FOREWORD

On behalf of the Mekong River Commission (MRC), it is my pleasure to present the MRC Work Programme for the year 2005 to our donors, partner agencies, and friends of the Mekong.

The structure of this programme is still based on the Strategic Plan 2001-2005. All MRC activities are integrated into three types of programmes to meet the needs of the riparian countries: core, support and sector programmes. Since then, MRC has kept up its efforts in further consolidating this programme approach in preparing the yearly MRC Work Programme and also this Work Programme for the year 2005. We have developed two new programmes: the Flood Management and Mitigation Programme and the Navigation Programme. The Flood Management and Mitigation Programme (FMMP) was formulated upon request of the MRC Council who had expressed great concerns for the well-being of the affected population after the severe floods in 2000, and called upon the MRC Secretariat to seek donor assistance so that MRC would be able to contribute to the management and mitigation of frequent and severe flooding in the region. The FMMP has now started with a budget volume of US$ 24.55 million of which US$ 19.75 million are within the integrated FMMP. We have also focused our efforts on developing a new Navigation Programme as called for in the 1995 Mekong Agreement. This needs further fundraising efforts. This programme will serve to promote freedom of navigation, to increase international trade opportunities, and to assist in coordination and cooperation in developing effective and safe waterborne transport. The Environment Programme, Integrated Capacity Building Programme and Fisheries Programme have been revised or refocused to better serve the needs of the countries taking into account experience gained in implementation. A Data and Information Management Programme has been introduced under the Support Programme.

As did previous Work Programmes, the Work Programme 2005 provides a general introduction to the MRC and a brief description of the core, sector and support programmes. It also presents progress of programme implementation in 2004 with a chart on disbursement status, and planned activities per programme for the year 2005. The last part of the Work Programme focuses on programme profiles to provide the reader with succinct information on what the programme is aiming to achieve.

Complementing the increasing participation of the international donor community in the MRC programmes, the MRC Member States continue to increase their contributions to the MRC, which is therefore well placed for a successful implementation of the Work Programme 2005.

I should like to take this opportunity of the publication of the MRC Work Programme 2005 to express on behalf of the MRC our sincere gratitude to our donors, partners and friends for the continued active participation in MRC's work aiming at poverty reduction and sustainable development of the Mekong River Basin.

Dr. Olivier Cogels
Chief Executive Officer

PREFACE

The Work Programme 2005 contains brief descriptions of the programmes and explains how they are contributing to the MRC Strategic Plan. It also includes a budget and activity plan for 2005 as well as status of activities carried out in 2004 and a graphic presentation on achievement indicator. MRC programmes are grouped under three categories: core, support and sector programmes:

I. Core Programmes

1.1. Basin Development Plan;
1.2. Water Utilisation Programme;
1.3. Environment Programme; and
1.4. Flood Management and Mitigation Programme

II. Support Programmes

2.1. Integrated Capacity Building Programme; and
2.2. Data and Information Management Programme

III. Sector Programmes

3.1. Fisheries Programme;
3.2. Agriculture, Irrigation and Forestry Programme;
3.3. Hydropower Programme;
3.4. Navigation Programme; and
3.5. Tourism Programme

The MRC Work Programme is built around the concept of Integrated Water Resources Management, defined as a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

Compared to the Work Programme for 2004, major developments have been included:

Basin Development Plan

Phase 1 of this Programme is scheduled for completion by mid 2005, both in terms of outputs and funding. Phase 2 (2005-2010) is planned to proceed in direct continuation of Phase 1, at an increased level of effort. Phase 2 will comprise five components: (1) Planning Capacity and Tools; (2) IWRM Strategy and Portfolio of Priority Projects; (3) Support to National IWRM; (4) Project and Programme Identification and Promotion; and (5) BDP Programme Management.

Water Utilisation Programme

The programme has been composed of the following four components instead of three as agreed at the World Bank mid-term review in December 2003 (i) Basin Modelling and Knowledge Base; (ii) Environmental and Transboundary Impact Analysis; (iii) Rules for Water Utilisation; and (iv) Management and Institutional Strengthening. The time frame of the programme is now seven years 2000-2006.

Environment Programme

Milestones were developed for the period 2004 - 2008 to allow for a better monitoring of the programme by the Joint Committee. The 2004-2005 milestones consisted of the approval by the Joint Committee at its Twentieth Meeting in August 2004 of the content of the Basin Report Card on Environmental Condition, and the Report itself as well as the Guidelines for a Transboundary Environmental Assessment System at the Twenty-Second Meeting in July 2005.

Flood Management and Mitigation Programme

The programme has been composed of the following five components instead of six: (i) Regional Flood Management and Mitigation Centre; (i) Structural and Flood Proofing Measures; (iii) Mediation of Transboundary Flood Issues; (iv) Flood Emergency Management Strengthening; and (v) Land Use Management.

Integrated Capacity Building Programme: This programme has included two new components: (1) the Research Coordination for 2003-2010 and the Gender Mainstreaming in Water and Related Resources Development in the Lower Mekong Basin for December 2004 to 2007. The budget of the Research Coordination facility is about US$ 150,000 to 160,000 of which 90% has been met by the Challenge Programme on Water and Food to support the post of the Challenge Programme Coordinator, and the remainder has been activity costs born by collaborating MRC programmes. The Gender Mainstreaming component is expected to start in December 2004.

Data and Information Management Programme: This programme has been introduced in the Work Programme 2005 under the Support Programme following the request of the Joint Committee at its Eighteenth Meeting in 2003 to the Secretariat to take action regarding sustainability of the MRC-Information System, and prepare a proposal on allocation of funds for the development, implementation and maintenance of the MRC-Information System for submission to donors. The Joint Committee at its Twentieth Meeting has also highlighted the needs for hydrological data collection. The Programme Preparation Phase will include drafting of MRC Data and Information Policy, MRC Strategic Plan for Data and Information Management, components and overall programme design and programme formulation. This Preparation Phase was planned for nine months and expected to start in early 2005; and the Implementation Phase in 2006 with an annual budget of US$ 2 million.

The Concept Document for the establishment of the Mekong Hydrological Cycle Observing System (Mekong-HYCOS) has been finalised in August 2004 and submitted to the member countries for their official endorsement in early October 2004. Based on final agreed version of Concept Document, the project document will be formulated through French funding support for the consultancy services. The project implementation is expected to be carried out in 2005 subject to funding availability.

Fisheries Programme

The Swedish International Development Agency (Sida) has provided funds for the work of the Technical Advisory Board for Fisheries Management, and the Australian Center for International Agricultural Research (ACIAR) funds a study on fish genetics. Preparations for development of the Fisheries Programme, Phase II have been commenced.

Water Resources Management Programme

The MRC Council at its Meeting on 8-9 December 2004 has approved the Secretariat's proposal to change the Water Resources Management Programme to Hydropower Programme, and to include the Hydrology component into the Data and Information Management. The Hydropower Programme is thus presented as such in this Work Programme.

Navigation Programme

A detailed implementation plan was formulated where overlaps with and expected support from other MRC programmes had been identified. A detailed schedule for the establishment of the Navigation Advisory Body and the National Working Groups was drawn up.

Tourism Programme

Initial activities with regard to waterborne tourism are included in the new Navigation Programme. A baseline study on tourism will be undertaken under the Environment Programme.

Graphic presentations on **Achievement Indicator** based on programme disbursements has been introduced under Section IV Progress of MRC Work Programme 2004 for each programme to provide a general view on programme implementation.

Contact Details

The Work Programme 2005 is made available to interested agencies upon request. It is also possible to provide copies of detailed comprehensive programme proposals upon request. For this purpose, kindly contact the MRC Secretariat's Programme Coordination Section, at the following address:

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Interested readers are invited to visit the MRC home page at http://www.mrcmekong.org

Acronyms and Abbreviations

ADB	Asian Development Bank
AIFP	Agriculture, Irrigation and Forestry Programme
AusAID	Australian Agency for International Development
BDP	Basin Development Plan
CNMC	Cambodia National Mekong Committee
CPWF	Challenge Programme on Water and Food
DIMP	Data and Information Management Programme
DSF	Decision Support Framework
EIA	Environmental Impact Assessment
EP	Environment Programme
FP	Fisheries Programme
FMMP	Flood Management and Mitigation Programme
GEF	Global Environment Facility
GMS	Greater Mekong Sub-Region
HP	Hydropower Programme
ICBP	Integrated Capacity Building Programme
ICLARM	International Centre for Living Aquatic Resources Management
JRP	Junior Riparian Professional
LMB	Lower Mekong Basin
LNMC	Lao National Mekong Committee
MDBC	Murray-Darling Basin Commission
MRB	Mekong River Basin
MRC	Mekong River Commission
MRCS	Mekong River Commission Secretariat
NAP	Navigation Programme
NMC	National Mekong Committee
RC	Research Coordination
SEA	Strategic Environmental Assessment
TP	Tourism Programme
TNMC	Thai National Mekong Committee
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
VNMC	Viet Nam National Mekong Committee

WG	Working Group
WUP	Water Utilisation Programme

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I. Introduction to the Mekong River Commission

1.1. Background

On the 5th of April 1995, Cambodia, the Lao PDR, Thailand and Viet Nam, signed the “Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin”. This agreement formed the Mekong River Commission (MRC) which replaced the Committee for Coordination of Investigation of the Lower Mekong Basin (the Mekong Committee) and the Interim Mekong Committee, which were established in 1957 and 1978; respectively. The MRC also holds an official dialogue with the two other states of the Mekong River Basin, China and Myanmar, which are not signatories of the 1995 Agreement.

The purpose of the 1995 Agreement is to achieve an optimum use and prevention of waste of the waters of the Mekong River Basin.

1.2. Areas of Cooperation

Article 1 in the 1995 Agreement obliges the signatories "To cooperate in all fields of sustainable development, utilization, management and conservation of the water and related resources of the Mekong River Basin…"

Article 2 stipulates the promotion of sustainable development of the full potential and prevention of wasteful uses of the Mekong River Basins waters for the benefit of all riparian states.

Article 3 charges the signatories with protection of the environment, ecological balance and natural resources from harmful effects from the development of the basin's water and related resources.

These three articles set the scope for the work of the Commission.

1.3. Structure

The MRC enjoys the status of an international body. It has signed several agreements and holds obligations with the donors and the international community. The MRC consists of three permanent bodies: Council, Joint Committee and Secretariat (see Figure 1). Acting as focal points for the Commission in each of the member countries are the National Mekong Committees (NMCs).

The MRC Secretariat is the executive arm of the MRC works closely with the NMCs of the MRC member countries. The structure of the Secretariat is presented in the diagram below (see Figure 2). The structure was introduced in June 2000 to support the MRC programme approach.

The budget of the Commission consists of contributions from its members and the donor community. Formal consultation with the donor community is processed through the Donor Consultative Group meeting. The Commission has formal agreements for cooperation with a range of regional and international organisations.

Figure 1: MRC Organisational Structure

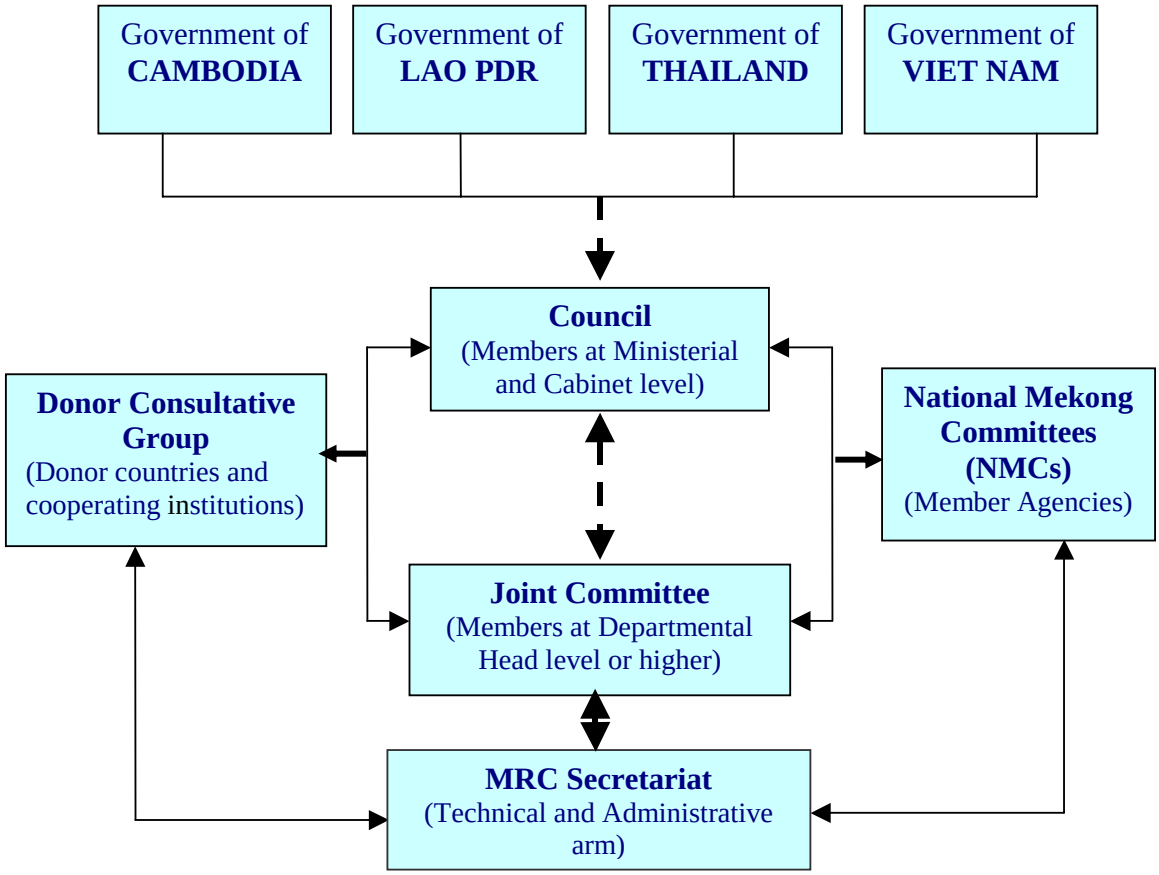
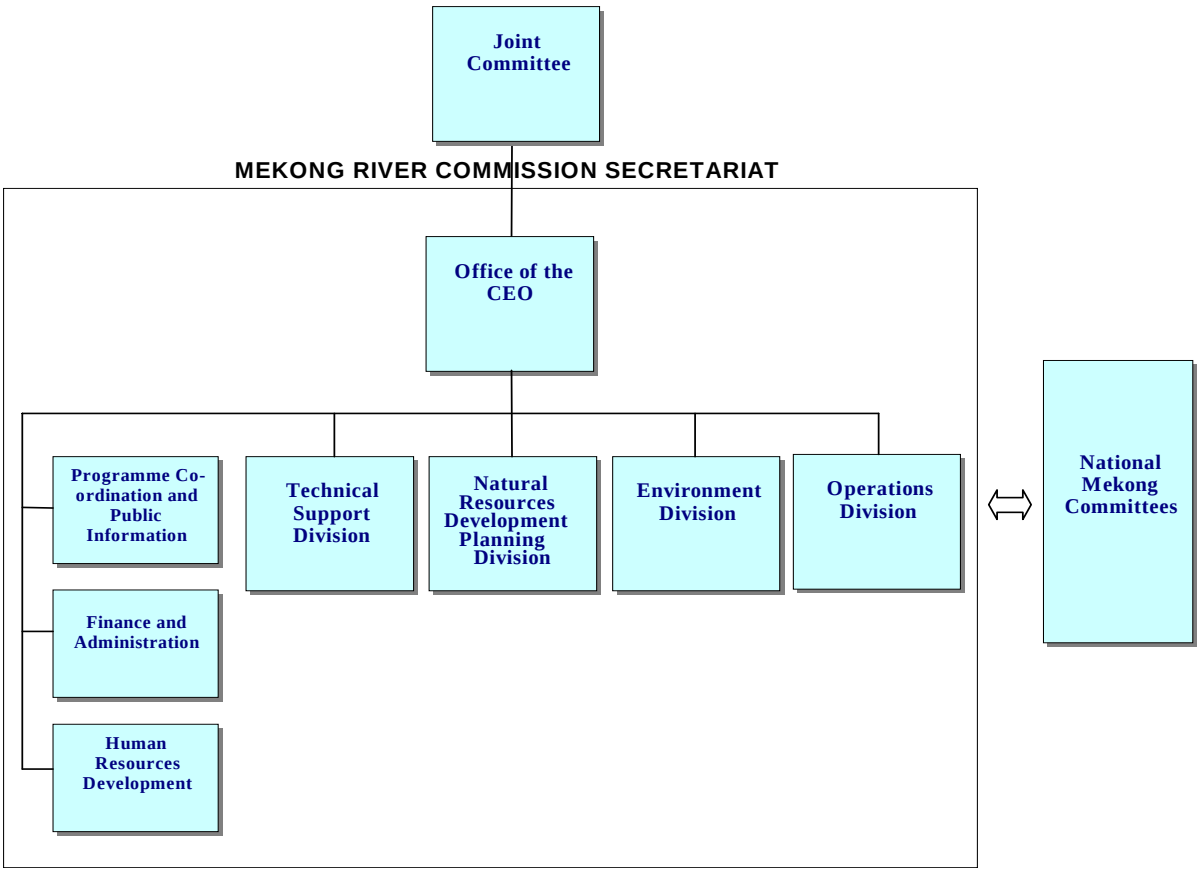


Figure 2: MRC Secretariat Organisational Structure



1.4. Development Opportunities and Challenges

Development of the vast resources of the Basin must be economically, socially and environmentally balanced. Only through sound management will it be possible to ensure long-term sustainability of the natural resources, the environment and the quality of life of the Basin's people. In this respect, development opportunities and challenges for the MRC Work Programme are:

- Approximately 40% of the population in Cambodia, Lao PDR and Viet Nam live below the poverty line, and the Thai population living within the Mekong watershed area lag far behind the rest of the country in socio-economic status. The population growth rate in the region is high, leading to ever-increasing demand for food and jobs. Changes in the flow pattern brought about by proposed development can have a major impact on fragile social and economic systems.
- The Mekong River Basin supports one of the most productive and diverse ecosystems in the world. But the Basin's environment is degrading due to unsustainable development practices such as forest exploitation and intensification of agriculture. At the same time, the institutional capacity to deal with these types of environmental problems and cumulative impacts is weak throughout the region.
- Agriculture is the predominant economic sector. In order to be able to feed the rapidly growing population, it is a key element in each riparian country's development strategy. Because of the long dry season, the further development and expansion of irrigation is essential for the long-term growth of the agriculture sector and the key element to support intensification.
- Inland fisheries are vital for food security. The MRC estimates that the market value of the lower Mekong fisheries is US$ 1.4-1.7 billion per year. Fish is the most important source of animal protein for the people in the region. Together with rice, it forms the basis of the food security.
- In many areas, inland river transport on the Mekong River system constitutes the most important way of communication. In the delta, maritime navigation provides significant revenues from international trade. Changes in the flow regime, sedimentation and construction of reservoirs may affect river transport. Cooperation and agreements between the MRC member countries are required to ensure safe passage, also across borders.
- The Basin has a considerable potential for the generation of hydropower that could be used to meet the growing demand for power. Yet, the construction of large dams must be undertaken with care. Negative side effects on the overall flow regime on other resources, such as fisheries, or communities living up-stream or downstream of dams, must be avoided or minimised.
- The water quality of the Mekong River is affected by factors such as industrial production, urban waste disposal and sewage, use of fertilisers and pesticides, water reservoirs, soil erosion, and salt water intrusion in the Mekong Delta. Maintaining good water quality is critical for agriculture as well as for domestic and commercial water supplies.
- Also of major concern for the MRC member countries is flood management and mitigation. Excessive flooding during the wet season can cause great economic and human loss in the Basin, as witnessed during the floods in year 2000. But floods are also important to replenish the wealth of the aquatic ecosystems.

- The use of water and related resources in one country can have negative effects for other countries, for example in terms of adverse effects on navigation, fisheries, scarcity of irrigation water, and seawater intrusion. Prevention and resolution of potential conflicts arising from the increasing pressure on the natural resources in the Basin is therefore a key task of the Mekong River Commission.

