. All administrative manuals have been finalised and all staff have now at their disposal a comprehensive set of manuals covering all programme and administrative management issues.

2006 has been a busy year for FAS with much recruitment. The MRCS staff has grown by 12%. MRCS has continued to hire new staff in particular for the Flood Management and Mitigation Centre in Phnom Penh.

Number of staff at the end of the year	2005	2006
General support Staff	63	70
Riparian professional Staff	38	43
International Staff	14	16
Total	115	129



A freak storm caused substantial damage to the Secretariat (above) but now all is fixed and back to normal (below).



International Cooperation and Communication

International Cooperation and Communication functions of the MRC covers:

- Donor liaison
- Governance meetings
- Policy development
- External communications

Donor liaison includes fundraising activities, negotiation of new agreements, monitoring and amendments.

In 2006, policy dialogue between the MRC and its donor community was enhanced with the involvement of donors in the development of the MRC Strategic Plan 2006-2010. This has substantially improved the end product. Stronger links to regional initiatives such as the Asian Development Bank's Greater Mekong Subregion initiative, the World Bank's Mekong Water Resources Partnership Programme, ASEAN, and the general donor community are key objectives for this Strategic Plan and this was initiated in 2006.

Several fundraising missions were undertaken by the MRCS Chief Executive Officer including those to Japan and Europe and a comprehensive fund raising document, summarising funding needs for all MRC programmes and projects for the period 2006-2010 was produced to aid fundraising.

In 2006 the MRC concluded several major funding agreements which are illustrated on the chart on page 43.

The reporting system has been improved with a continuously updated overview of agreements under discussion, agreements and amendments recently concluded and other fund-raising activities. A reporting schedule system was launched as a support tool for the programmes to improve

preparation of reports along with guidelines to programmes to standardise presentation and structure.

Regular meetings in 2006 included the 23rd and 24th Meetings of the MRC Joint Committee in Savannakhet and Vientiane, Lao PDR respectively, the Informal Donor Meeting held in Vientiane, and the 13th Meeting of the MRC Council and the Donor Consultative Group Meeting in Ho Chi Minh City, Viet Nam.

Other outputs in 2006 included an expansion of the MRC's liaison activities with civil society and promotion of better coordination amongst programmes involved in managing transboundary issues. This will aid in monitoring implementation of the Strategic Plan 2006-2010.

Awareness of the work and achievements of the MRC was raised through the production of the quarterly MRC newsletter, an MRC Annual Report, as well as the production of many technical reports and information products for the MRC programmes and the distribution of news releases about important events. Participation in regional training workshops for journalists from the six Mekong countries and the fostering of a healthy relationship with the regional media, have added to this

Public awareness raising included representation of the MRC's work at several international forums and conferences, including the 4th World Water Forum in Mexico City as well as at Joint Committee, Council and Donor Meetings. A redesigned MRC website www.mrcmekong.org featuring an educational sector - Mekong from Space - was launched in early 2006 and this website has been enhanced on a regular basis.



MRC undertook a fundraising mission to Japan.



Donors met regularly to exchange views.

Funding Signed in 2006

Donor	Amount US\$
Australia	155,000
Belgium	4,800,000
CPWF	198,000
Denmark	9,000,000
Finland	207,000
France	4,000,000
Germany	5,200,000
Japan	352,000
Total	23,912,000

Firm Pledging received in 2006

Donor	Amount US\$
ADB	75,000
Australia	4,700,000
Belgium	3,900,000
European Commission	440,000
Finland	8,750,000
Germany	800,000
Japan	800,000
Sweden	6,420,000
Total	25,885,000

Income and Expenditure in 2006

	%	2006	2005
		USD	USD
Contributions			
Donors	89.5	10,925,732	13,754,662
Riparian governments	9.5	1,157,253	1,078,332
Others	0.9	106,935	
		12,189,920	14,832,994
Revenue			
Interest	0.1	7,207	13,883
Miscellaneous	0.1	10,323	11,876
		17,530	25,759
Total Income	100	12,207,450	14,858,753
Expenditure			
<i>Project expenditure</i>			
Personnel services	41.4	5,370,859	5,888,778
Sub-contracts	7.4	956,229	539,478
Training	8.2	1,064,668	1,106,553
Equipment	4.2	550,812	834,765
Miscellaneous expenses	6.0	774,183	632,513
Water Utilisation Project	16.8	2,179,932	2,126,540
		10,896,683	11,128,627
<i>Relocation project</i>			
Secretariat relocation expenditure	0.0	0	14,984
<i>Administrative expenditure</i>			
Staff salary and fees	5.7	745,111	671,086
Common staff costs	3.2	412,726	402,500
Travel	0.2	19,668	22,047
Contractual services	1.2	157,942	141,484
General operating expenses	2.1	276,558	180,726
Supplies	0.2	27,879	27,571
Furniture and equipment	0.5	66,022	70,290
MRC meeting expenses	1.3	168,548	146,489
Support to National Mekong Committees and programmes	0.3	44,901	54,605
WUP management support	1.1	147,978	167,198
		2,067,333	1,883,996
Total Expenditure	100	12,964,016	13,022,607
Foreign exchange gain/(loss)		4,529	-3,290
Movement in Fund Balances		-752,037	1,827,856
Fund Balances as at 1 January		8,975,300	7,147,444
Fund Balances as at 31 December		8,223,263	8,975,300