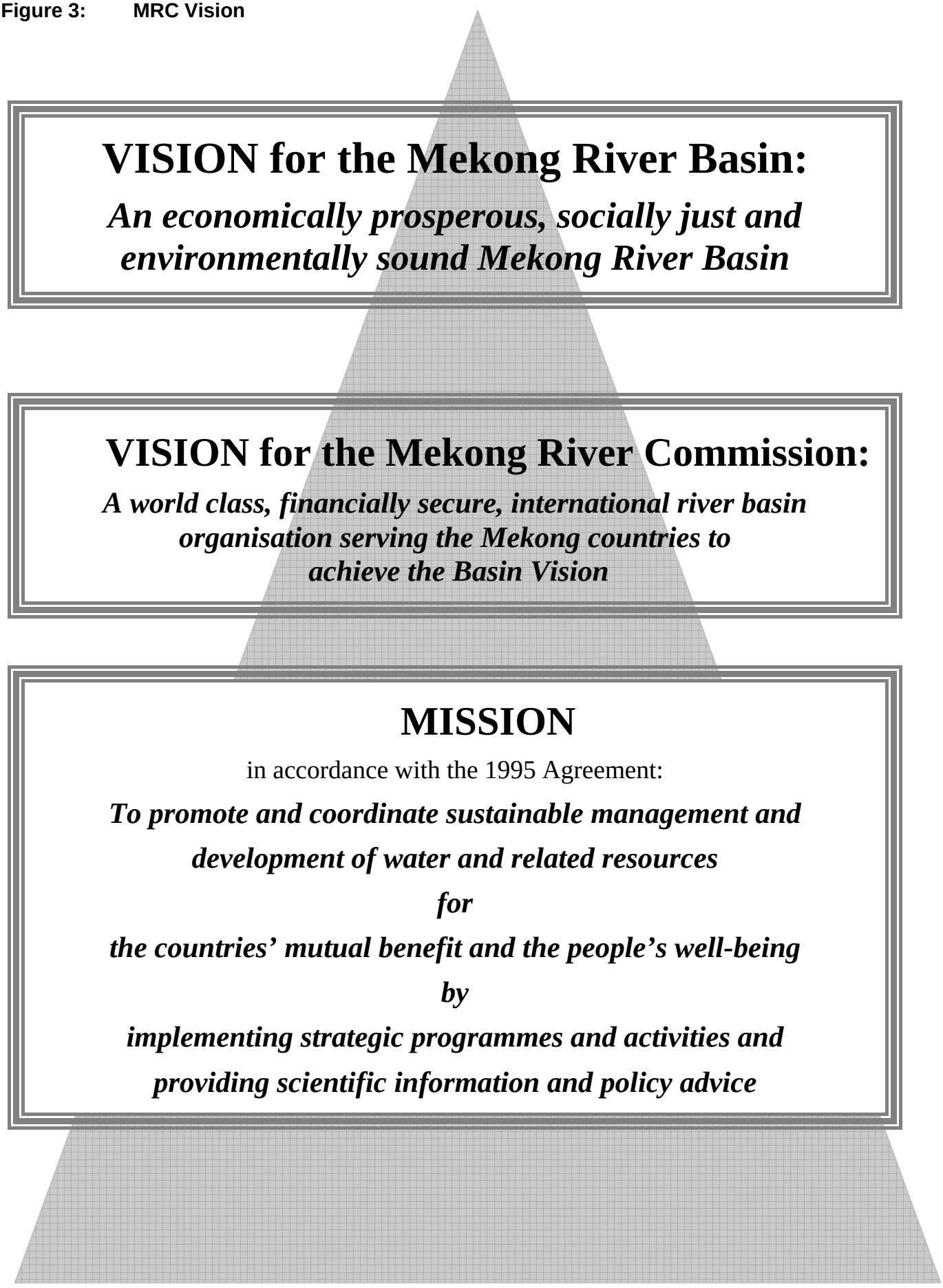
1.5. The MRC Strategic Plan

In order to better fulfil its role, MRC developed a first Strategic Plan for the period 1999-2003. Although considerable progress had already been made, many areas of MRC's work still needed improvement.

Consequently, the first Strategic Plan was reviewed in a participatory process in late 2000 and a new strategic plan for 2001-2005 was formulated. The fundamental strategic direction of MRC, its **vision and mission statements** remained unchanged. But the programme approach launched with the Work Programme for 2001 meant that the objectives of the four core programmes[1], five sector programmes, and one support programme needed to be better reflected in the Strategic Plan. Consequently the Strategic Goals, supported by the objectives, required updating.

[1] *The core progamme group has been enhanced to four with the inclusion of the Flood Management and Mitigation Programme after the approval of the MRC Council in November 2003.*

Figure 3: MRC Vision



1.6. Strategic Goals and Objectives

Four Goals have been identified that MRC should strive to achieve progressively from 2000 to 2005. From mid 2005, new strategic goals will be formulated in a close dialogue with the member Countries. The four goals established for MRC for 2000 to 2005 are shown below. MRC's four Goals and the respective Strategic Objectives are:

Figure 4 : Strategic Objectives

		Strategic Objectives
GOAL 1:	***to establish and implement "rules" for water utilisation and inter-basin diversions;***	1.1 Information for water use "rules" identified, and information exchange established; 1.2 The data, information, and knowledge base developed, maintained and shared; 1.3 Modelling package developed and maintained; 1.4 "Rules" for water utilisation developed; 1.5 Institutional capacity (for modelling and rule formulation) strengthened;
GOAL 2:	***to establish a dynamic basin development planning process as a framework for natural resource management and sustainable development; and to plan and execute corresponding priority sector programmes and projects;***	2.1 A basin planning process established; 2.2 A data, information, and knowledge base established; 2.3 Prioritised list of natural-resources-related basin development projects established; 2.4 MRC sector programmes in support of the Basin Development Plan are formulated and implemented:
GOAL 3:	***to establish and promote MRC environmental and socio-economic management systems, recommendations, and policy guidelines;***	3.1 Capacity in environmental monitoring and assessment strengthened; 3.2 Data and knowledge base on environmental and socio-economic issues established; 3.3 Systems for environmental information exchange in place; 3.4 Guidelines for environmental policies and legislation set up; 3.5 Awareness and capacity of MRC and key stakeholders on trans-boundary environmental issues strengthened;

GOAL 4:	***to establish an effective organisation, capable to promote, in partnership with other institutions, basin-wide development and co-ordination;***	4.1 MRCS/NMC/LA staff qualification and experience strengthened; 4.2 MRCS/NMCS project management, planning and execution systems improved; 4.3 Financial, administrative, personnel, logistics and information and communication technology systems upgraded; 4.4 Regular meeting of a panel of international/regional experts on river basin/natural resources management organised; 4.5 Quality information provided to the public; 4.6 Strong partnerships with relevant institutions established and maintained; 4.7 MRC assuming role as effective facilitator and mediator for conflict prevention and resolution; 4.8 Relations with Upper Mekong River Basin Countries improved.

1.7. Criteria for Prioritising MRC Activities

All MRC Programme activities or components should contribute centrally to the goals and strategic objectives of the MRC Strategic Plan. They should also, as far as possible, incorporate crosscutting themes of environment, gender, poverty, employment and people-centred development generally.

The MRC Work Programme is built around the concept of Integrated Water Resources Management, defined as a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

In order to remain distinct from country-based programmes or projects, while being complementary to them, MRC initiatives should conform to the following criteria:

- Promote the sharing and/or joint management of resources;
- Be trans-boundary in nature;
- Contribute to or promote regional institutions, norms and policies;
- Foster research that cannot be adequately or effectively undertaken nationally;
- Create or sustain networks or contacts among governmental or non-governmental organizations in different member countries.

Programmes, projects or activities should actively seek linkages to global and inter-regional initiatives as well as build on national programmes, which reinforce the strategic direction of the MRC.

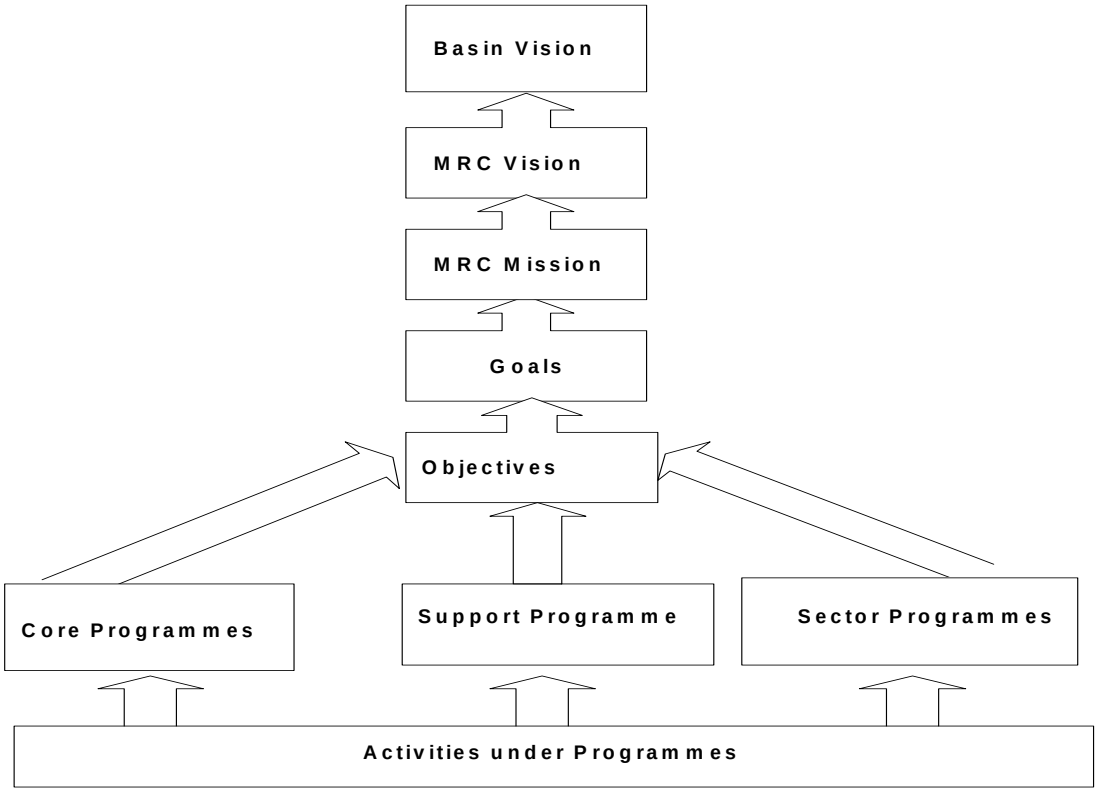
Programmes, projects or activities should help to develop capacity of line agencies, NMCs and MRC, and should draw, whenever possible, on region-based expertise.

Programmes should help MRC member countries to respond to the challenges generated by rapidly evolving development needs.

1.8. Implementation of the Strategic Plan

The relationships between the visions, objectives, programmes and activities when the Plan is being implemented are illustrated below.

Figure 5 : Links between the Basin Vision, MRC Vision and Programmes Development



Progress towards the achievement of the goals is accomplished through achieving the objectives. Progress towards the objectives is monitored through indicators, which measure achievements made through various activities.

These sets of linkages will ensure that activities undertaken by the MRC under the various programmes are contributing measurably towards the achievement of the objectives in the Strategic Plan, which in turn will ensure that the MRC is progressively working towards the achievement of the four goals, fulfilling its organisational Mission and Vision and contributing significantly to the Basin Vision.

II. The MRC Programmes

The change from a “project” to a “programme” focus is perhaps the most significant recent change in MRC. The new approach considers MRC activities as part of comprehensive programmes supporting basinwide strategies of the MRC member countries.

An essential element of adopting a programme approach is the shift of focus away from the activities to the objectives, i.e. away from what is to be done towards what is to be achieved. The programme approach provides flexibility and avoids time-consuming and expensive planning cycles with detailed scheduling of activities several years into the future.

Through adopting this approach the MRC will be able to remain focused on what it is aiming to achieve and adopt strategies and undertake activities to do so in the most appropriate and efficient way. This is in line with the Strategic Plan and will develop the MRC's capacity to meet the challenges in a rapidly changing political, social and development environment.

The MRC has three types of programmes: **core, support and sector programmes**. These represent three current and future needs for the MRC member countries. The core programmes are those central to the purpose of the Commission, and are intended to be the ones remaining in the long term. They are addressing central issues in the 1995 Agreement in line with the Strategic Plan directly addressing Goals 1 to 3. The activities under these programmes are, in the long term, to be funded by the contributions of the member countries, thus ensuring sustainability.

The support programme is directly addressing Goal 4 of the Strategic Plan. This programme is important in the short and medium term to address capacity building needs of the MRC and the riparian Governments. As capacity increases, the support programme will diminish in size.

The sector programmes are addressing important sectoral issues in the basin within the mandate of the 1995 Agreement and in line with the Strategic Plan. The programmes have a regional focus intended to address development needs in the sectors from a basinwide perspective, complementing and supporting national and bilateral development initiatives. Following is a brief description of the Core, Support and Sector Programmes:

2.1. Core Programmes

2.1.1. Basin Development Plan (BDP): Goal 2: The BDP process and the BDP itself aim at pro-active support to water resources and water-related development in the Lower Mekong Basin. Phase 1 of the BDP started in October 2001 and will be completed in mid 2005. Phase 1 will produce (1) a basin planning process established and ongoing; and (2) a BDP drafted and agreed on. The trademark of the BDP is a broad and active participation, with major parts of the work directed by national BDP units, and with active 'hands-on' participation by institutional and individual stakeholders. Having achieved the immediate objectives of Phase 1 by mid 2005, the BDP Programme will proceed into Phase 2. Phase 2 will extend the support to national Integrated Water Resources Management, and will enhance the role of MRC in active promotion of agreed development initiatives. The BDP process will appear as the unfolding umbrella for strategic directions of the activities of the MRC, and as a shared platform for promotion of development initiatives raised by the various MRC programmes.

Budget:

Total BDP Budget:	**US$ 6.15 million (Phase 1: three and a half years: Oct 2001-mid 2005)**
	US$ 24.05 (Phase 2: five years: 2005-2010)
Funding Sought:	**US$ 21.94 million**
2005 Budget:	**US$ 2.55 million**
Donors:	**Denmark, Switzerland, Sweden**
	Australia; Japan (seconded experts)

2.1.2. Water Utilisation Programme (WUP): Goal 1: The WUP commenced in early 2000 and is planned to run for seven years. It will help establish permanent and functional mechanisms to support Mekong Basin water resources management consistent with the 1995 Agreement. Its aim is to achieve “reasonable and equitable” water use among member countries while maintaining the Basin’s ecological integrity. Development of "Rules" for Water Utilisation through the WUP is central to the achievement of Goal 1 of the MRC Strategic Plan.

The WUP stems from member countries’ recognition, in the 1995 Agreement, of the seriously damaging impacts that can occur through uncontrolled economic development or environmental exploitation. For example, if water quality deteriorates through industrial or agricultural pollution, or other actions, then there are threats to the basin’s vital fish stock, to domestic water supplies, and to food production generally. Likewise, if uncontrolled land clearing, large hydropower development, or irrigation development would take place, flooding could increase, low river flows could fall further, navigation could be disrupted, salt water intrusion could occur and fish breeding patterns arrested. The impacts on agricultural production, poverty, food security, social harmony and environmental degradation are apparent. The WUP, and its resultant water sharing arrangements, are specifically designed to afford agreed means of conflict prevention and resolution between member countries. The WUP covers planning, data collection, development of a basin modelling and knowledge base, establishment of monitoring systems and river basin management. The overriding principle governing the WUP process is that the member countries own it, with the Secretariat acting as a facilitator.

Budget:

Total WUP Budget:	**US$ 17.09 million (seven years: 2000-2006)**
Funding Sought:	**None**
2005 Budget:	**US$ 3.38 million**
Donors:	**Finland, France, GEF and Japan, and the MRC and its member states**

2.1.3. Environment Programme (EP): Goal 3: The Programme has a two-pronged approach in that it is aiming to fulfil the articles in the Agreement related to the protection of the environment and maintaining the ecological balance of the basin. It is also supporting the other Core 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 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 is central to the achievement of Goal 3 of the Strategic Plan 2001 to 2005.

Budget:

Total EP Budget:	**US$ 19.22 million (five years: 2004-2008)**
Funding Sought:	**US$ 11.73**
2005 Budget:	**US$ 4.10 million**
Donors:	**Denmark, France (through WUP), Netherlands, Sweden, Switzerland and UNDP (GEF)**

2.1.4. Flood Management and Mitigation Programme (FMMP): This Programme aims at preventing, minimising or mitigating people's suffering and economic losses due to floods, while preserving the environmental benefits of flood. These can be achieved through an integrated flood management and mitigation approach reflecting in the FMMP, including the provision of adequate and reliable information related to all aspects of floods.

Basinwide flood analyses and a broad range of decisions (regulation, intervention, land use management and flood control) will be better through good knowledge on flood-related costs, benefits and side effects. FMMP can provide an important part of such knowledge.

FMMP will also provide an able and coherent platform for incorporation of flood issues into basinwide studies, planning activities and management framework developments undertaken or supported by various programmes.

Budget:

Total FMMP Budget:	**US$ 19.75 million (six-years: 2004-2009)**
Funding Sought:	**None**
2005 Budget:	**US$ 4.72 million**
Donors:	**ADB, Denmark, Germany, Japan, Netherlands, and USA**

Besides the total budget of the FMMP, the European Commission's Humanitarian Aid Office (ECHO) provided US$ 200,000 for a FMMP complementary activity on Implementation of a Proposal on Capacity Building for Preparedness Planning and Response through Using Flood Information Products in the Lower Mekong Basin with a grant agreement signed on 17 July 2003.

2.2. Support Programmes

2.2.1. Integrated Capacity Building Programme (ICBP): Goal 4: This Programme for 2000-2005 is to ensure availability of sufficient expertise in river basin management and the required level of communication and stakeholder participation in MRC activities. The level of competence in river basin management among MRC staff and staff in the riparian governments is to be raised through a systematic, modular training programme. The future pool of expertise available within the region is to be broadened through on-the-job training of young professionals to work at the MRC Secretariat. The ability of MRC to carry out communication, public participation and partnership activities is to be ensured through expert services. Capacity and resources of MRC to respond to priority needs and changing conditions is to be strengthened through a facility to draw on external support on an ad hoc basis. Through a twinning arrangement between MRC and the Murray-Darling Basin Commission in Australia it is intended to enhance MRC capacity in integrated water resources management, modelling and data management, basin planning, development of water sharing guidelines, and building community awareness and strengthening at the strategic level.

Budget:

Total ICBP Budget: US$ 7.24 million (five years: 2000-2005)
(Without Research Coordination and Gender Mainstreaming Project)
Funding Sought: US$ 3.41 million
2005 Budget: US$ 1.54 million
Donors: Australia, Denmark, Finland, Japan, Switzerland, Sweden and UNDP

Research Coordination (RC): The Research Coordination facility is located in the Technical Support Division and has as its key objective the gathering, assimilation and packaging of information for the benefit of the MRC programmes. The budget of the Research Coordination facility came to about US$ 150,000 to US$ 160,000 of which 90% is to be met by the Challenge Programme on Water and Food in the Mekong River Basin.

Budget:

Total RC Budget: US$ 1.20 million (eight years: 2003-2010)
Funding Sought: US$ 0.47 million
2005 Budget: US$ 0.15 million
Donor: Challenge Programme on Water and Food and Collaborating MRC Programmes

Gender Mainstreaming in Water and Related Resources Development in the Lower Mekong Basin (GM): The project will facilitate the institutionalisation and effective implementation of MRC Gender Policy and Strategy in the Mekong water and related resources development and management, basinwide. It aims to imply lasting beneficial changes in the MRC institutions and the policies affecting the well-being of peoples in the Lower Mekong Basin.

Budget:
Total GM Budget: US$ 256,400 (three years: December 2004-2007)
Funding Sought: None
2005 Budget: US$ 120,000
Donor: New Zealand

2.2.2. Data and Information Management Programme (DIMP)*:* MRC is planning to establish a Data and Information Management Programme, to facilitate access by governments, decision makers, the donor and investment community and other stakeholders to comprehensive, up-to-date and objective data and information necessary to promote and co-ordinate the sustainable development of water and related resources in the Mekong Basin. The work is yet in its initial stages, and donor support for both programme formulation and implementation is sought.

Four main objectives have been identified: (i) Promote and facilitate the collation and collection of the primary data necessary to inform the strategies and decisions necessary to operate the Mekong Agreement; (ii) Ensure that primary data and information is quality assured, processed, archived, published and distributed in a way that makes it easily available for use by the MRC, member government policy/decision makers, the donor/investment community and other stakeholders; (iii) Maintain the technical capacity to analyse and interpret the primary data to provide value added information to planning and research users; and (iv) A sustainable, integrated and well managed program that ensures activities are demand driven, and policies, strategies and activities are regularly reviewed to anticipate and react to changes in user needs.

Budget:

Total DIMP budget:	**US$ 10.00 million (five years: 2006-2010)**
Funding Sought:	**US$ 10.00 million**
2005 Budget:	**US$ 0.18 million**
Donors:	**None**

Hydrology: To "promote sustainable development of the Mekong River Basin's water resources for social and economic development for the benefit of the basin's inhabitants", in line with the second article of the Agreement is to be achieved through appropriate hydro-meteorological network for the collection and analysis of information. An integrated information system providing information on hydrological status will also support the WUP and the Flood Management and Mitigation Programme.

Budget:

Total Hydrology Budget:	**US$ 5.85 million (five years: 2001-2006)**
Funding Sought:	**US$ 0.62 million**
2005 Budget:	**US$ 0.99 million**
Donors:	**Australia, France and Japan**

2.3. Sector Programmes: Supporting Goal 2 (BDP)

2.3.1. Fisheries Programme (FP): The programme development objective is "*Coordinated and sustainable development, utilisation, management and conservation of the fisheries of the Mekong Basin*". The Programme contributes directly to all four goals of the MRC Strategic Plan 2001-2005. The primary focus of activities is on trans-boundary issues affecting fisheries, so that appropriate fisheries information is available for the BDP, WUP and EP. Information produced within the Programme is incorporated into national and regional management and development plans, with a view to continuously increasing fisheries productivity and maintaining a healthy ecosystem.

Budget:

Total FP Budget:	**US$ 13.08 million (five-years: 2004-2008)**
Funding Sought:	**US$ 7.63 million**
2005 Budget:	**US$ 2.90 million**
Donors:	**Denmark, Australia, Sweden and the United Kingdom**

2.3.2. Agriculture, Irrigation and Forestry Programme (AIFP): Formulation of the new, fully integrated and comprehensive MRC "Agriculture, Irrigation and Forestry Programme (2001-2005)" was completed in October 2000. Based on a catchment approach, it focuses on activities to promote the sustainability and further development of food production from the land and water resources of the Basin where cooperation between member countries is required for success. The overall programme development objective is to achieve "cooperative sustainable development and utilisation of land and water resources to the benefit of the basin community, and to contribute to poverty alleviation and food security". The programme will be undertaken using a collaborative learning approach to effect change in resource use. It too will contribute to development of the WUP and the BDP.

Budget:

Total AIFP Budget:	**US$ 35.60 million (five years: 2001-2005)**
Funding Sought:	**US$ 22.79 million**
2005 Budget:	**US$ 2.5 million**
Donors:	**Germany and Japan**

2.3.3. Hydropower Programme (HP): The programme aims to *"promote sustainable development of the Mekong River Basin's water resources for social and economic development for the benefit of the basin's inhabitants"*, in line with the second article of the Agreement. This is to be achieved through appropriate hydropower development. Information on water resources will also support the WUP and the Flood Management and Mitigation Programme. Best options in the Lower Mekong Basin for sustainable development in the hydropower sector will be identified, based on the MRC Hydropower Development Strategy.

Budget:

Total HP Budget:	**US$ 1.7 million (five years: 2001-2006)**
Funding Sought:	**US$ 0.95 million**
2005 Budget:	**US$ 0.72 million**
Donors:	**Japan**

2.3.4. Navigation Programme (NAP): This Programme 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"*, as referred to Article 9 of the Agreement. A common interest to facilitate river transport and increase international trade is the underlying reason for this article. On a national level, the programme aims at improving the access facilities to the remote communities along the Mekong River and tributaries to enable the integration of the rural and local communities to be part of the national economic market and provide mobility to reach essential services such as schools and hospitals. This will contribute to poverty reduction by reducing vulnerability, opening new economic opportunities, creating new employment, enhancing democratic process, developing skills, and facilitating and improving the delivery of rural services. Simultaneously, changes in river morphology and study of its impacts will be dealt with under the Navigation Programme. Environmental monitoring, integration of social considerations and conflict prevention will be permanent trans-sectoral aspects. The programme directly addresses issues related to the development of the Mekong River Basin's resources. It will contribute to Goal 3 of the Strategic Plan through promoting the natural navigation potential whilst preserving the ecological balance.

Budget:

Total NAP Budget:	**US$ 22.57 million (six years: 2004-2009)**
Funding Sought:	**US$ 19.27 million**
2005 Budget:	**US$ 3.27 million**
Donors:	**ADB, Belgium through bilateral assistance to Cambodia**

2.3.5. Tourism Programme (TP): The overall objective of the programme is to promote tourism within the Mekong River Basin in a balanced manner, which also ensures necessary protection of the environment against adverse effect of tourism*. Development of the programme would be subject to availability of funds and based on an analysis of needs and opportunities*. This will include: (a) a review of documents concerned; (b) consultations with the national and international agencies concerned with tourism industry in the MRC member countries; and (c) studies to determine the scope of work and identify priority activities.

Budget:

Total TP Budget:	**US$ 3.00 million**
Funding Sought:	**US$ 3.00 million**
2005 Budget:	**US $ 0.2 million**
Donors:	**None**

III. MRC Programme, Programme Costs and Funding Status

Table 1 below presents an overview of the programme and their components. It also provides information on the total budget and funding needs for each programme and every programme component. Table 2 provides the same information for calendar year 2005.

The total, multi-year budget for MRC programmes comes to **US$ 186.79 million,** with funding requirements amounting to **US$ 103.941 million** or approximately **55.64%**.

Total planned expenditures under MRC programmes in 2005, amount to **US$ 27.400 million**. Funding requirements come to **US$ 9.028 million**, corresponding to **32.94%**.

Table 1: MRC Programme, Programme Costs and Funding - Multi-Year

Programme	Programme Components	Total Budget (US$ 1,000) (1)	Funding Needs (US$ 1,000) (2 = 1-3)	Funded/Pledged (US$ 1,000) (3)
Core Programmes				
Basin Development Plan	**Phase 1 (2001-2005)**	**6,156**	**0**	**6,156**
	Phase 2 (2005-2010)	**24,053**	**21,948**	**0**
Water Utilisation Programme	**Seven Years (2000-2006)**	**17,094**	**0**	**17,094**
	Basin Modelling and Knowledge Base	9,470	0	9,470
	Environmental & Transboundary Impact Analysis	2,713	0	2,713
	Rules for Water Utilization	1,700	0	1,700
	Management and Institutional Strengthening	3,211	0	3,211
Environment Programme	**Five Years (2004-2008)**	**19,228**	**11,738**	**7,490**
	Environmental Monitoring and Assessment	4,096	2,546	1,550
	Environmental Decision Support	4,267	2,517	1,750
	People and Aquatic Ecosystems	4,274	2,474	1,800
	Environmental Knowledge	2,491	1,601	890
	Environmental Flow Management	4,100	2,600	1,500
Flood Management & Mitigation Programme	**Six Years (2004-2009)**	**19,751**	**0**	**19,751**
	Regional FMM Centre	11,251	0	11,251
	Structural & Flood Proofing Measures	3,700	0	3,700
	Transboundary Flood Issues	1,800	0	1,800
	Flood Emergency Management and Strengthening	1,150	0	1,150
	Land Use Management	1,850	0	1,850
Support Programmes				
Integrated Capacity Building Programme	**Five Years (2000-2005)**	**7,244**	**3,411**	**3,833**
	Integrated Training Programme (Management)	750	750	0
	Information and Communication	1,150	857	293
	Junior Riparian Professional Scheme	581	0	581
	Environmental Governance	1,000	0	1,000
	Programme Support	1,000	713	287
	Core Activities in New Organization	2,263	1,091	1,172
	River Basin Management	500	0	500
	Research Coordination (2003-2010)	**1,200**	**470**	**730**
	Gender Mainstreaming (Dec 2004-2007)	**256**	**0**	**256**
Data & Info Man. Prog.	**Five Years (to be developed)**	**10,000**	**10,000**	**0**
	Hydrology	**5,854**	**629**	**5,225**
Sector Programmes				
Fisheries Programme	**Five Years (2004-2008)**	**13,085**	**7,631**	**5,454**
	Institutional Support	4,750	2,748	2,002
	Assessment of Mekong Capture Fisheries	3,635	2,264	1,371
	Management of River and Reservoir Fisheries	2,548	1,455	1,093
	Aquaculture of Indigenous Mekong Fish Species	2,052	1,164	888
	Population Genetics of Trey Riel (Fish) in the MB	100	0	100
Agriculture, Irrigation and Forestry Programme	**Five Years (2001-2005)**	**35,600**	**22,790**	**12,810**
	Water Use Efficiency	16,000	13,900	2,100
	Catchment Management	14,200	3,490	10,710
	Capacity Building for MRC	5,400	5,400	0
Hydropower Programme	**Five Years (2001-2006)**	**1,700**	**950**	**750**
Navigation Programme	**Six Years (2004-2009)**	**22,569**	**19,269**	**3,300**
	Socio-economic Analysis and Planning	4,230	1,730	2,500
	Legal Framework for Cross-Border Navigation	1,631	831	800
	Traffic Safety and Environmental Sustainability	6,770	6,770	0
	Information, Promotion and Coordination	3,983	3,983	0
	Institutional Development	5,955	5,955	0
Tourism Programme	**Three Years (to be developed)**	**3,000**	**3,000**	**0**
TOTAL		**186,790**	**103,941**	**82,849**

*) Programme budgets less funds received and pledges of support

Table 2: MRC Programme, Programme Costs and Funding Needs 2005

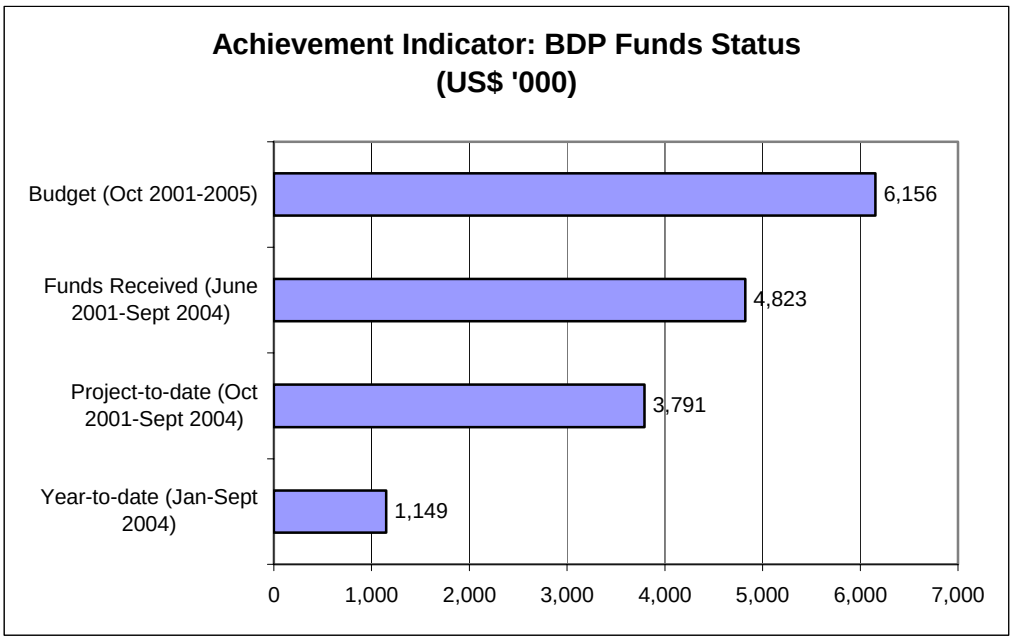
Programme	Programme Components	Total Budget (US$ 1,000) (1)	Funding Needs (US$ 1,000) (2 = 1-3)	Funded/Pledged (US$ 1,000) (3)
Core Programmes				
Basin Development Plan	**2005**	**2,558**	**2,113**	**445**
Water Utilisation Programme	**2005**	**3,381**	**0**	**3,381**
	Basin Modelling and Knowledge Base	1,958	0	1,958
	Environmental&Transboundary Impact Analysis	534	0	534
	Rules for Water Utilization	385	0	385
	Management and Institutional Strengthening	504	0	504
Environment Programme	**2005**	**4,105**	**2,215**	**1,890**
	Environmental Monitoring and Assessment	866	416	450
	Environmental Decision Support	921	481	440
	People and Aquatic Ecosystems	914	314	600
	Environmental Knowledge	504	354	150
	Environmental Flow Management	900	650	250
Flood Management & Mitigation Programme	**2005**	**4,726**	**0**	**4,726**
	Regional FMM Centre	3,350	0	3,350
	Structural & Flood Proofing Measures	543	0	543
	Transboundary Flood Issues	260	0	260
	Flood Emergency Management and Strengthening	0	0	0
	Land Use Management	573	0	573
Support Programmes				
Integrated Capacity Building Programme	**2005**	**1,542**	**820**	**722**
	Integrated Training Programme (Management)	200	200	0
	Information and Communication	230	170	60
	Junior Riparian Professional Scheme	72	0	72
	Environmental Governance	300	0	300
	Programme Support	200	200	0
	Core Activities in New Organization	340	250	90
	River Basin Management	200	0	200
	Research Coordination	**150**	**10**	**140**
	Gender Mainstreaming	**160**	**0**	**160**
Data & Info Man Prog	**Five Years (to be developed)**	**180**	**180**	**0**
	Hydrology	**999**	**318**	**681**
Sector Programmes				
Fisheries Programme	**2005**	**2,909**	**0**	**2,909**
	Institutional Support	1,006	0	1,006
	Assessment of Mekong Capture Fisheries	729	0	729
	Management of River and Reservoir Fisheries	613	0	613
	Aquaculture of Indigenous Mekong Fish Species	486	0	486
	Population Genetics of Trey Riel (Fish) in the MB	75	0	75
Agriculture, Irrigation and Forestry Programme	**2005**	**2,500**	**1,182**	**1,318**
	Water Use Efficiency	1,500	1,182	318
	Catchment Management	1,000	0	1,000
	Capacity Building for MRC	0	0	0
Hydropower Programme	**2005**	**720**	**720**	**0**
Navigation Programme	**2005**	**3,270**	**1,270**	**2,000**
	Socio-economic Analysis and Planning	1,800	0	1,800
	Legal Framework for Cross-Border Navigation	520	320	200
	Traffic Safety and Environmental Sustainability	650	650	0
	Information, Promotion and Coordination	80	80	0
	Institutional Development	220	220	0
Tourism Programme	**Three Years (to be developed)**	**200**	**200**	**0**
TOTAL		**27,400**	**9,028**	**18,372**

*) Programme budgets less funds received and pledges of support

IV. Progress of MRC Work Programme 2004

This Section makes a brief account of progress of the activities under the MRC Work Programme in 2004. A comprehensive progress report for each programme is found within individual programme's periodical progress report produced throughout the year.

4.1. Core Programmes



4.1.1. Basin Development Plan (BDP)

The joint donor review mission in January-February 2004 observed that the BDP is progressing well, in spite of delays. The review mission took note of the strong member country involvement and commitment, the strengthened capacity of the BDP Team, and the improved guidelines. Recommendations were made on (i) improved progress monitoring and reporting; (ii) formal approval of guidelines; (iii) implementation of quality management procedures; (iv) improved coordination with other MRC programmes; (v) extended public participation; and (vi) continued NMC capacity-building. The review mission agreed on the need of a BDP Phase 2.

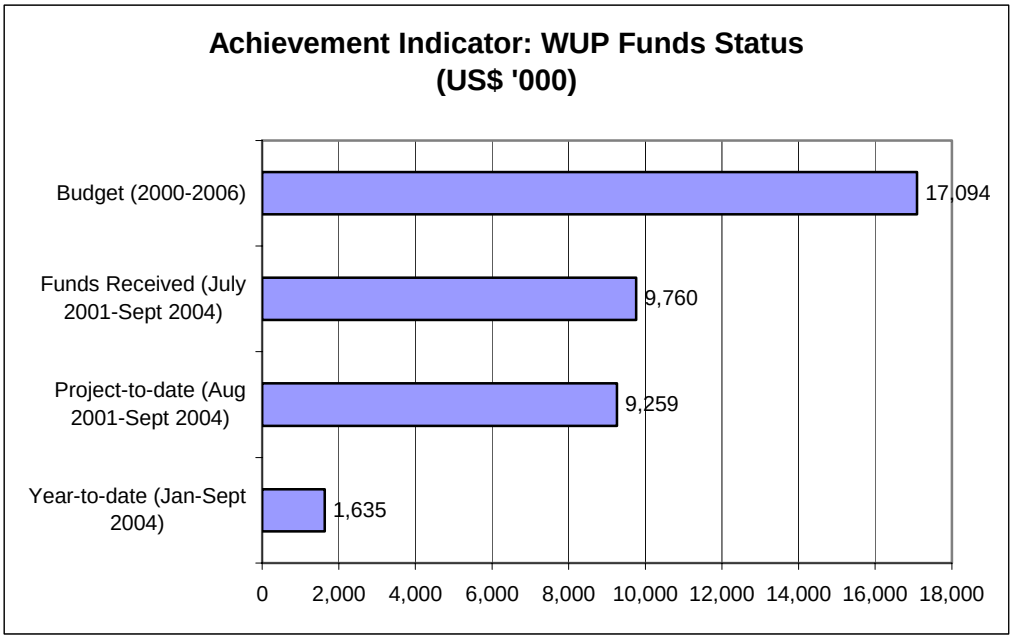
During Phase 1, the formulation of the BDP is divided into five stages, as follows: (1) Analysis of the Lower Mekong Basin and of sub-areas; (2) analysis of development scenarios; (3) strategy formulation; (4) compilation of long-list of programmes and projects; and (5) compilation of short-list of programmes and projects. By end of 2004, stages 1 and 2 are completed, while stages 3, 4 and 5 will be completed in time for the Twenty-first Meeting of the Joint Committee in March 2005. An outline of BDP Phase 2 has been prepared for review and consultations prior to commencement by mid 2005.

The achievements of milestones were presented as per schedule to the Nineteenth and Twentieth Meetings of the Joint Committee in March and August 2004. These milestones are in preparation for presentation to the Twenty-first Meeting of the Joint Committee in March 2005 about (i) a draft

IWRM Strategy for the Lower Mekong Basin; (ii) criteria for the continuous process of identification and ranking of priority development initiatives; and (iii) recommendation to the Joint Committee on initial BDP joint projects to be promoted for funding and implementation. Further, within Phase 1, a Mekong Basin Geographical Information System (GIS) will be implemented as a main planning tool, for expansion during Phase 2.

All work was undertaken in a close and active collaboration between MRC Secretariat and the member countries, represented by the national BDP Units under each NMC.

4.1.2. Water Utilisation Programme (WUP)



The World Bank carried out a mid-term review of the programme during the period 8-12 December 2003. The review noted that WUP activities were progressing well with the minor delays in the finalisation of the basin modelling and knowledge base. The WUP Management Team prepared and submitted a revised Mid-term Review Report and Work Plan finally approved in May 2004.

Technical Collaboration with Upstream Countries aims to promote and improve collaboration with upstream countries, namely the People's Republic of China and the Union of Myanmar. A plan was developed in 2003 to reinvigorate this activity commencing with a combined technical meeting and technical site visit by representatives from the upstream countries scheduled for the second half of 2004.

In 2004, progress in the development of the basin model and knowledge base as the Decision Support Framework continued under close management by the Head of WG1, supported by NMC staff. The Consultants (Halcrow) submitted the Draft Final Report in mid-December 2003 with five-month delay. The DSF Acceptance Panel (DAP) comprising representatives from the MRC Secretariat and the NMCs assessed the final product with the support of two highly experienced international experts of International Expert Panel Review (IEPR). The DAP recommended to the MRC Secretariat the acceptance of the final DSF, thus completing the work of the Consultant under the WUP-A contract in March 2004. The four Associate Modellers, one from each NMC, commenced in January 2004 their 18-month assignment to the MRC Secretariat Modelling Team.

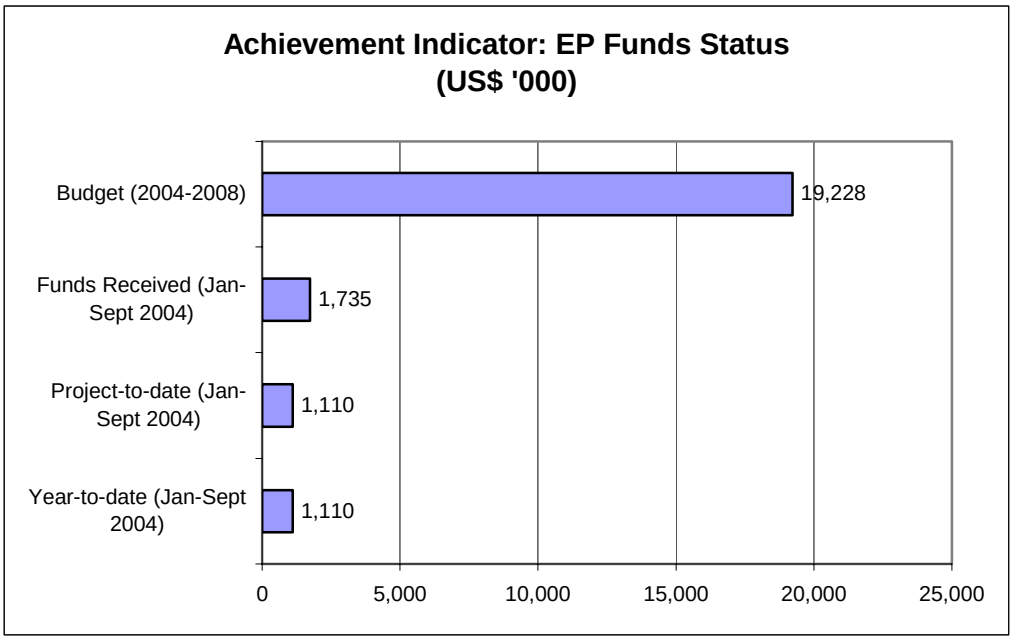
Two co-financed projects were completed in 2004:
(i) the “bridging-phase” between Phase 1 and Phase 2 of the WUP modelling activities co-financed by the Government of Finland concluded in February 2004. Phase 2, entitled “Hydrological Environmental and Socio-Economic Modelling Tools for the Lower Mekong Basin Impact Assessment”, valued at approximately US$ 2.1 million, commenced in March 2004 with duration of three years; and (ii) the two-year *Study on the Hydro-Meteorological Monitoring for Water Quantity Rules in the Mekong River Basin* project supported by the Government of Japan concluded in February 2004.

The Integrated Basin Flow Management (IBFM) activities designed to support the development of the Rules for Maintenance of Flows on the Mainstream (RMFM) were reviewed again during the December 2003 World Bank Mission. Phase 1 activities of IBFM, based on a flow assessment made through hydrological analyses will be completed in 2004 concurrently with the work of Technical Drafting Group 5 under Working Group 3. A series of four technical reports prepared by the WUP IBFM Team supported by international consultants, followed by four rounds of national consultations and four Technical Review Group (TRG) meetings was successfully carried out during February to October 2004 creating the technical bases for the RMFM using the TRG meetings platform.

A programme of activities in support of the Rules for Water Quality (RWQ) was developed during January 2004. These activities approved in principle by the World Bank in February 2004 are entitled: Integrated Water Quality Management (IWQM) for the Lower Mekong Basin. IWQM will be carried out in a two-phased approach working closely with the Environment Programme. During April-May 2004, national consultation meetings were carried out with NMCs to discuss the IWQM document followed by a regional workshop on 16 July 2004. After the regional workshop, the document was revised and ready for consideration and endorsement by the Joint Committee.

The Joint Committee approved the Terms of Reference (TOR) for Technical Drafting Group 5 (TDG5) in December 2003. Working in parallel with the IBFM process, four rounds of TDG5 meetings were held each preceded by a round of national consultations. During the period February to October, four TDG5 meetings were held with a fifth in November and a Special Joint Committee Session prior to the Eleventh Meeting of the Council which agreed on the draft Procedures for Maintenance of Flows on the Mainstream (PMFM) for submission for the Joint Committee’s review and for the Council’s consideration. The Council unanimously accepted in principle the proposed Procedures. The Chairman of the Council requested the Joint Committee and the Secretariat to undertake the necessary follow-up and to continue to work on the Procedures for signing soonest and to prepare the technical guidelines for its implementation.

4.1.3. Environment Programme



In late 2003 and early 2004 one international specialist and three programme officers with specialisations in the areas of ecology, water quality and social science were recruited. Two Programme Officers completed their assignment at the Secretariat and recruitment for their replacements is in progress. A JPO was assigned to the Programme by Sida to assist with the Quality Assurance/Quality Control (QA/QC) development in water quality.

The implementation of activities follows the Annual Work Plan for 2004, which is based on the prioritized component outputs developed by the Environment Programme Management Group (EPMG) and agreed to by the four NMCs. The EPMG is composed of national EP coordinators, representatives from line agencies, the Director of the Environment Division, Senior Specialist, Programme Coordinator, and Programme Officers. It provides a tool for increased participation by member countries in the programme development, and also a useful monitoring tool for the JC and the Council.

Component A: “Environmental Monitoring and Assessment”: the second field survey of the basinwide water quality study was completed the final report is in preparation. The redesign of the monitoring network was completed in 2003 and monitoring in 2004 includes the new stations. Consolidation of the Water Quality Database has continued, and discussions have been initiated on the possibility of releasing a technical report on the water quality database, including existing data. The first part of the QA/QC programme was completed and will be followed up in 2005. Ecological health monitoring was used for a comprehensive study covering the status of the BDP sub-areas. This information together with water quality data will form the basis for a Basin Report Card on the Basin’s environmental health. The general content of the Report Card was endorsed by the Joint Committee in its 20th meeting. The development of a social impact monitoring system was initiated in mid 2004 and will be ready for implementation in 2005. The Environment Programme Annual Technical Meeting, held November 2004, reported on basinwide diagnostic study on water quality, ecological health and environmental risk assessment. Work on water quality emergencies was initiated in second half of 2004.

Component B “Environmental Decision Support”: The development of guidelines for a transboundary EA system started and currently national experts are reviewing national practices and regulations. Ecological Risk Assessments have been completed for both the Vientiane/Nong Khai area and the Phnom Penh area, using multinational teams of riparian expert working with an international mentor. Risks of impact on fish migration were judged to be low to moderate in the Vientiane area, and moderate to high near Phnom Penh.

Component C “People and Aquatic Ecosystems”: work on completing a basinwide map and assessment of values and functions of important wetland types is continuing in 2004, with an aim to produce a tool for the BDP process. The assessment of use of AIRSAR remote sensing data for wetland mapping was completed. Assessment of people vulnerable to changes in aquatic resources was initiated in third quarter of 2004. Field work to ground truth Radarsat images for wetland mapping was initiated in late April and will be in late 2005.

Component D “Environmental Knowledge”: the monitoring of water quality in the Sesan River began in June 2004 and will continue for 12 months. A species management plan for the Mekong dolphin, supported by the Programme and the World Conservation Society has been completed. A study to review information on sediment transport will be linked to other work on sedimentation in the Tonle Sap. The River Awareness Kit came second in the Canadian Manufacturer's and Exporter's Award, and has been entered in the Australian Museum Eureka Prizes.

Component E “Environmental Flow Management”: The Flow Management Component, undertaken in cooperation with WUP (as phase 3 of IBFM), begun in September and a detailed work plan has been prepared. Currently recruitment of international and national specialists is being undertaken.

Under the Environment Programme, the Mekong River Basin Wetlands Biodiversity Conservation and Sustainable Use Programme (MWBP) led by UNDP Lao PDR, is a joint initiative between UNDP, IUCN-the World Conservation Union, and the MRC to promote conservation and sustainable use of the biodiversity of wetlands in the Lower Mekong Basin. The MWBP was launched on 19 July 2004 in Vientiane. The bulk of the funding for the venture of US$ 20 million has come from the GEF, UNDP regional and country programmes, the Royal Netherlands Government, the IUCN Water and Nature Initiative and the MRC with in-kinds contributions from the four Governments. The programme hopes to secure a further US$ 10 million over the next five years.

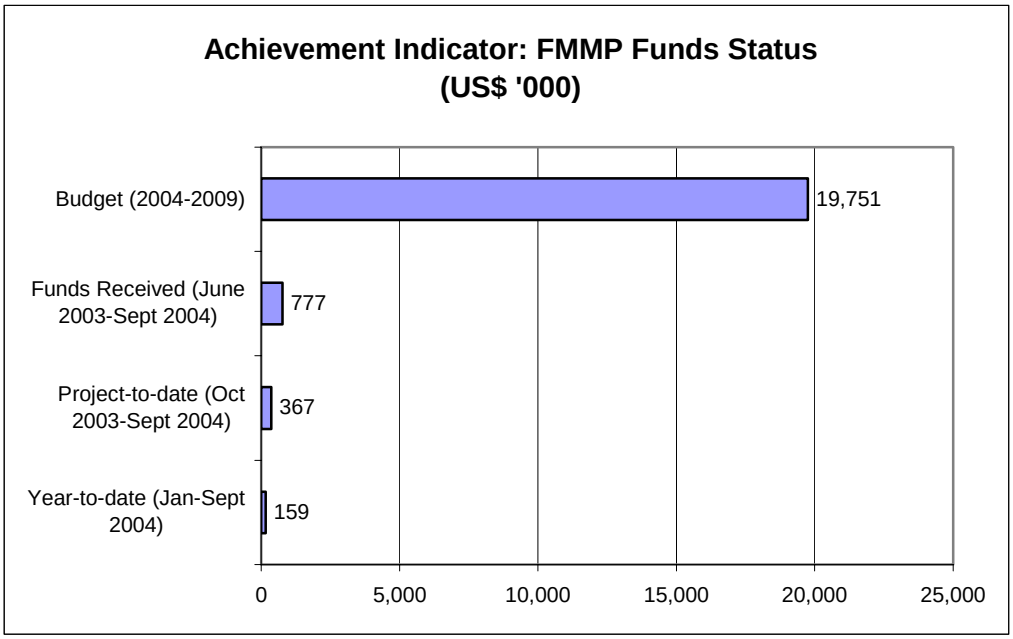
Milestones for the Environment Programme

Date	Venue	Milestone
Jul 04	JC	Endorsement/approval of content of the Basin Report Card on Environmental condition
Jul 05	JC	a) Report on Basin Report Card on Environmental Condition b) Endorsement/approval of the guidelines for a transboundary Environmental Assessment system
Jul 06	JC	Endorsement/approval of content of Basin Report Card on Social and Land-use issues
Oct 06	Council	Report on Basin Report Card on Social and Land-use issues
Jul 07	JC	Report on Valuation of wetland resources in the Basin
Oct 07	Council	Report on the Comprehensive State of the Basin Report
Jul 08	JC	Endorsement/approval of Strategy for Integrated Water Quality Management, and associated action plan.

Notes: *A) The terminology endorsement/approval is used for certain JC milestones as it will be up to the JC to decide whether it can approve the milestone or whether it endorses it for later approval by the Council.*

B) In 1998 the Council approved a basinwide EIA system and instructed the JC to work with the Secretariat to develop the details of such a system. It is for the JC to decide whether these guidelines are seen as part of that instruction or whether it needs approval from the Council.

4.1.4. Flood Management and Mitigation Programme



A significant step for the Flood Management and Mitigation Programme (FMMP) in 2003 was the decision of the Council to establish FMMP as one of the core programmes of the MRC in addition to the three existing core programmes.

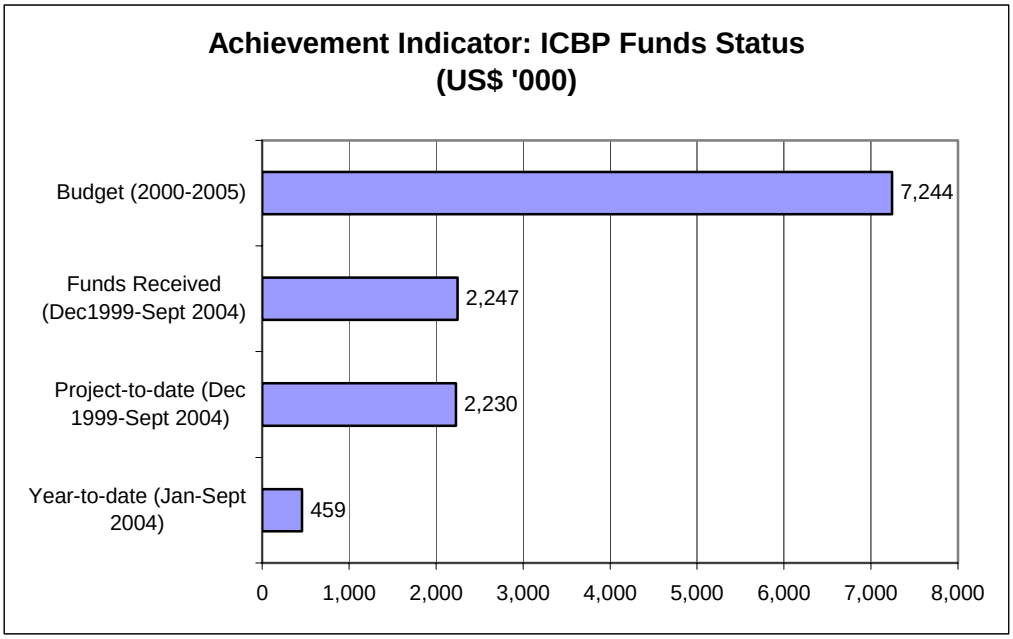
The European Commission for Humanitarian Aid Office (ECHO)-supported project on "Capacity Building for Preparedness Planning and Response through Using Flood Information and Data" commenced in September 2003. The project focuses on collaboration in developing programme for flood preparedness, forecasting and warning information and capacity of emergency personnel in the MRC member countries. The project run by the Asian Disaster Preparedness Centre (ADPC) was completed in July 2004. To date, the progress made includes (i) assessment of strengths and weaknesses of current capacities through dialogue with local partners and questionnaires; (ii) identification of additional needs of training; (iii) a detailed training plan and curriculum prepared based on feedback from partners; (iv) identification of potential training course conducted, and (v) field visits for a detailed assessment conducted in two of the target countries: Cambodia and Viet Nam. The Phase 2 proposal for a continuation and expansion of activities has been prepared and was submitted to ECHO for approval.

ADB is also a partner in the FMMP and discussions were held at ADB Headquarters on cooperation arrangements. Funding agreements are being finalised with the ADB and the Netherlands for FMMP support.

In late February and early March 2004, the Funding Agreement with Denmark to support the coordination activities of FMMP was initiated. Funding Agreements with both Denmark and Germany were signed in August 2004.

With the continued financial assistance from the US Office for Foreign Disaster Assistance (OFDA), the MRC Secretariat, the Cambodian Red Cross (CRC), the American Red Cross (ARC) and the Actions Against Hunger (AAH) have continued to jointly implement the project “Provision of Flood Early Warning to Flood Vulnerable Communities in the Lower Mekong River Basin”. In 2004, the project has expanded 34 more villages in five flood-prone provinces in Cambodia including Stung Treng, Kratie, Kampong Cham, Kandal and Prey Veng. The total number of villages in 2004 is 40. To date, major following activities are recorded: (i) Identification of community for 2004 project implementation and baseline survey; (ii) Installation of flood marks (for new areas) and village bill boards; (iii) Villages flood mapping; (iv) Development of flood referencing tools and methods; and (v) Community feedback system in regard to dissemination of warning.

4.2. Support Programmes



4.2.1. Integrated Capacity Building Programme (2000-2005)

In 2004, the Programme has made the following progress:

The Integrated Training Strategy and Programme was presented at the Eighth Meeting of the Donor Consultative Group in December 2003. The MRC Secretariat is still looking for donors interested in funding the development of the MRC Integrated Training Programme.

Implementation of the Junior Riparian Professional (JRP) Programme continued apace: UNDP approved the transfer of the unspent funds of US$ 100,000 from ROS programme for developing and implementing MRC Integrated Training Programme for JRP. A consultant has developed the core-training module and technical training modules for the JRP.

The four JRPs of the first batch continued their third year with the four core programmes. The second batch have been rotated to the final rotation phase of their second year in BDP and FMMP. The recruitment of the third batch of JRPs was concluded in June and three candidates have taken up their assignments in July 2004. There are currently nine JRPs at the Secretariat.

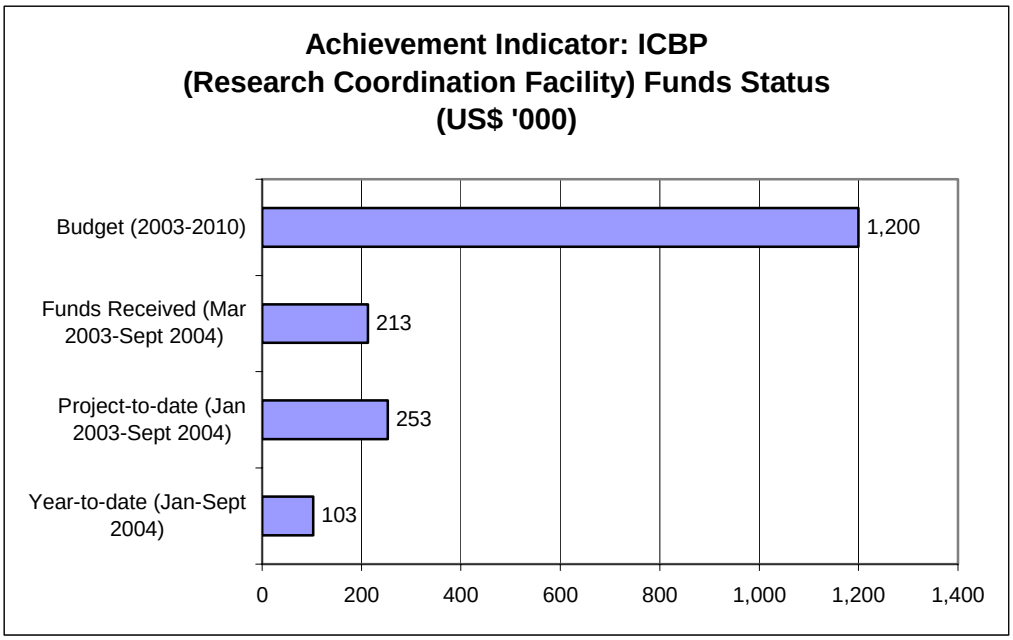
The implementation of the first batch Lao support staff training programme in collaboration with LNMC is processing well. The second batch of Lao support staff training programme will commence from January 2005 after the completion of the recruitment process. The training needs assessment is the main preparatory activity of HRD section to disseminate the Integrated Training Strategy and Programme.

The MRC-MDBC Strategic Liaison Programme, supported by AusAID has supported sustainability of the BDP through the delivery of training modules involving delegates from the four member countries, which will be incorporated into MRCs Integrated Training Programme, and culminated in a study tour of the basin. The programme has also provided expertise to facilitate links between MRC trained modelers and basin planners. It has supported development of the MRC Public Participation Strategy Action Plan. Sustainability of the AusAID-funded Appropriate Hydrological Improvement Project (AHNIP) was addressed through drafting of any MRC Hydrometric Network Coordinator position and assistance to MRC to draft hydrological station operating memoranda of

understanding with national agencies, addressing issues of data collection and handling, and assets management. Custodianship guidelines for the management of data in collaboration with the Technical Services Division staff and national data specialists. MRC data and information management policy and guidelines, along with technical standards and pricing policy have all been established through the programme. National and regional workshops in conjunction with AHNIP have focused on data sharing and custodianship. Following two three-year phases of successful implementation, the programme is set to conclude in December 2004.

Information material on the MRC has been continuously produced to raise awareness on MRC activities with the Member Countries and the general public. The information material includes the Annual Report, quarterly newsletter (Mekong News), and the MRC website. The Mekong children's art competition funded by the prize monies from the International river prize awarded to MRC in 2002 involved entries and subsequent prize giving ceremonies in the four member countries in conjunction with National Mekong Committees, as part of a Mekong river awareness raising exercise.

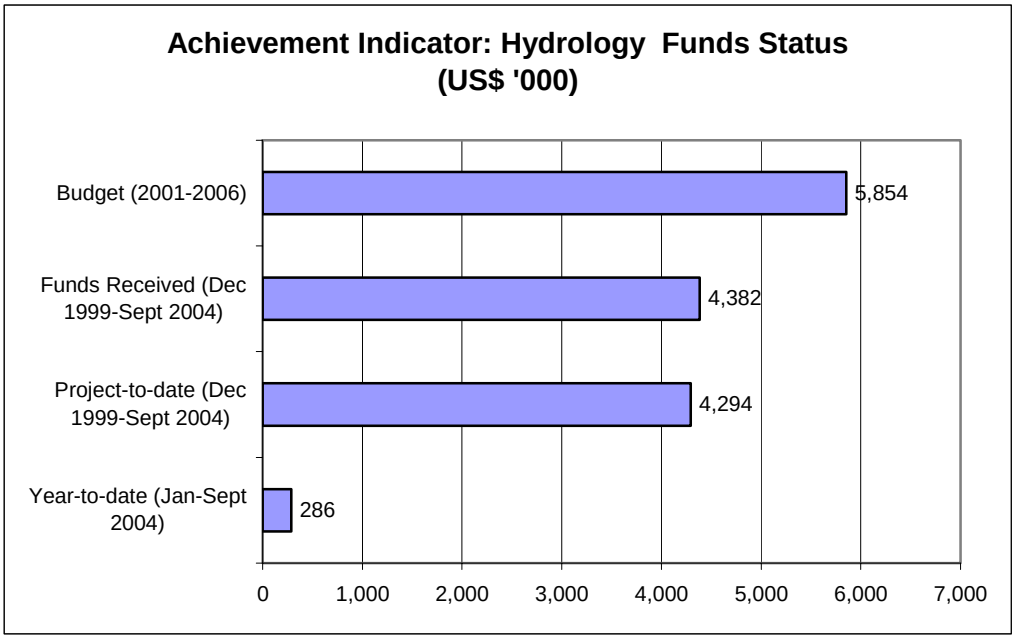
Research Coordination (2003-2010)



In 2004, Research Coordination focused principally with (a) the management and implementation of the Challenge Programme on Water and Food (CPWF) in the Mekong River Basin; (b) the development of a basin report card on behalf of the MRC's Environment Programme (EP); (c) the development of a periodical and website 'Mekong Research' on behalf of the GTZ Watershed Management Component of the AIFP; (d) Contributions towards the development of the MRC's Information Management System; (e) the development of a small database on planned and existing hydropower development in the Mekong River Basin; (f) a review of research capabilities and activities in the Lower Mekong Basin (LMB) on behalf of the EP; (g) to serve as liaison to the Sustainable Mekong Research Network (SUMERNET) initiative of the Stockholm Environment Institute (SEI); (h) to contribute to the development of the World Wildlife Fund/MRC project 'Developing Economically Sound and Biodiversity Friendly Structural Standards for the Design of Roads in the Mekong Floodplains', currently being articulated with the UNESCO-International Water Education Institute/Delft Cluster.

4.2.2. Data and Information Management Programme

Hydrology



The AusAID-funded Appropriate Hydrological Network Improvement Project (AHNIP) launched in 2001, continues its implementation for the upgrading of 18 hydrological stations located mainly on the Lancang-Mekong mainstream. Fifteen existing stations in the MRC member countries and two stations in Yunnan Province, China have been upgraded. One new station at Houakhong, Lao PDR, was completed in August 2004, and equipment will be installed in the second half of 2004. The automatic telemetry system in China is now operating and sending daily hydrological data for the flood forecasting 2004. The second round of national training was completed in March 2004 and the final regional training on assessment and moderation was conducted in April 2004. The third round national training on data handling system will be organised in the first quarter of 2005. In order to provide in-depth understanding to riparian staff in operating and maintaining the established system at the stations and data centres the mentoring programme has started in July 2004 in which local trainers and staff are putting their theoretical knowledge learned from the training into practice and thereby gaining vital experiences necessary for continued future operation of the system. In the programme a series of site visits will take place with three-month interval. The AHNIP has jointly organised national workshops in the member countries on data custodians and delivery with TACT in May 2004 through the assistance of the MDBC. At the workshops in each member country the issue of technical and financial sustainability for operating and maintaining the system established by AHNIP was discussed. It was generally agreed that since AHNIP has set up the core MRC data gathering and technical training system/function for assisting the MRC to perform its core tasks the operation and maintenance of these functions should be financed by core funds.

The TACT reviewed the first draft of the guidelines and the MOU in September and November 2004 respectively. It is planned that both documents will be submitted to the Joint Committee in March 2005 for endorsement. The Sustainability Plan is in the process of obtaining acceptance from the NMCs. The Seventh Programme Coordination Committee (PCC) Meeting was held in October 2004 with clear results and commitment in turning the Sustainability Plan into actions that will ensure the sustainable management of the MRC hydro-meteorological network. For the remaining period of the project key activities to be effectively carried out are staffing issues, funds

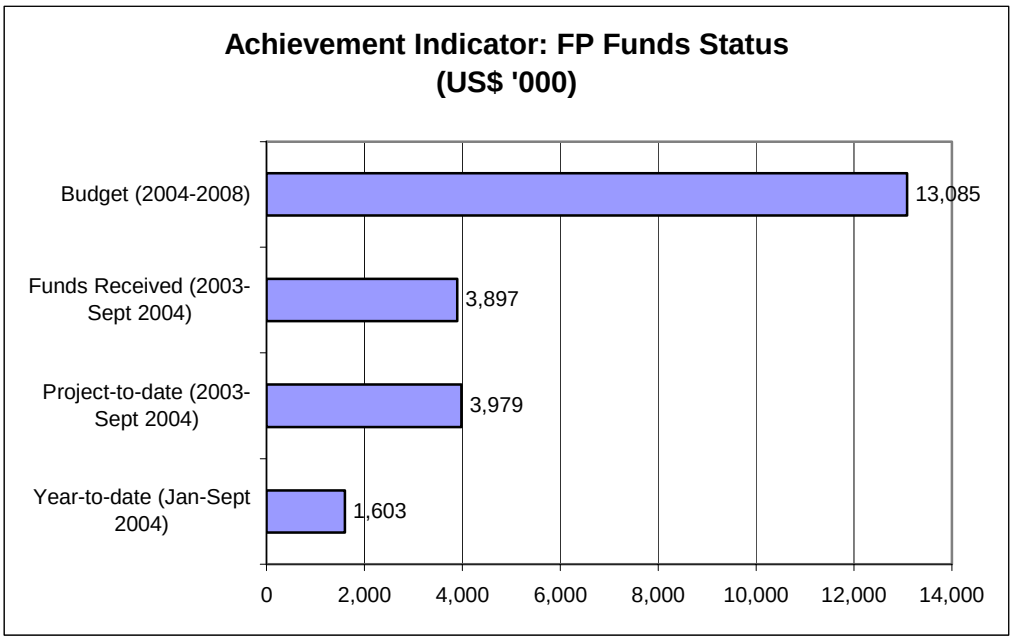
for operation and maintenance, mentoring and on-the-job training, integration of data gathering and training functions into MRC core activities.

The project “Consolidation of Hydro-Meteorological Data and Multi-functional Hydrologic Roles of Tonle Sap Lake and Its Vicinities, TSLV Phase III”, has come to its final stage. The final regional workshop on evaluation of TSLV Phase III was conducted in early May 2004. Knowledge focusing in particular on hydrological functions of the TSLV area was the main focus. Discussion during the workshop reflected future needs and improvement for data gathering. The study report was able to quantify multi-functional hydrologic roles of the TSLV area during the flood season and dry season of 2002 and 2003. Final products and technical report of the TSLV Phase III were finalised in May 2004 and are now available in both hard copy and CD-ROM.

The final draft of the Concept Document for the Establishment of the Mekong Hydrological Cycle Observing System (Mekong-HYCOS), prepared by WMO in cooperation with the MRC, has been forwarded to the riparian countries for their consideration and comments in early March 2004. The Concept Document was finalised by incorporating inputs from the member countries in August 2004 and submitted to the member countries for their official endorsement in early October 2004. Based on final agreed version of the Concept Document, the project document will be formulated through French funding support for the consultancy services. Full support and participation of the NMCs and concerned line agencies are crucial to promote the Mekong-HYCOS approach to develop it into a full project document in the present stage.

4.3. Sector Programmes

4.3.1. Fisheries Programme



New funding of US$ 50,000 per year for 2004-2006 inclusive was secured from the Swedish International Development Agency (Sida) to support the work of the Technical Advisory Body (TAB) for Fisheries Management. The funding from Sida is in recognition of the increasingly important role of the TAB in coordinating trans-boundary fisheries management activities in the

member countries, as well as the activities of the FP. The TAB met in Ha Noi in mid-March and Luang Prabang in May 2004 to develop a work plan for the next three years.

An activity on co-management of river fisheries, agricultural production and water management has been initiated in the delta in Viet Nam.

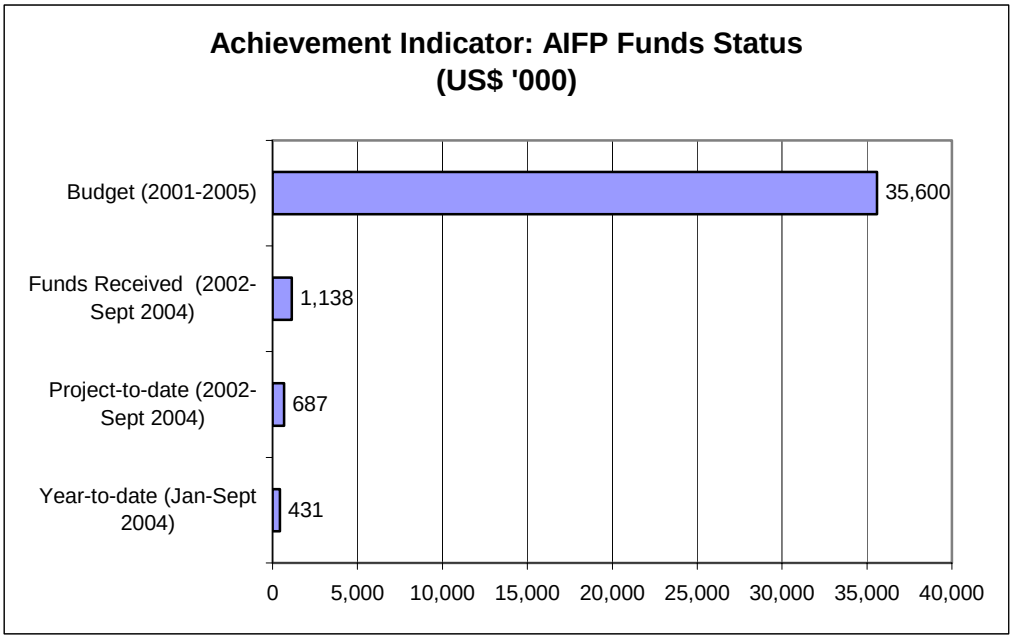
The FP is developing management strategies for deep pools in the Mekong in northern Cambodia and southern Lao PDR. Results of acoustic surveys have highlighted the pivotal role of the deep pools as refuges for fish stocks, particularly in the dry season. All components of the FP will be involved in management activities for the deep pools. An activity to determine the genetic composition of trey riel fishes was commenced in January 2004. The Australian Centre for International Agricultural Research (ACIAR) has funded the trey riel fish project activity for the duration of two years.

The book on "Fishing Gears of the Cambodia Mekong" was published in December 2003. The book is a high-quality production, reflecting the diversity of fishing gears to match the wide variety of fish species, habitats and seasonal conditions found in Cambodia. The book has received very positive critical appraisal.

An edition of the FP's newsletter *"Catch and Culture"* was produced in each of the MRC member country languages for the first time. The special edition in each riparian language is based on the articles published during the year in the English language issues. *Catch and Culture* will be issued in each language and the publication will be once a year.

The Fisheries Programme Annual Meeting was held in Luang Prabang in May 2004. Many agencies from within the region, as well as the representatives from national fisheries agencies and the NMCs attended the meeting. The programme presented the results of its work plans for the future. Other agencies working in the fisheries area also presented overviews for their activities. It was proposed that the FP Annual Meeting should be expanded into an “Annual Symposium on Mekong Fisheries” to further strengthen the leading role FP has taken as the main coordinator of fisheries activities in the Mekong. The outcome of the programme review conducted by Danida in January to February 2004 was positive. In part, the Review Team felt that the production of a considerable number of well-presented publications of results under the recently started MRC Technical Reporting Series has increased FP’s profile. The review’s other recommendations include for the MRC Secretariat to develop Phase II extending the work of the programme beyond its current period of funding. Danida had indicated interest in funding Phase II up to approximately US $ 2, US$ 1 and US$ 1 million for the years 2006 to 2008.

4.3.2. Agriculture, Irrigation, and Forestry Programme



The original document of AIFP for 2001-2005 described the programme as having three major components a) Water Use Efficiency, b) Catchment Management, and c) MRC Capacity Building. The Government of Japan through Ministry of Agriculture, Forestry and Fisheries has been funding the first component focusing on the Programme to Demonstrate the Multi-Functionality of Paddy Fields over the Mekong River Basin. MRC-GTZ Cooperation has been funding the second component under the title of Watershed Management. Capacity Building. However, it has not been implemented as a separate component, but integrated with the first two components. The total programme budget as estimated in the original document has proven the need for revision against the background of the current activities and funding. The current AIFP will end at the end of 2005. A revision of the current programme will be needed to improve the programme for the next phase.

4.3.2.1. Watershed Management Component: Detailed information regarding the watershed management component has been presented during the Eighteenth Meeting of the Joint Committee, and subsequent developments took place since. The following has been achieved so far:

National Working Groups (NWGs) on watershed management, established in each of the riparian countries, discussed and in principle agreed upon the selection of one pilot watershed in each of the countries. More detailed discussions on the rationale for having pilot watersheds will follow. The selected pilot watersheds, where further work of the Watershed Management Component will be focussed are: Stueng Siem Reap for Cambodia, Nam Ton for the Lao PDR, Thailand: not yet finally determined, and Nam Nung for Viet Nam.

Concept papers on watershed management, trans-boundary issues and identification of critical watersheds have been drafted, introduced to the working groups, and are being further improved upon. Based on the concept papers, a ranking of critical watersheds has been established for the entire LMB.

Important baseline studies have been further conducted. A comparison of community forestry approaches in Cambodia and Lao PDR, a comparison on relevant issues regarding policies and institutional frameworks for watershed management, and a comparative study on land use

planning approaches and experiences in all four riparian countries are now available. Legislation relevant for watershed management is under review.

Further development of the Internet-based Natural Resources Management Information System MekongInfo has been undertaken. The management of the system has been transferred from Ha Noi to MRC Secretariat in Vientiane. Discussions are under way with TSD for full integration of the system into the new MRC-IS Portal. A substantial number of publications, reports, and other papers of the Fisheries Programme have been integrated into MekongInfo at the end of 2003. The demand placed on the system and its utilization is being monitored.

A library of watershed management related documents has been established. It currently holds some 1,600 titles, many of them in electronic format. Planning is under way to fully integrate the library into the document management section of the MRC-IS Portal, in order to provide easy on-line access to the documents for all MRC Secretariat staff.

Approaches and methods to monitor land use changes in watersheds have been further developed. Support to TSD in regard to acquisition and analysis of geographical information relevant for watershed management (GIS and satellite images) is ongoing.

A joint training programme for watershed management planners in the four riparian countries has been established in cooperation with INWENT (Capacity Building International, Germany), and the DED (German Development Service). This year a training course has taken place in Lao PDR, a training course in Cambodia and Viet Nam will be organised later this year.

The preparation of Country Status Reports on watershed management has been initiated in the four riparian countries. These reports will provide an analytical basis for the Policy Dialogue on watershed management.

A Quality Dialogue/Circle for MRC Top Management and other high-level decision makers focussing on a more effective and efficient management of organisations has been organised in July. The objective is to provide guidance for the subsequent Watershed Management Skill Development and Training Programme. The latter, in a series of 6 seminars between 2004 and 2006, will support the NMC focal points for AIFP, the MRC-GTZ country coordinators, and representatives of line departments in change and coordination management, team building, mediation and conflict management, and various other management related skills.

A Policy Dialogue on watershed management was held in Vientiane from 27 to 30 September. The policy dialogue was attended by high-level riparian government officials (WG members, other government officers, NMCs Members), representatives from Yunnan-China and Myanmar, and representatives from various international organisations (ADB, WB, ASEAN, FAO, IUCN, WWF, SIDA, KfW, INWENT, GTZ, etc).

Research cooperation has been established with the University of Göttingen (Germany) in order to study the long-term impacts of land use changes in uplands on the river system. Further research cooperation is being discussed with CIFOR and the Center for Global Change and Earth Observations of Michigan State University.

4.3.2.2. Water Use Efficiency Component: A regional workshop to present the overview and progress of data collection and to discuss the activity of next phase was held on 11-12 May 2004 in Udonthani, Thailand. Relevant officers who have been involved in this activity presented their activities and demonstrated the collected data. A field visit by participants to Huayluang Irrigation Project in the outskirt of Udonthani was conducted during the workshop. It was proposed to complete a GIS dataset and to continue data collection such as on farm measurement, intensive data collection for hydrological modelling and remote sensing analysis to cover lacking data on

irrigation water use. Additionally, capacity building for GIS and modelling to use the collected data efficiently was recommended.

Collection for basinwide data/information on rice production and irrigation water use has almost been completed by relevant agencies of member states. Basinwide GIS dataset on rice production and paddy field map will be developed after appropriate conversion of the collected data to GIS format and combination of the data from four countries into one common dataset. Data collection on irrigation water use is not the same situation among four countries. Therefore, some other method to estimate irrigation water use should be needed.

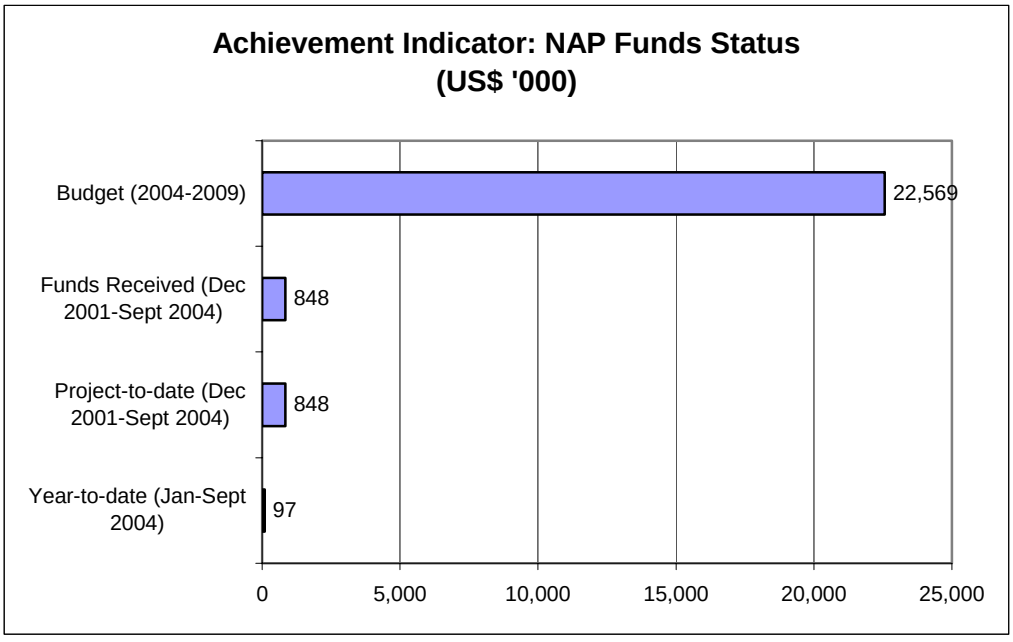
On-farm experiment to measure water balance and water quality around paddy field was started around November 2003, involving line agencies and research institute of riparian members. Two sites were selected for each country, and the field measurement will be continued till next dry season.

4.3.3. Hydropower Programme

The MRC Hydropower Development Strategy (HDS) was launched at a workshop in October 2001. The strategic areas for the HDS that were defined and approved include (1) consideration of integrated water use, environmental and socio-economic factors; (2) efficient hydropower generation and distribution mechanisms; and (3) information system and capacity building for hydropower development. A fund raising proposal was prepared in June 2002 and submitted to relevant donors and interested NGO's.

A meeting was held with the BDP Team in late May 2003 on hydropower development in the Mekong Basin and how to support the BDP process. While taking part in the BDP sub-areas studies and basinwide information review in early June 2003 in Viet Nam, hydropower data collection was carried out in the Se San and Plei Ku areas. The data collection primarily for evaluation of models and power distribution mechanisms, was also conducted in Vientiane, Lao PDR during the July 2003 BDP sub-areas 7 meeting.

4.3.4. Navigation Programme



Since the navigation programme was approved in late November 2003 the main programme activities have been focused on exploring funding opportunities. Discussions have been initiated with a number of traditional donors such as the Asian Development Bank, the World Bank, the Swedish International Development Agency and the Belgian International Cooperation Agency. Of primary concern has been to secure funding for the 15-month preparation phase in order to initiate the studies and activities that is a prerequisite for programme activities to be implemented at a later stage. Discussions with non-traditional donors were given priority in April and May 2004.

The NAP Team also worked on identifying implementing partners and centres of expertise that could support the programme implementation in terms of capacity transfer, training facilities and study visits. During a mission to Europe by the NAP discussions were held with senior officials of the navigation commissions and organisations such as the Central Commission for Navigation on the Rhine (CCNR) in Strasbourg, the Danube Commission in Budapest, Via Donau in Vienna, the International Maritime Organisation in London, and the Permanent International Association of Navigation Congresses (PIANC) in Brussels. Discussions with these organisations will continue throughout 2004. The NAP Team will look into the benefit of signing cooperation agreements with some of these technical partners.

At the end of May 2004 the Digitizing of the Hydrographic Atlas in Cambodia, Lao PDR and Thailand was completed and the new colour charts, based on the international IHO - S57 standard will be printed for distribution. The digital version of the maps of the Lower Mekong Basin and the GIS database will make the updating of the river depths and bank contours very easy and will provide support and input to all MRC programmes and many national agencies. The charts are now available in digital format for the whole Mekong river system from the Golden Triangle to the sea. These will be the basis for producing electronic navigation charts.

Institutional Strengthening and Capacity Building for Navigation in Cambodia: This bilateral project between Cambodia and Belgium falls under the MRC navigation activities and was completed in October 2004. Although its immediate objectives were focusing on capacity building of the MoPWT and CNMC in Cambodia, to a large extent it dealt with management support to the navigation team at the MRCS. This project included training sessions and seminars co-organised with UNESCAP and IMO.

The Lao National Mekong Committee has started implementing the project called *Supplemental Capacity Building Assistance with as important pilot projects construction of bank protections at Wat Muang Kao (Khammouan province) and Pakkadan bank protection (Borikhamxai province)*. Although this project is not implemented by MRCS it has immediate links with the NAP component 1 and WUP-FIN for a detailed geo-morphological study to define a programme of protective, regulating and development works to minimize the risk of degradation of the hydraulic, morphological and riverine environment that may arrive from river training works.

4.3.5. Tourism Programme

Tourism has been considered under the approved Navigation Programme's subcomponent 1 *regional master plan for navigation*. Supply-demand analysis and investment opportunities for tourism as well as the strategy to stimulate growth of the cross-border waterborne tourism are major activities of the project. To undertake these activities a pilot project was developed. The Development of Waterborne Tourism from Luang Prabang to Simao Pilot Project is based on the conclusions, recommendations and lessons learned from existing tourist operations. Subject to availability of funds, the implementation of Navigation Programme's subcomponent 1 is envisaged to begin in 2005.

Moreover, under the Environment Programme the Government of Sweden has agreed to support a focussed assessment on tourism opportunities and impact, using existing documents, studies and plans in the tourism sector. The study will be undertaken under Component C “People and Aquatic Ecosystems” and will link (where appropriate) to the socio-economic components of the relevant sector programmes (Navigation, Watershed Management and Fisheries). This assessment will also include an analysis of the MRC’s comparative advantage in tourism, if any, thus allowing for future programme development. It will be important to look at the impact of both mass tourism and eco-tourism as they pertain to the MRC’s mandate.

V. Planned Activities per Programme in 2005

This section provides a brief account of the work plan activities for each programme in 2005. The planned activities reported under this section can be found within the individual programme work plan for 2005 available for each programme.

5.1. Core Programmes

5.1.1. Basin Development Plan

Context and objective

Phase 2 of the Basin Development Plan Programme (2005-2010) will proceed in direct continuation of Phase 1, at an increased level of effort.

Building on Phase 1 achievements, Phase 2 will produce a comprehensive IWRM strategy, serving as a platform for promotion of water-related development initiatives and investment for the Lower Mekong Basin. The development initiatives will (i) foster sustainable development; (ii) respond to the needs of the poor; and (iii) ensure economic growth and development that is in harmony with the environment.

The programme objective is: *'A Mekong basin integrated water resources management planning tool and process is developed and used to identify, categorize and prioritize projects and programmes, to promote their funding and to support their implementation'.*

Phase 2 comprises five components: (1) Planning Capacity and Tools; (2) IWRM Strategy and Portfolio of Priority Projects; (3) Support to National IWRM; (4) Project and Programme Identification and Promotion; and (5) BDP Programme Management.

5.1.2. Water Utilisation Programme

An important activity of WUP in 2005 is to provide post-contract support for the DSF knowledge base and modelling tools including enhancements and ongoing training and technical support. In doing so WUP will ensure full integration and sustainable application in support of the various MRC and NMC programmes, most notably the BDP and the Integrated Basin Flow Management (IBFM), as well as other programmes and activities that may arise. The coordination work in the implementation of the Phase 2 WUP-FIN modelling activities will also be in progress during 2005.

WUP, with support of the Environment Programme, will also move forward in 2005 with Phase 2 of IBFM activities in technical support of flow assessments for the Procedures for Maintenance of Flows on the Mainstream. After the completion of an Inception Report in late 2004, subsequent activities in 2005 are aimed at starting IBFM Phase 2 through to the end of the year concurrent with commencement of IBFM Phase 3 under the Environment Programme. The basic approach for Phase 2 is to assess the beneficial uses, including the environmental, economic and social, of Mekong flow regimes for a wide range of basin development scenarios provided by the BDP. The assessment will conclude in 2005 with the TRG recommending flows based on one or more scenarios as acceptable for consideration by the Joint Committee. This may result in modification of the interim flow rules agreed in IBFM Phase 1 in support of the Procedures for Maintenance of Flows on the Mainstream.

A two-phased approach to development of an Integrated Water Quality Management Strategy is proposed in technical support for the drafting of the Rules for Water Quality (RWQ) for approval by MRC Council in 2005.

Dissemination of information related to the 1995 Mekong Agreement and the procedures throughout the MRC and to the NMCs, relevant line agencies and other interested parties also forms part of the 2005 work programme. In addition, WUP will also prepare guidelines for implementation of approved procedures. Part of the strengthening of institution activity will continue to encourage MRC-NMC collaboration in the implementation of WUP through active participation of the WUP Management Team.

5.1.3. Environment Programme

Implementation of the Environment Programme (EP) began in 2001, was revised in 2003 and the Programme is now undertaking a number of activities in prioritised areas. To date, approximately US$ 7.5 million have been secured of a proposed total five-year (2004-2008) budget of US$ 19.22 million.

Implementation in 2005 follows the revised Programme including work initiated in 2004 as well as a number of new activities. The work on Rules for Water Quality, undertaken in cooperation with WUP, will continue in 2005, as will the work on strategies for water quality emergencies. The basin report card on environmental health will be finalized, and an ecosystem health survey of selected areas will add to the understanding of the Basin's environmental condition. The social impact monitoring system will be completed and begin operation in 2005. A set of guidelines for a transboundary Environmental Assessment system will be proposed to the Joint Committee in June 2005. In cooperation with IUCN the Programme will continue working on wetland assessment and valuation as well as guidelines for wetland biodiversity. The monitoring of the water quality in Sesan River will continue. The research studies looking into energy and carbon flows in the lowland ecosystems will continue. The work on environmental flows, phase 3 of the Integrated Basin Flow Management, will begin field investigations to provide information for flow management.

5.1.4. Flood Management and Mitigation Programme

FMMP activities in 2005 will focus on flood preparedness, development of guidelines and institutional strengthening. Upscaling of activities towards full operations of the Regional Flood Management and Mitigation Centre will continue. This will support MRC in promoting flood management and mitigation in the member countries and regional management of flood plain development. Emphasis will be placed on flood forecasting and early warning. In 2005, precise warnings with accurate flood plain maps will be disseminated to meet the local need for reliable and accurate information in a timely manner. The flood emergency management capacity building of MRC riparian staff will be continued. Based on the master plan for the improvement of the hydro-meteorological network in the river basin, further planning, development and management of the network will take place. Improvement of the Hydro-Meteorological network, including the setting up of an on-line monitoring system to provide real-time and automatically recorded data at key stations for the WUP will continue. Development of a new flood forecasting model will be initiated and the third annual Flood Forum will be organised in 2005. In cooperation with the Water Utilization Programme, an intensive measurement campaign is being organized in the Cambodia to study the role of the Tonle Sap Great Lake and its associate systems.

5.2. Support Programmes

5.2.1. Integrated Capacity Building Programme

The preparation of the MRC Integrated Training Strategy and Programme has been ongoing since the second half of 2002 and was completed with finalization of an ITP document in 2003. Once funds

are available the development of Programme Implementation Plan and establishing contacts with universities and training institutes will commence. The JRP programme has secured sufficient funds from Sweden for operation until 2006.

Communications strategies and development of information materials on the MRC has been undertaken to raise awareness of MRC activities and to document and promote MRC's technical knowledge to member countries and the general public. The communications strategies and information products include the Annual Report, quarterly newsletter (Mekong News), the MRC website, media relations, technical publications catalogue, information displays and promotional products. In-house regular publications and the production of CD-ROMs as well as expanding the reach of these documents will continue in 2005. Promoting the use of the documentation centre at the Secretariat as an education and resource hub particularly for local research will be a focus of activities for 2005. One of the main tasks in the early part of the year will be the events, organisation and publicity leading up to the celebration of the 10th anniversary of the signing of the 1995 Agreement.

The MRC-Murray Darling Basin Commission Strategic Liaison Programme supported by the Australian Government, which will conclude in December 2004, has focused on development of organizational, technical and community awareness raising capacities of the organization. Organisational capacity has been developed in the areas of programme/project management and in basin strategic planning. Increased technical capacity has occurred in the areas of data and information management (data collection, handling, technical standards, pricing policy and custodianship guidelines), sustainability of hydrological stations, catchment modeling, water sharing, basin planning and assessment. Training and module development under the basin development planning programme has taken place. Community awareness capacities have been developed through finalization of a public participation strategy and action plan and the implementation of selected pilot projects.

The Research Coordination will in 2005 (a) continue to manage and implement the CPWF in the Mekong River Basin; (b) issue 'Mekong Research' and update the initiative website; (c) assist the Fisheries Programme with the management and implementation of the CPWF-funded 'Synthesising fisheries management institutional data at multiple scales for the Lower Mekong River Basin' in collaboration with the Institute of Fisheries Management of Denmark; (d) continue to contribute to the development of the MRC Information Management Strategy; (e) to continue with the research review of the LMB on behalf of the EP; (f) to contribute towards the EP study on 'Livelihood Consequences of flow changes in the Mekong Basin'; (g) to collaborate with the joint project between MRC and WWF on 'Strategies for Hydropower Development in the Mekong Basin'; (h) to continue contributing to the 'Developing Economically Sound and Biodiversity Friendly Structural Standards for the Design of Roads in the Mekong Floodplains' activity.

The Gender Mainstreaming in Water and Related Resources Development in the Lower Mekong Basin will in 2005 (i) conduct gender sensitive training and provide data and information to personnel of NMCs, line agencies and MRC Secretariat; (ii) improve MRC capacity in planning, executing, monitoring an evaluating gender responsive water and related resources development programmes; and (iii) provide necessary tools for implementing gender responsive development practices.

5.2.2. Data and Information Management Programme

The Preparation Phase of the Data and Information Management Programme includes drafting of MRC Data and Information Management Policy; MRC Strategic Plan for Data and Information Management; Component and overall program design; and Programme formulation. It is expected to run for nine months starting in early 2005, at an indicative budget of US$ 180,000.

The major task under the hydrology component in 2005 will be to continue the collection and supply of improved quality, quantity and timely hydro-meteorological information to all core programmes for model improvement, forecasting and monitoring verification of scenarios and rules auditing by further strengthening and consolidating the established network and capacity involved.

The Concept Document for the establishment of the Mekong Hydrological Cycle Observing System (Mekong-HYCOS) has been prepared by the World Meteorological Organization (WMO) in cooperation with the MRC. The development of a full project document will be finalised in early 2005 subject to funding availability. The actual implementation of the Mekong-HYCOS project is envisaged to start in mid 2005. The Government of France has indicated interest in supporting Mekong-HYCOS.

The AHNIP will continue to provide support during delivery of the smaller stage 3 national training. This support and the work of the trainers will ensure that the majority of national operator trainees could be made competent in the majority subjects so far provided. From this point on, the MRC Secretariat and national agencies will begin to take over the routine operation of the Accredited Technical Training Programme. The national trainers will provide follow-up and refresher training, re-assessment, training of replacement staff and provision of the training that is best carried out at the field sites. The training programme will be synchronised with the commissioning of field stations or data centres in order to allow the operators to apply their training immediately after receiving it. The operators will be supported in this operation through the mentoring programme.

The mentoring programme will be one of the two main project activities for the remaining one and a half years in conjunction with the implementation of the Sustainability. Best efforts will be made by the MRC Secretariat and line agency staff to carry out the tasks using the training received from the projects, its understanding of the underlying principles of the tasks, and its own research. During the mentoring programme the new operators will be assisted in performing their tasks correctly and improving their ability to form their own solution to the problems of operating and maintaining the equipment. The mentoring role will be gradually handed over to the Trainers, MRC Network Coordinator, Asset Managers (MRC and national) and MRC Technical Training Coordinator, as their skills develop. The equipment for the station at Houakhong will be installed in the first half of 2005.

The project will perform follow-up visit to the facilities after commissioning to address any questions and problems the Chinese team might be facing in operating the new equipment. The provision of an automatic flow measuring equipment, an Acoustic Doppler Current Profiler (ADPC), and related training will take place in the first half of 2005. AHNIP plans to make a comprehensive assessment report on the status of the sustainability, actual requirement and concrete activities and recommendations for further actions. The report will be submitted to the Eighth PCC Meeting in March 2005. The Guidelines for the Management of the MRC Hydrometeorological Network will be finalised and submitted to the Joint Committee in March 2005 for endorsement.

The success of the Chinese operators in this task will be closely monitored. If it becomes clear that they continue to experience problems, these facilities will be added, as appropriate, to the mentoring programme. Further discussion with China through the Joint Working Group Meeting will be continued on the issues of technical collaboration in other areas, such as all year round data provision and the provision of other information relating to the sudden change in water level, as well as exchange of staff and expertise.

5.3. Sector Programmes

5.3.1. Fisheries Programme

The year 2005 will be the final year of the current phase of the Fisheries Programme. Emphasis will be in three areas, namely completing current activities, publishing the results and outcomes of the

work, and progressively moving the programme towards the thematic areas of the planned Phase 2 of the Fisheries Programme.

Major milestones and indicators for 2005 include the following:

Assessment of Mekong Capture Fisheries Component:

- Six (6) MRC Technical Series publications on the socio-economics of fisheries in An Giang (Viet Nam), Tra Vinh (Viet Nam), Kampong Tralach (Cambodia), Phlong and Phe villages (Cambodia), Champassak (Lao PDR) and Songkram River Basin (Thailand);
- MRC Technical Series publication on basinwide consumption synthesising results from the above studies and other data to produce a yield estimate for the basin;
- MRC Technical Series publication on the methods for undertaking quantitative fish consumption studies, based on studies from 2003-4, showing comparisons of interview and monitoring results and conclusions on future monitoring methods;
- Film on delta fisheries in Viet Nam;
- Book on the Fishing Gears of the Mekong Delta in Viet Nam;
- Atlas of Larvae/juveniles of common Mekong fishes;
- Photo field guide for common Mekong fishes; and
- 7-10 reports on component work presented by counterpart staff at the MRC Mekong Fisheries Technical Symposium.

Institutional Support Component:

- Annual Meeting held an expanded format to involve other significant fisheries activities in the LMB;
- MRC Fisheries Technical Symposium held, with attendance of approximately 100 counterpart staff from the MRC member countries;
- Establishment of a sub-component on valuation of fisheries in the Mekong, including recruitment of an international advisor to supervise the studies;
- Documentation for FP Phase 2 completed and distributed to donors; pledges of support from donors secured;
- Production of the FP newsletter “Catch and Culture”; 3 editions per year in English, one amalgamated edition in each of the four riparian languages; and
- Publication in MRC Technical Series of a paper on the fisheries of the Vietnamese Mekong delta, covering the relationship between capture fisheries, aquaculture and the resources and flow of the river.

Aquaculture of Indigenous Mekong Fish Species Component:

- Brood stock of AIMS priority species conditioned and spawned at 11 cooperating LMB aquaculture stations;
- Improved husbandry techniques for 8 - 9 AIMS priority species disseminated;
- An economic database on culture of indigenous Mekong fish species prepared and used to assess the economic feasibility of aquaculture of AIMS priority species;
- A revision of the taxonomy of selected black fish species of the Mekong delta in Viet Nam completed;
- 5-15 contributions to the MRC Mekong Fisheries Technical Symposium prepared and contributed by counterparts; and
- Publication in the MRC Development Series of a paper on the fishery of the Mekong and its tributaries in Thailand.

Management of River and Reservoir Fisheries Component:

- 4 national workshops on fisheries management prepared and completed;

- 4 mobile hatcheries set up, users and local staff trained and fingerlings for stocking of eight reservoirs produced;
- Fisheries management planning and plan implementation of a first yearly management cycle at 3 new major river fisheries sites (one each in Cambodia [Stung Treng], Lao PDR [Champassak] and Thailand [Songkhram]) completed;
- Project on water use management at two sites in the Mekong delta (Soc Trang Province) completed;
- 3 studies commissioned by the TAB completed;
- Curriculum for Training Course on Regional Aspects of Fisheries Management and Development in the LMB developed, and one course delivered, as commissioned by the TAB;
- 2 'TAB Updates' and 4 'TAB Fisheries Management Briefs' published;
- 3 MRC Development Series issues (co-management; inland fisheries of Lao PDR; gender in fisheries) completed;
- Publication of FAO Technical Paper (data collection for co-managed fisheries) completed (collaborative effort with other fisheries organizations); and
- Publication of FMSP document (adaptive learning in enhancement fisheries) completed (collaborative effort with other fisheries organizations).

5.3.2. Agriculture, Irrigation and Forestry Programme

5.3.2.1. Watershed Management Component: Activities under this component will continue building on the foundations laid by the National Working Groups and the Regional Working Group on Watershed Management. The pilot watersheds, selected in early 2004: Stueng Siem Reap for Cambodia, Nam Ton for Lao PDR, Thailand (not yet finally decided upon), and Nam Nung for Viet Nam will be used as reference areas to analyse and work on processes related to and relevant for watershed management.

The processes to be analysed are: enabling regulations, institutional framework, consistencies in planning processes, implementing experiences, financial mechanisms and incentives, capacity building as well as impact monitoring. Priority thematic areas will be decided upon after the Policy Dialogue in September 2004 and the following National and Regional Working Group meetings.

Basinwide exchange and sharing of information related to watershed management will be further improved upon. MekongInfo, the regional Internet based information system for natural resources management, will be integrated at MRC Secretariat. Thorough research and analysis of various major issues relevant for watershed management, such as policies and legal frameworks, regional and land use planning, trade markets for forestry and agricultural products, and long-term impacts of land use changes in uplands on the river system will continue.

Training courses and policy dialogues in close cooperation with INWENT will continuously be organised. In 2005 a first evaluation of the progress and impact of the watershed management component will take place.

5.3.2.2. Water Use Efficiency Component: The Water Use Efficiency component of the AIFP will continue its activities to evaluate and demonstrate the multi-functionality of paddy fields over the Lower Mekong Basin. The main activity in 2005 will be to establish models to analyze and evaluate selected functions of paddy fields. This will build on previous activities undertaken since 2002 in data collection and data arrangement for modeling. A number of basinwide datasets have been developed by 2004, such as the rice farming dataset including rice production and rice eco-systems, an updated irrigation dataset, a paddy areas map. Moreover a field survey to measure water balance and water quality in selected experimental farms has been undertaken. Supplementary data collection and analysis of collected data will be finalized by the first quarter of year 2005. As a next step, by using

the basinwide dataset or on-farm data, and some other data in MRC archive data, a number of models will be developed after pre-evaluation on several functions of paddy field.

5.3.3. Hydropower Programme

Under the hydropower component cooperation structures with hydropower segments in the riparian countries will be established and advice on the planning, development and operation of hydropower plants in the LMB will be provided in close consultation with the riparian governments and the BDP. Costs and benefits of existing hydropower plants and dams will be analysed to support identification of options for best hydropower development in LMB. Studies will be carried out on the potential for improved efficiency, reduced power demand and savings in investments in the power sector in the riparian countries through Demand Side Management (DSM) and other viable options. It is envisaged that a study will be conducted on practices and obstacles for private and public participation in hydropower development in the riparian countries proposing efficient and fair principles for private and public participation. Hydropower projects in the LMB will be identified for the BDP planning process. The Secretariat has embarked on developing a Hydropower Development Strategy Implementation Programme which should eventually lead to a wider Hydropower Programme.

5.3.4. Navigation Programme

In 2005, NAP will focus on establishing the institutional structures on the regional level and to provide the necessary resources for the MRC member states to establish the management structures on the national level for implementing the Navigation Programme. To this effect, the MRC will establish the MRC Secretariat Navigation Programme Office largely consisting of the Navigation Working Groups at the MRC Secretariat, and Country Working Groups in each member state country. There will be three working groups: (a) *Transport Planning, Socio-economic Analysis and Information*, (b) *Legal Framework, Safety and Environment*, and (c) *Promotion, Coordination and Capacity Building.* In order to ensure a more detailed input of the member states in the MRC decision-making process a high-level Navigation Advisory Body will be formed. This Body will facilitate endorsement of harmonised navigation rules and regulations within the Basin, safety rules, common training curricular, transport of dangerous goods, contingency plans, and navigation systems that require high-level decisions before they can be put in place. On the financial level, The NAP Office will co-ordinate with the donor agencies and organize appraisal missions to ensure that the financial requirements are met to begin implementing the NAP.

The execution of the first component of the NAP under available funds is envisaged for 2005. It is entitled Socio-Economic Justification and Regional Transport Planning in conjunction with the projects Design of the Master Plan for Waterborne Transportation on the Mekong River System in Cambodia. Moreover, formulation of the Mekong Navigation Improvement in Viet Nam will take place during 2005. On the coordination and promotion level, the NAP Office will facilitate and encourage dialogue and cooperation with China and Myanmar on water transport.

5.3.5. Tourism Programme

Subject to availability of funding, this programme development work in this sector could be started up. The main activity would be a study of the tourist sector and development of a comprehensive programme proposal.

To this effect, tourism is considered with a baseline study under the Navigation Programme's component 1 (subcomponent 1 *regional master plan for the region*). Supply-demand analysis and investment opportunities for tourism as well as the strategy to stimulate growth of the cross-border

waterborne tourism are major activities of the project. To undertake these activities a pilot project was developed. The Development of Waterborne Tourism from Luang Prabang to Simao Pilot Project is based on the conclusions, recommendations and lessons learned from existing tourist operations. The NAP envisages commencing implementing component 1 in 2005 provided funds are available for the start up.

Moreover, under the Environment Programme the Government of Sweden has agreed to support a focussed assessment on tourism opportunities and impact, using existing documents, studies and plans in the tourism sector. The study will be undertaken under Component C “People and Aquatic Ecosystems” and will link (where appropriate) to the socio-economic components of the relevant sector programmes (Navigation, Watershed Management and Fisheries). This assessment will also include an analysis of the MRC’s comparative advantage in tourism, if any, thus allowing for future programme development. It will be important to look at the impact of both mass tourism and eco-tourism as they pertain to the MRC’s mandate. This activity is expected to commence in 2005.

VI. Programme Profiles

For each programme, the profiles provide information on the context of the programme and the situation addressed by it, on objectives, strategy and main outputs and activities envisaged under the programme. The programmes are presented as core, support and sector programmes.

The programme profiles are deliberately very brief and are intended to provide an overview of what the particular programme or component is aiming to achieve. Comprehensive programme documents are available upon request from the MRC Secretariat.

6.1. Core Programmes

6.1.1. Basin Development Plan

Programme Context and Problem Addressed

The 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin defines the Basin Development Plan (BDP) as a "*general planning tool and process that the Joint Committee would use as a blueprint to identify, categorize and prioritize the projects and programs to seek assistance for and implement the plan at the basin level*".

Its aim is to promote, support, cooperate and coordinate the development of the full potential of sustainable benefits to all riparian countries and prevention of wasteful use of the basin's waters, consistent with the needs to protect, preserve, enhance and manage the environmental and aquatic conditions and maintenance of the ecological balance exceptional to the MRB. The Agreement aims also to assist in developing the Mekong River Basin in accordance with the new vision of the Mekong cooperation in order to accelerate interdependent sub-regional growth, create a new environment which is conducive to investments and establish a firm foundation for sustainable development. To this end, views from the public will need to be incorporated adequately and a well planned, formulated and mutually acceptable basin development framework that would balance socio-economic and environmental considerations will have to be established. The development efforts will have to continue on a sustainable basis to provide a strategy for the MRC to initiate priority programs and projects in cooperation with appropriate national and international organizations, including regional initiatives.

Objective

The development objective of this Programme is "sustainable development of the water and related resources of the Basin for the mutual benefits of the riparian countries and people living in the Mekong River Basin". In the medium-term, the programme will develop a framework for regional cooperation among the riparian countries to develop the MRB through implementation of a well-defined and established BDP.

Programme Strategy

The BDP Programme is seen as three parallel processes comprising (i) the BDP planning process carried out in five stages, (ii) a knowledge and capacity building process and (iii) a dialogue with the public, stakeholders and political levels. While the internal knowledge base will be strengthened and firmly established for operation of the staged technical planning process, a participatory planning approach will help achieve the Programme objectives and ensure sustainability of the development efforts and the planning processes in the longer term. The MRC

Secretariat, NMCs and line-agencies in the riparian countries will continue to be the key actors of the BDP, with a limited involvement of external consultants/advisors. The BDP and the planning process is dynamic and with a participatory approach. The current phase implemented with three-year duration and has been extended by six months.

Component Description

Immediate Objectives: *Basin Planning Process established and is ongoing;* and 2. *A BDP drafted and agreed to by the riparian countries.*

Main Outputs and Activities: The BDP planning process is seen as dynamic. The Plan itself is to be comprehensive, integrated and multi-purpose of nature. The main expected outputs are:

- A planning process based on national legal and policy frameworks;
- A set of planning guidelines, policies and criteria;
- A training component consisting of short training courses and in-house training seminars;
- Assessment/analysis of sub-areas (situation analysis) based on the vision and mission statement of BDP;
- Development scenarios for each sub-area including an analysis of factors that may affect the availability of water and influence the demand for it;
- Development strategies for each sub-area, management and development strategy for the water related sectors, and development and management strategy for the lower Mekong River Basin;
- A list of basinwide priority projects and programmess with a limited implementation plan.

Activities to be carried out will be to: (i) strengthen the required technical knowledge base including human resources, databases and planning tools, (ii) establish the participation plan and related mechanism to secure adequate public inputs for the BDP, and (iii) complete the five stage planning process. Sub-areas, a basic unit for analysis and planning, will be defined for further analyses and formulation of a basinwide development/management strategies and plans. On-the-job training, workshops and seminars will be organised.

Budget:

Total BDP Budget:	**US$ 6.15 million (Phase 1: three and a half years: Oct 2001-mid 2005)**
	US$ 24.05 (Phase 2: five years: 2005-2010)
Funding Sought:	**US$ 21.94 million**
2005 Budget:	**US$ 2.55 million**
Donors:	**Denmark, Switzerland, Sweden**
	Australia; Japan (seconded experts)

6.1.2. Water Utilisation Programme

Programme Context and Problems Addressed

The 65 million inhabitants of the Mekong River Basin depend to a great extent on the natural resources of the Basin for their livelihood. The Basin has, in the last decade, experienced lower economic growth than surrounding regions of Southeast Asia. As a result, exploitation of the forest

areas, wetlands and flooded forests is increasing. The prospect of increased water diversions and constructions of the needed infrastructure for irrigated agriculture and water supply represent competing water uses that threaten the basin's natural habitat and aquatic ecosystem. Shifting cultivation and widespread logging in the sensitive upland areas are degrading the watersheds, increasing erosions, and modifying the flow regime. Finding a way to support continued development of the Mekong River Basin in a sustainable way and minimising water-use conflicts is critical. Therefore, there is a need to assist the MRC member countries in promoting socio-economic development and improving sustainable water management while protecting the ecological balance of the basin.

The Water Utilisation Programme's major issues concern equitable and reasonable use of the water resources and sustainable development of the natural resources in the Basin. The most critical factors are related to changes in the hydrological regime and dry-season flow in the Lower Basin. Lao PDR and Cambodia rely on river transport and the reduction in dry-season flows can adversely affect navigation. Cambodia has the long-term potential for expanding its irrigated agriculture. Over decades, Thailand and Viet Nam have developed extensive irrigation systems that currently face dry-season water constraints. Saltwater intrusion into the Mekong Delta during the dry season adversely affects irrigation and domestic water supplies. Hydropower remains to be an important development activity, especially in the upper part of the Basin. The options for diverting water from the Mekong, and for inter-basin diversion of the water from the Mekong tributaries have also been considered.

The WUP will assist the MRC member states to implement key elements of the 1995 Mekong Agreement (Articles 5, 6 and 26) and contribute to addressing these issues. Equally important the WUP will provide the analytical tools and knowledge base required to support negotiation of the rules and procedures for water utilization and their implementation. It will provide the technical and institutional capacities required for longer-term cooperation to manage the basin's water and ecological resources in a sustainable manner.

Development Objectives

The implementation of the Water Utilisation Programme is being supported by the GEF-financed, World Bank-implemented, Start-up Project whose development objectives are to establish effective mechanisms to improve water resources management for the economic and social development of the Mekong Basin in an environmentally sustainable manner (including reasonable and equitable water utilisation by the countries of the Basin; protection of the environment, aquatic life and the ecological balance of the Basin).

Programme Strategy

Activities have been carried out to achieve the three main Project outputs identified in the Project Implementation Plan (PIP), linked to three Project components:

1. Basin Model and Knowledge Base;
2. Rules for Water Utilisation; and
3. Management and Institutional Strengthening.

These components work together to provide these mechanisms in accordance with the principles and articles set forth in the 1995 Mekong Agreement.

Following the Mid Term Review of the Project on 5-12 December 2003, the World Bank agreed that in order to better reflect the actual implementation, including the structure of the three working

groups and the financial management already in place, component 1 be divided into two sub-components thus creating the following four components for management and implementation:

1. Basin Modelling and Knowledge Base: A functional and acceptable package of basin simulation modelling and analytical tools supported by improved databases;
2. Environmental and Trans-boundary Impact Analysis: Environmental, economic and social trans-boundary analysis tools and assessment to support development of the technical input to development of the "technical rules";
3. Rules for Water Utilisation: A set of recommended rules for water utilisation i.e. dry and wet season flow levels on the River; notification and review procedures for proposed water uses, water quality; and
4. Management and Institutional Strengthening: Enhanced project and basin management capacity.

The project started in late 1999 with a planned duration of seven years from 2000 to 2006.

The strategy pursued is to facilitate and support a flexible, yet structured process in formulating the "rules" for water utilisation. Moreover, in a manner consistent with the principle of adaptive management and in light of the prevailing uncertainties in some key data, the "rules" will be adopted on an interim basis, subject to review and revision according to the conditions promulgated by the MRC.

Water resource management requires the consideration of all elements of the hydrological cycle, including surface and groundwater, quantity and quality, and temporal and spatial variations. Water quality considerations are an integral part of formulating procedures related to: i) information and data exchange, ii) notification and prior consultation, and iii) water use monitoring.

Understanding the flow regime of the Mekong River Basin in the most complete sense, including temporal (seasonal and annual) and spatial (mainstream, tributaries, sub-tributaries, wetland, floodplains) variations is the foundation for establishing mainstream flow and water quality rules, formulating the BDP, and the review of proposed water uses. The publication of a MRC report on the "Overview of the Hydrology of the Mekong Basin" in 2004 developed under the IBFM activities will serve as a foundation for the above purposes.

Critical data gaps and improved information management needs will be identified under Component 1. This information will provide the foundation for developing procedures for information exchange and water use monitoring. The exchange of information engendered by these procedures would help in the development of the Basin Modelling Package, the Trans-boundary Response Analysis, and support the formulation of the BDP.

The basin-modelling and knowledge base package, collectively known as the Decision Support Framework (DSF) will be used to simulate a wide range of water use and development scenarios to test the viability of the alternative mechanisms being considered in the consultations on the water use monitoring procedures, to test procedures and guidelines developed during consultations on the procedural rules, and to formulate and evaluate alternatives and options for the technical rules.

Component Descriptions

Component 1: Basin Modelling Package and Knowledge Base

Sub-Component 1.1: Information and Knowledge Base Development

Immediate Objective: *Information needs identified and knowledge base developed*

Main Outputs/Activities: The information and knowledge base will be developed through identifying the actual modelling needs, data requirements, and selection criteria; review all existing data, agreeing upon data base and information system design, assessing national legal and institutional frameworks. Based on the results of the above-mentioned activities, the WUP will focus on the development, testing, and implementation of the Knowledge and Information Management System, assessing water quality data and problems and identifying and filling critical data gaps.

Sub-component 1.2: Development of the Basin Modelling Package

Immediate Objective: *A modelling package of the waters of the basin developed*

Main Outputs/Activities: A Basin Modelling Package will be developed by examining the general basin modelling requirements, developing water quality modelling and strategy, and integrating the upper and lower basin models into an integrated modelling package. In the process, the efforts will be exerted in calibrating and verifying the WUP Modelling Package, and the Water Use Monitoring Procedures, as well as supporting the Rules Formulation and Consultations.

Component 2: Environmental and Trans-boundary Impact Analysis

Immediate Objective: Environmental, economic and social trans-boundary analysis tools and assessments to support development of the technical input to development of the "technical rules".

Main Outputs/Activities:

2.1. Transboundary analysis: initial assessment of trans-boundary environmental, social and economic issues, and the introduction of trans-boundary diagnostic analysis tools for use by other MRC programmes (e.g BDP and EP).

2.2. Integrated Basin Flow Management: activities in technical support of development of maintenance of flow rules.

2.3. Water quality activities in technical support of the development of Rules for Water Quality.

Component 3: Development of the "Rules" for Water Utilisation
Immediate Objective: *Rules for water utilisation, in line with the Agreement, developed and ready for adoption by the riparian countries*

Main Outputs/Activities: There are five sets of "water utilisation rules" anticipated to be formulated under this component.

Three "procedural rules"

1. Procedures for data and information exchange and sharing (agreed in November 2001);
2. Procedures for notification, prior consultation and agreement of proposed water uses (agreed in November 2003); and
3. Procedures for water use monitoring in the Mekong Basin (agreed in November 2003);

And two "technical rules"

1. Rules for maintenance of flows on the mainstream. The Joint Committee approved the Terms of Reference (TOR) for Technical Drafting Group 5 (TDG5) in December 2003. Working in parallel with the IBFM process, four rounds of TDG5 meetings were held each preceded by a

round of national consultations. During the period February to October, four TDG5 meetings were held with a fifth in November and a Special Joint Committee Session prior to the Eleventh Meeting of the Council which renamed the rules into procedures and agreed on the draft Procedures for Maintenance of Flows on the Mainstream (PMFM) for submission for the Joint Committee's review and for the Council's consideration. The Council unanimously accepted in principle the proposed Procedures. The Chairman of the Council requested the Joint Committee and the Secretariat to undertake the necessary follow-up and to continue to work on the Procedures for signing soonest and to prepare the technical guidelines for its implementation.

2. Rules for water quality (to be agreed in November 2005).

Component 4: **Institutional Strengthening of the MRC and National Mekong Committees to Implement the WUP**

Immediate Objective: *Enhanced project and basin management capacity in the MRC, NMCs, MRC Secretariat and relevant national agencies*

Main Outputs/Activities:

4.1. Provide training courses, on-the-job training, workshops, and study tours for MRC and NMCs staff, and representatives from relevant national agencies on water resources and basin planning and management relating to WUP, improvement of MRC and MRC Secretariat's effectiveness, accountability, transparency and efficiency.

4.2. Fund incremental administrative costs in MRCS relating to implementation and supervision, including the establishment of a project monitoring and evaluation system.

4.3. Strengthening of MRCS capacity in financial and procurement management.

4.4. Facilitation of information sharing and consultations with upper riparians.

Budget:
Total WUP Budget: **US$ 17.09 million (seven years: 2000-2006)**
Funding Sought: **None**
2005 Budget: **US$ 3.38 million**
Donors: **Finland, France, GEF, and Japan, and the MRC and its member states**

6.1.3. Environment Programme

Programme Context and Problems Addressed

The Mekong River Basin Diagnostic Study (1995-2005), a joint-effort between MRC Secretariat and UNDP, and other studies has identified current and potential environmental and socio-economic problems in the region. Problems emerge due to increased environmental degradation leading to a reduction of bio-diversity and decreased complexity and extent of aquatic habitats. This results in a decline in the productivity and quality of the living natural resources, which are vital to the livelihoods of the Basin's people. Damage to the naturally sustainable productive capacity of aquatic ecosystems caused by destructive local practices is compounded by disturbances in other parts of the Basin such as pollution, deforestation and drainage of large flood-plain wetlands. Environmental degradation "far away" commonly induces lasting changes in water quality, hydraulic cycle and productivity of downstream areas, hence the importance of adopting a holistic approach to managing the Basin's water and related natural resources. The Environment Programme, in concert with all other MRC programmes, focuses on the issues that need to be addressed by the Mekong River Commission over the next decades in order to ensure a balance between economic development and environmental concerns. The Environment

Programme implements Article 3 and Article 7 of the 1995 Agreement and is central to the achievement of Goal 3 of the MRC Strategic Plan 2001 to 2005.

Objectives

Development Objective: *An environmentally sound, economically prosperous and socially just Mekong River Basin*.

Immediate Objective: *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*.

Objective 1: *To improve monitoring of the environmental state of the basin, focusing on water quality, ecological health and social development.*

Objective 2: *To increase environmental and socio-economic knowledge in the Mekong River Basin.*

Objective 3: *To improve the dissemination and accessibility of environmental information (within the basin and between the basin and elsewhere).*

Objective 4: *To ensure that social, economic and ecological concerns are incorporated in basin-wide environmental policies and regulations.*

Objective 5: *To improve awareness and capacity of MRC and riparian government personnel to address transboundary and basinwide environmental issues.*

Objective 6: T*o ensure that development initiatives are planned and implemented with a view to minimize negative environmental impacts in the Mekong River Basin.*

Programme Strategy

The MRC Environment Programme is comprehensive, flexible, and builds on improved mechanisms for co-ordination provided by the new organisational structure of MRC Secretariat. In contrast to previous and more technically oriented environmental projects, the central focus of the programme is people. The programme monitors water quality and ecological health and is developing a monitoring system for how environmental changes impacts on rural households in the basin. Through development of environmental planning and management tools the programme is also supporting the BDP process.

The long-term strategy of the Environment Programme is the progressive incorporation of information gathering, assessment and exchange activities between the national line agencies, the NMCs and the MRC Secretariat as an integral part of national processes and strategies retaining only the most central aspects as core functions of the Programme.

The programme is implemented through components, each with its own logical framework matrix. The components can be funded by different donors and provide a flexible arrangement for donor support with different funding horizons. Each is designed independently in terms of focus, scope and timing. Realignment or changes to components can be negotiated without compromising the coherence of the overall programme. The programme was revised in 2003 to align itself with the development of the BDP process, provide better support to WUP, as well as incorporating emerging environmental issues. Implementation is based on a rolling planning process, where objectives and outputs remain fixed, while actions undertaken to achieve the outputs and objectives are flexible. Reporting has the same format and structure for all components. A

computer based management and reporting system is used to ensure detailed and efficient management and reporting.

Component Descriptions

The Programme consists of five components all contributing directly to one or more of the Programme objectives, ensuring that all objectives are addressed even if some components are not fully funded. The structure of the EP has undergone an update and revision in 2003, as envisaged in the original approved programme document.

Component A: **Environmental Monitoring & Assessment**

This component focuses on ensuring that monitoring data on water quality, ecological health and the social and economic conditions of (rural) basin households is collected, analysed and reported on. This is an essential instrument in ensuring that Article 3 can be implemented

Immediate Objective: *To provide timely data and/or information on trends and changes of environmental conditions of the Mekong River Basin, which are relevant stakeholders.*

Main Outputs/Activities: The outputs under this component include provision of data from the revised Water Quality Monitoring Network and the Ecological health monitoring. A system to monitor changes in social and economic conditions at a household level will be developed. The analytical and interpretative capacity will be developed and a proactive information exchange and dissemination procedures, established.

Component B: **Environmental Decision Support**

This component provides processes, approaches and tools for better policy development, planning and management of development of the basin's resources is essential to ensure that Article 7 is implemented. Information required to use the tools and techniques is provided by the other components of the Programme as well as from other sources within and from outside the MRC.

Immediate Objective: *To improve environmental policy and planning for the sustainable use and development of the Mekong River Basin water and related resources*.

Main Outputs/Activities: Outputs include a Strategic Environmental Assessment (SEA) framework to ensure that integrated environmental and socio-economic considerations are part in early stages of policy, planning and programme cycles; to promote the acceptance of a comprehensive Regional Environmental Impact Assessment (EIA) process to be used in association with national EIAs for development initiatives with trans-boundary impacts; identify policy gaps and to prevent/mediate environmental conflicts; and assessment of mitigating strategies on aquatic ecosystem management relating to hydropower, navigation, agriculture, forestry, urbanisation and waterborne disease risk with a focus on cross-boundary conflict resolution.

Component C: **People and Aquatic Ecosystems**

To support the planning process information on the basin's ecosystem and users of its products and services is needed; this component will provide such information to be used by the BDP and other regional (such as ADB-GMS) and national planning agencies.

Immediate Objective: *To ensure that data and information on the basin's aquatic and related resources and of livelihood status is used by relevant stakeholders in improving planning and management.*

Main Outputs/Activities: The main outputs include assessment of use, dependence and management of aquatic habitats as well as the economic, social and ecological evaluation of the aquatic ecosystems' production and functions. The other activity is the mapping of wetland habitats.

Component D: Environmental Knowledge

An inadequate understanding of how the different parts of the basin are linked and dependent on each other can lead to that certain development initiatives will have unforeseen negative consequences. To minimise this risk (and thus promote the implementation of Article 7) this component will identify the knowledge gaps and promote research to fill these gaps, as well as provide the information in a suitable format for planners and decision makers.

Immediate Objective: I*mproved knowledge and research base of the components, functions and linkages of basin's aquatic and related ecosystems is used by relevant stakeholders in the use and development of the Mekong River Basin aquatic and related resources.*

Main Outputs/Activities: Conceptual modelling of the ecology of the basin is envisaged. Research the factors that are driving and balancing the ecosystems of the Basin. Evaluation of linkages existed between different ecosystems natural to the watershed. Assessment of the connectivity of the aquatic ecosystems is to be carried out.

Component E: **Environmental Flow Management**

River basin development world wide has pointed to the risks of sector based development, leading to long term changes in the basin's assets due to water withdrawals at critical times for the basin's environment. Environmental flows assessment together with development and management plans developed based on such an assessment will ensure that longer term impacts are anticipated and a proper trade-offs analysis is performed contributing to sustainable development under the Mekong cooperation.

Immediate Objective: To improve *management of water flows, maintaining the ecological balance of the Mekong River basin.*

Main Outputs/Activities: Development of Flow Assessment methodology for the Mekong river Basin; leading to an Integrated Flow Management Plan (to assist the development of Rules for Water Quantity). Field assessment of impact flow changes at selected sites in the basin.

Budget:

Total EP Budget:	**US$ 19.22 million (five years: 2004-2008)**
Funding Sought:	**US$ 11.73**
2005 Budget:	**US$ 4.10 million**
Donors:	**Denmark, France (through WUP), Netherlands, Sweden, Switzerland and UNDP (GEF)**

6.1.4. Flood Management and Mitigation Programme[2]

Programme Context and Situation Addressed

In 2000, more than 800 people lost their lives due to excessive flood, and the economic damage caused by the flood was assessed at more than US$ 400 million. In 2001, more than 300 people

[2] *The FMMP was presented with its original six-component structure. The structure has been amended to cover five components based on donor approvals.*

lost their lives, and the economic damage from the flood was assessed at more than US$ 100 million. In 2002, large floods have again caused loss of life and property in all the four riparian countries. Flash floods have devastated large areas in the MRC member countries. In each of these years, between one and eight million people were affected by floods, either by a need of evacuation, or by loss of crops and livestock, or by being prevented from going to work or to school.

Efficient flood management is an important precondition for poverty alleviation in the Lower Mekong Basin. Taking into account that 40% of the population predominantly rural in Cambodia, Lao PDR and Viet Nam live below the poverty line, serious floods have negative impact on the fragile social and economic systems. They pose a major threat to people's lives and property. People in flood prone areas are used to live with floods but population pressure and increasing severity of floods due to natural and man-made factors have significantly increased the damage risk.

Improved flood management and mitigation remain indispensable and will in the future be more in demand than ever. The complex flood problems of the Lower Mekong Basin not only require an integrated floodplain management (holistic) approach but also significant attention to trans-boundary and regional issues. The large floods of the Mekong are regional in character, and MRC is in a unique position to contribute effectively to improved flood management at the regional level. New opportunities are available for improved management and mitigation. MRC is already pursuing such opportunities, with its recently implemented real-time water level monitoring, and the MRC flood forecasts published daily on the Internet are widely applied.

Objectives

The development objective of the Programme is: “people’s suffering and economic losses due to floods are prevented, minimized, or mitigated, while preserving the environmental benefits of floods"

The immediate objectives for FMMP include:

- A regional FMM Centre ensuring the (national and regional) availability of important flood-related tools, data, and knowledge; producing accurate regional forecasts with a suitable lead time and a timely and effective dissemination; and providing accurate, well documented and consistent tools for basin-wide flood risk assessment and trans-boundary impact analysis (Component #1).
- A reduced vulnerability of society to floods, and a reduced risk of flood disasters caused by failure or inappropriateness of structural intervention. A reduced vulnerability to flooding and reduced flood damage at family, community and sub-regional levels, achieved by reducing the disruption of normal activities during and after a flood, and by providing people with the security and motivation necessary to make and sustain improvements in their economic and social welfare in an environment that floods frequently (Component # 2).
- Enhanced mediation and coordination capacity of the MRC in issues of non-compliance in flood management (Component #3).
- Competence in flood preparedness and flood mitigation strengthened, consolidated and readily available with communities, emergency managers and civil authorities, as required at each management level (Component # 4).

- Institutional, human resources and technical support being available to sustainable land management, and improved land use planning integrated into floodplain management and mitigation in the LMB (Component #5).

Programme Strategy

A permanent "Regional Flood Management Centre (RFMC)" will serve as data repository, provide flood risk maps, satellite remote sensing and GIS based information on flood extent, flood behavior analysis, evaluation of efficiency/effectiveness of flood preparedness, lessons learned, scenarios' simulation of flooding by incorporating up-to-date data and information on land-use, structural development, etc. The Centre will also organize annual regional flood forums. On a day-to-day basis, during the flood season, the Centre will provide real time flood forecast along the mainstream Mekong River. During the dry season, the Centre will provide river monitoring data and low flow forecasts, which will be useful in navigation and other water management activities.

A Land Management Component will firstly, increase awareness of the cause and effect relationship between intensified land use and flooding, and, secondly, result in development of the land use planning in the member states towards incorporation of floodplain management issues in the planning process. This also requires capacity building and the formulation of policies and guidelines for land use in flood prone areas. Land use planning will also be improved through introduction of new technologies in data collection and analyses and increased human and financial resources. Application of suitable models should predict the impact of land use changes on flooding and allow for production of improved flood hazard maps. Best practices regarding "living with the floods" will be documented and demonstrated.

The individual and combined effects of these infrastructure works and the impact on floods in the Lower Mekong Basin call for study and international coordination. This component will enable MRC to develop and update the information and data on structural means of flood mitigation and management adopted and planned in the Mekong Basin as well as on infrastructure that have direct relation to modification of floods and associated risks.

Adopting a state-of-the art modeling technology will strengthen the flood forecasting. Emphasis will be given to develop and disseminate meaningful flood warnings to all types of users with special emphasis to flood affected people of the Lower Mekong Basin. The forecasting and warning services will be provided at a regional scale by MRC for the mainstream Mekong River and its main tributaries including the estuaries. Forecasts of large scale flooding of flood plains will also be made available.

Component Descriptions

Component 1: Establishment of a Regional FMM Centre

Immediate Objectives: *The immediate objective is a regional FMM Centre maintaining the (national and regional) availability of important flood-related tools, data, and knowledge; producing accurate regional forecasts with a suitable lead time and a timely and effective dissemination; and providing accurate, well documented and consistent tools for basin-wide flood risk assessment and trans-boundary impact analysis.*

Expected Outputs/Activities: Expected outputs are: (i) An operational Regional FMM Centre established under MRC, interacting with national collaborating centres/focal points, (ii) Basic data, (iii) Improved monitoring, (iv) Improved operational forecasting, (v) Improved warning and dissemination services, (vi) Medium and long term forecasts, (vii) Risk assessment tools, (viii)

Flood risk analysis and flood risk mapping, (ix) Related competence, and (x) Annual Flood Forums.

Main activities include: Detailed planning, Draft and complete the process of approval of act of establishment, including the agreement on location of the Centre, Finalize internal organization and recruit staff, Building design, tender, approval, Building construction and furnishing, Install equipment and logistics, Data compilation Review and gap-filling, Review Flood database, Satellite-based weather information, Strengthening regional network, Strengthening national networks, Reducing uncertainties, Increasing the lead time, Increasing the accuracy, Improvement of modelling system, Links to national forecasting, Flash flood forecasting, Local models in pilot areas, Common standards, Expand warnings, Links to national flood warnings, Improve understanding of warnings, Improve dissemination, Internet dissemination, Review Development of forecasts, Review of experience, Requirements and specifications, Tools development and implementation, Workshops, Hindcast studies, Parameter study of critical events, Statistical analysis, Flood risk mapping, Flood risk impact assessment, Professional liaison, Capacity building, Organize and report annual flood forums, Build and maintain a professional network of FMM practitioners and scientists in the LMB, and Facilitate FMM-related knowledge-sharing.

Component 2: Structural and Flood Proofing Measures

Immediate Objectives: *The immediate objective is a reduced vulnerability of society to floods, and a reduced risk of flood disasters caused by failure or inappropriateness of structural intervention: a reduced vulnerability to flooding and reduced flood damages at family, community and sub-regional levels, achieved by reducing the disruption of normal activities during and after a flood, and by providing people with the security and motivation necessary to make and sustain improvements in their economic and social welfare in an environment that floods frequently.*

It implies (i) Identified impacts of reservoirs and other hydraulic structures in the Mekong basin, including those in China, with regard to implications for flooding in the LMB. (ii) An enhanced mechanism of coordination on hydraulic structures development and operation with all the riparian countries in the Mekong Basin, and (iii) Established guidance/guidelines on all aspects of structural measures of flood mitigation in the LMB.

Main Outputs/Activities: Expected outputs are (i) Overview of infra-structural implications and management, (ii) Risk assessment of structural measures, (iii) Recommendations on structural flood mitigation, (iv) Recommendations on operating rules of storage and control structures, (v) Social and economic assessment framework, (vi) EIA framework, (vii) A broad vulnerability analysis; (viii) Recommendations on flood proofing of buildings and infrastructure ; (ix) Public participation programmes; (x) Financing mechanism; (xi) Pilot projects and (xii) Related competence..

Main activities include: Compile inventory of existing and planned flood-related infrastructure: Reservoirs, regulators, embankments, waterways, barriers, etc; Develop and implement procedure for maintenance of the inventory; Compile and review the national practices for planning, impact assessment and monitoring of structural intervention; Study hydraulic effects of reservoirs, embankments and other hydraulic structures with regard to modification of flood peaks and volumes, cumulative effects, and erosion and sedimentation effects; Conduct vulnerability analysis; Conduct dam-break analysis for dams and flood protection embankment showing areas under risks; Compute potential damages under normal floods and worst possible scenarios; Analyse and recommend on types of structures for flood mitigation in different areas, develop guidelines for structural flood mitigation, as a support for coordinated 'good practices' by the member countries; Develop approach and methodology for obtaining design flood frequencies for

different types structures at different locations; Recommend on the use of construction materials and construction methods; Prepare risk and environmental impact assessment guidelines; etc.; Prepare guidelines for operating rules of storage and control structures; Promote the use of guidelines; Screening of national experience case studies; Preparation of framework; Review of two-way information flow; Screening of national and regional experience; Case studies; Preparation of framework; Scoping of training programmes; Preparation of training programmes; Training in management of structural intervention; Training in impact assessment; and Training impact monitoring. Improvement of knowledge of local floods; Vulnerability analysis of buildings; Vulnerability analysis of infrastructure; Estimation of benefits of flood proofing measures; Documentation; Area specific analysis; Classification of target users and areas; Promotion of indigenous techniques; Development of guidelines for flood proofing in buildings; Preparation of design manuals for flood proofing elements; Development of guidelines for flood proofing of infrastructure; Development of public participation programmes; Dissemination of flood proofing techniques; Financing of flood proofing at household level; Financing of flood proofing at community level; Financing of nationwide flood proofing; Design of pilot projects; Implementation of pilot projects; Evaluation; Educational programmes; Training; and Awareness-building.

Component 3: Mediation of Trans-boundary Flood Issues

Immediate Objectives: *The immediate objective is enhanced mediation and coordination capacity of the MRC in issues of non-compliance in flood management. This will be achieved (i) by the establishment of a Mediation and Coordination Section; and (ii) by development of formalized procedures, norms and rules for mediation and decision-making regarding non-compliance in and cumulative flood management issues which are submitted to the Joint Committee from member states.*

Main Outputs/Activities: Expected outputs are: (i) A Mediation and Coordination Section (MCS); (ii) Facilitation and mediation tools; (iii) Related competence; (iv) Flood management pilot project(s); (v) Recommendations on emergency management; and (vi) Related recommendations on water and land use legislation.

Main activities include: Mandate and framework; Regional partnerships; Establishment of MCS; Land management and land-use planning; Impacts of structural measures; Flood emergency management; Organization of institutional and legislative forums; Literature studies; Capacity-building; Evaluation; Case studies in flood management; Related suggestions on institutional implications; Development of recommendations; Policy and legislative reviews; and Initial draft recommendations on legislation.

Component 4: Flood Emergency Management Strengthening

Immediate Objectives: *The immediate objective is competence in flood preparedness and flood mitigation strengthened, consolidated and readily available with communities, emergency managers and civil authorities, as required at each management level.*

Main Outputs/Activities: Expected outputs are: (i) Increased flood awareness, (ii) Regional knowledge sharing, (iii) Flood emergency manuals, (iv) Recommendations on trans-boundary emergency assistance; and (v) Related competence.

Main activities include: Planning Awareness creation and public education, targeting (i) government authorities; (ii) civil society organizations; and (iii) the population at large, covering flood mitigation and emergency management. The information campaign should be gender specific and directed at communities, schools, and local civil society groups.

Workshops; Information material; Check lists; Study tours; Screening and review of existing manuals; Preparation of revised manuals; Scoping; Support to drafting of agreements, guidelines, or 'good practices'; Training needs assessment; Courses, expectedly covering (1) community flood mapping exercises to identify flood prone areas; (2) effective communication with pre-targeted communities; (3) identification of safe havens and/or escape routes; (4) formulation and implementation of sequential action plans, including operational inter-agency information flows and liaison; (5) interpretation of flood warning messages; (6) use of modern technologies; (7) exchange of best practice approaches; and (8) emergency (flood-related) procedures for sanitation, environment, health and child care; and Training impact assessment.

Component 5: Land Use Management

Immediate Objective: *The immediate objective is institutional, human resources and technical support being available to sustainable land management, and improved land use planning integrated into floodplain management and mitigation in the LMB*.

Main Outputs and Activities: The expected outputs are (i) Harmonized land use management; (ii) Land use concepts and land management systems; (iii) Case studies; and (iv) Related competence.

The main activities include: Regional networking; Terms, definitions and classification systems; Databases and risk assessment methodologies; Integration of land use management and flood management; Wetlands and flood management flood-related land use impacts Geographical Information Systems (GIS) for land use planning and risk assessment; Legislation and land allocation policies; Implementation of case studies; Evaluation of case studies; Guidelines in national languages; Training in GIS-based land use planning and risk assessment; Training in urban planning and flood mitigation; and Training in policy issues.

Budget:

Total FMMP Budget: US$ 19.75 million (six-years: 2004-2009)
Funding Sought: None
2005 Budget: US$ 4.72 million
Donors: ADB, Denmark, Germany, Japan, Netherlands, and USA

Besides the total budget of the FMMP, the European Commission's Humanitarian Aid Office (ECHO) provided US$ 200,000 for a FMMP complementary activity on Implementation of a Proposal on Capacity Building for Preparedness Planning and Response through Using Flood Information Products in the Lower Mekong Basin with a grant agreement signed on 17 July 2003.

6.2. Support Programmes

6.2.1. Integrated Capacity Building Programme

Programme Context and Problems Addressed

With the signing of the Mekong agreement in 1995 the role of MRC was significantly broadened compared to that of its predecessor organisations. Rather than limiting its involvement to exploring and investigating the basin, MRC was charged with ensuring the sustainable development, utilization, conservation and management of the Mekong River Basin water and related resources. This calls for a holistic, multi-disciplinary approach to river basin management. In focussing the organisation on this approach, there is a need to ensure availability of expertise at regional and national levels as well as the capability of MRC to carry out activities in advocacy and communication with stakeholders.

Objective

To improve the capacity of the MRC to implement its Mission, play the leading role in coordinating the development and use of the basin's water resources and to meet stakeholder expectations through availability of sufficient expertise in integrated river basin management and the required level of communication and stakeholder participation in MRC activities.

Programme Strategy

The level of competence of staff in river basin management at the MRC Secretariat and the riparian governments is to be raised through a systematic, modular training programme. The future pool of expertise available within the region is to be broadened through on-the-job training of young professionals to work at the MRC Secretariat. The ability of MRC to carry out communication, public participation and partnership activities is to be ensured through expert services. Implementation and effectiveness of MRC core programmes is to be enhanced through targeted support. Through a twinning arrangement between MRC and the Murray-Darling Basin Commission in Australia it is intended to enhance MRC capacity in integrated water resources management, modelling and data management, basin planning, development of water sharing guidelines, and building community awareness and strengthening at the strategic level.

Component Descriptions

Component 1: **Integrated Training Programme (Management)**

Immediate Objective: (i) To raise the level of competence among MRC staff and staff in the riparian Governments in integrated river basin management. (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.

Main Outputs and Activities: MRC staff and staff in the riparian Governments are to be trained through a module based training programme responding to the needs of the core and sector programmes for expertise in integrated river basin management at regional and national levels. The component itself will provide the management required for the training programme that will be funded through resources drawn from core and sector programmes.

Component 2: **Information and Communication**.

Immediate Objective: Improved information and communication to support implementation of the Strategic Plan.

Main Outputs and Activities: The capacity of the MRC in information development and dissemination, public participation and partnership activities will be strengthened through the knowledge transfer of a Communications, Partnerships and Public Participation Adviser and Information Specialist. Activities will also involve support to the Local Area Network and Internet based Communication.

Component 3: **Junior Riparian Professional Programme**

Immediate Objective: Improved skills in international integrated river basin management among young Riparian Professionals.

Main Outputs and Activities: In pursuing the long-term "riparianization" goal, the MRC has commenced a Junior Riparian Professional programme. The programme aims to provide human resource development opportunity and hands-on experience in international integrated river basin management to young professional from Mekong Riparian Countries thus promoting the

development and replication of core basin management competencies and regional network for effective Mekong cooperation.

Component 4: **Environmental Governance**

Immediate Objective: Improved capacity of MRC Secretariat and NMCs to promote improved Environmental Governance in transboundary and national contexts.

Main Outputs and Activities: The approach will be two pronged including: (a) development of country-specific strategies and activities for NMCs for improved environmental governance within each national context and for transboundary issues; and (b) enhancing MRC's capacity in environmental governance development and coordination within the MRC framework and existing programmes.

Component 5: **Programme Development and Support**

Immediate Objective: Capacity and resources of MRC to respond to priority needs and changing conditions in a speedy, flexible and adequate manner.

Main Outputs and Activities: This component is meant to address priority needs related to programme/project identification/preparation, assessment/evaluation or other *ad hoc* activities in support of programmes, for which a need emerges during the course of a programme period and for which other funding is not timely available.

Component 6: **Core Activities in New Organisation**

Immediate Objective: In mid 2000 MRC implemented a new organisational structure, creating a clearer separation between MRC core and operational activities. Core activities include overall management of MRC, planning, environmental monitoring and assessment, and data collection and information analysis. MRC intends to build up a stronger, integrated natural resources database, improve its environmental monitoring and assessment capability, and develop new planning, monitoring and evaluation tools. These are basic functions that MRC needs to carry out independent of the size of MRC operational programmes. MRC member countries are gradually increasing their contributions and will eventually be able to fully fund MRC core activities. In an interim period external support is needed for strengthening MRC capacity to carry out its core activities.

Component 7: **River Basin Management**

This component is carried out through a twinning arrangement between MRC and the Murray-Darling Basin Commission in Australia. It is intended to strengthen the river basin management capacity of the MRC and includes capacity building in integrated water resources management, modelling and data management, basin planning, development of water sharing guidelines, building community awareness and strengthening at the strategic level.

Budget:

Total ICBP Budget:	**US$ 7.24 million (five years: 2000-2005) (Without Research Coordination and Gender Mainstreaming Project)**
Funding Sought:	**US$ 3.41 million**
2005 Budget:	**US$ 1.54 million**
Donors:	**Australia, Denmark, Finland, Japan, Switzerland, Sweden and UNDP**

Component 8: Research Coordination

The Research Coordination facility is located in the Technical Support Division and has as its key objective the gathering, assimilation and packaging of information for the benefit of the MRC's programmes. The budget of the Research Coordination Office came to approximately US$ 160,000 in 2004. A similar budget is project for 2005, 90% of which will be met by the Challenge Programme on Water and Food in the Mekong River Basin, and the remainder will be activity costs born by collaborating MRC programmes.

Budget

Total RC Budget:	**US$ 1.20 million (eight years: 2003-2010)**
Funding Sought:	**US$ 0.47 million**
2005 Budget:	**US$ 0.15 million**
Donor:	**Challenge Programme on Water and Food and Collaborating MRC Programmes**

Component 9: Gender Mainstreaming in Water and Related Resources Development in the Lower Mekong Basin

The project will facilitate the institutionalisation and effective implementation of MRC Gender Policy and Strategy in the Mekong water and related resources development and management, basinwide. It aims to imply lasting beneficial changes in the MRC institutions and the policies affecting the well-being of peoples in the Lower Mekong Basin.

Budget:

Total GM Budget:	**US$ 256,400 (three years: December 2004-2007)**
Funding Sought:	**None**
2005 Budget:	**US$ 120,000**
Donor:	**New Zealand**

6.2.2. Data and Information Management Programme

6.2.2.1. Data and Information Management Programme: MRC is planning to establish a Data and Information Management Programme, to facilitate access by governments, decision makers, the donor and investment community and other stakeholders to comprehensive, up-to-date and objective data and information necessary to promote and co-ordinate the sustainable development of water and related resources in the Mekong Basin.

The work is yet in its initial stages, and donor support for both programme formulation and implementation is sought.

Four main objectives have been identified: (i) Promote and facilitate the collation and collection of the primary data necessary to inform the strategies and decisions necessary to operate the Mekong Agreement; (ii) Ensure that primary data and information is quality assured, processed, archived, published and distributed in a way that makes it easily available for use by the MRC, member government policy/decision makers, the donor/investment community and other stakeholders; (iii) Maintain the technical capacity to analyse and interpret the primary data to provide value added information to planning and research users; and (iv) A sustainable, integrated and well managed program that ensures activities are demand driven, and policies, strategies and activities are regularly reviewed to anticipate and react to changes in user needs.

Four components are envisaged: (i) Data Collection; Promote and facilitate the collation and collection of the primary data necessary to support the strategies and decisions necessary to

operate the Mekong Agreement; (ii) Data Management; Ensure that primary data and information is quality assured, processed, archived, published and distributed in a way that makes it easily available for the MRC, member governments and other stakeholders; (iii) Analysis; Maintain the technical capacity to analyse and interpret the primary data to provide value added information to planners and decision makers; and (iv) Policy and procedures; To facilitate national data custodianship, management arrangements and operating agreements and to facilitate consistent and compatible data collection and management methods and data standards across the member countries.

The programme is planned for two phases: The Preparation Phase includes drafting of MRC Data and Information Management Policy; MRC Strategic Plan for Data and Information Management; Component and overall programme design; and programme formulation. It is expected to run for nine months starting in early 2005, at an indicative budget of US$ 180,000. The Implementation Phase is planned to start in 2006 with an indicative budget of US$ 2 million/year.

Budget:

Total DIMP budget:	**US$ 10.00 million (five years: 2006-2010)**
Funding Sought:	**US$ 10.00 million**
2005 Budget:	**US$ 0.18 million**
Donors:	**None**

6.2.2.2. Hydrology

Immediate Objective: To have in place a reliable and sustainable hydro-meteorological information system for planning, development, management of the basin water and related resources and environmental protection and flood and drought disaster management, and to operationalize the “rules” for equitable use of the River water to be established under the Water Utilization Programme.

Main Outputs and Activities: The expected outputs are a hydro-meteorological network and database capable of providing high quality and timely information for MRC needs, and an effective forecasting and dissemination network for flood and drought disaster prevention. Activities include improvement of the network for data collection, and its management support system, e.g. networks coordination, planning, asset management and capacity building of personnel and related training system involved in network development, operation, management, information processing and sharing. These will form a management framework that can ensure a long-term data gathering and training function of the MRC in performing its core activities.

Budget:

Total Hydrology Budget:	**US$ 5.85 million (five years: 2001-2006)**
Funding Sought:	**US$ 0.62 million**
2005 Budget:	**US$ 0.99 million**
Donors:	**Australia, France and Japan**

6.3. Sector Programmes

6.3.1. Fisheries Programme

Programme Context and Situation Addressed

The Fisheries Programme has been active since 1993, when the project Technical Assistance – Fisheries Development, was initiated under the precursor of the Mekong River Commission. With the signing of the MRC agreement in 1995, a range of activities were initiated within the Fisheries Programme, covering all four MRC-member countries, and capture fisheries in rivers and reservoirs, as well as aquaculture. These have yielded valuable information, highlighting the importance of the fisheries of the Mekong River system as a source of food and employment for millions of people in the Basin.

The following facts illustrate the importance of the fisheries.

- It is estimated that approximately 1.5 million tonnes of fish and other aquatic animals are captured annually in the LMB (this is about 2% of the total world capture fishery).
- Another 500,000 tonnes are produced annually from reservoir fisheries and aquaculture.
- The value at first point of sale is about US$1,400 million.
- Up to 40 million people, or two-thirds of the population of the LMB, are actively involved, at least part-time or seasonally, in the fisheries.
- Fisheries products supply essential micro-nutrients and the bulk of the animal protein for the population in the LMB.
- Average consumption of fish and fisheries products in the LMB is 36 kg/person/year.

Maintenance of the flood pulse and migration routes is fundamentally important for the health of the fisheries. The annual flood inundates vast areas of wetlands, creating hugely productive habitats for spawning, feeding and hence production of fish. As flood waters recede, many species migrate out of the flood plains and into the rivers, often traveling long distances across national boundaries to dry season refuge areas. These trans-boundary fish migrations are a classic feature of the Mekong, enhancing the overall productivity of the system, but also making it vulnerable to exploitation. Indeed, peoples of the Mekong basin have developed elaborate fishing systems targeting the masses of migrating fish.

There are three principal threats to the fishery, namely loss of fisheries habitat (e.g., conversion of wetlands into agricultural land), water management schemes that alter the annual flood pattern, and barriers across rivers blocking fish migration routes. Increased fishing effort is also a threat, and will become more so as populations in the region increase.

While the Fisheries Programme has achieved many results, much remains to be done. Information is needed on the potential impacts of external developments on the fisheries and the livelihoods of people dependent on the natural resources. Such information is essential for MRC core programmes, particularly the BDP and WUP. Moreover, the information is a pre-requisite to enable decision makers in the region to appraise the benefits of various development scenarios. The Fisheries Programme aims to address these needs through biological and socio-economic studies, particularly in relation to trans-boundary issues.

Two other issues of primary concern are the development of improved statistics on the fisheries, and further development of co-management systems for fisheries in communities within the LMB.

Objectives

The development objective of the Fisheries Programme 2002-2005 is *"Coordinated and sustainable development, utilisation, management and conservation of the fisheries of the Mekong Basin".*

The Programme has one immediate objective, namely *"Relevant fisheries information generated, communicated and used by stakeholders, riparian governments and MRC in development planning and management".*

The FP is about information relevant for fisheries development, utilisation, management and conservation in the Mekong River Basin. Relevant information is that identified as being necessary for the evolvement of an understanding of the biology, ecology, economics and social aspects of fisheries, and for the planning and management of fisheries activities.

Information by itself is not sufficient to ensure development. It has to be communicated to individuals and institutions whose are able to use it for making informed decisions about the future. The FP will therefore be concerned with generation, communication and use of information, as expressed in the following outputs:

1. Relevant information on fisheries biology, ecology and socio-economics generated.
2. Relevant fisheries information communicated to management agencies and resource users.
3. Use of relevant information facilitated.

Programme Strategy

The programme will operate within one shared system of support functions and infrastructure. Activities and staff will be maintained in each of the riparian countries in order to maintain the excellent network with line agencies and institutes. This presence will include a national programme director and the support required for programme activities in the country.

The programme will focus on some selected thematic areas. The thematic areas are interlinked to the extent that elements of each will contribute to the inputs required for implementation of programme activities. The activities, however, will usually be primarily related to one of the thematic areas. They are as follows:

1. Fisheries Ecology and Impact Assessment

The Mekong River represents one of the richest freshwater biodiversity complexes in the world and one of the most important for sustaining livelihoods. Knowledge needed for conservation and management of indigenous fish species and the genetic integrity of stocks have only recently begun to accumulate. Much information is needed on life histories, key environmental variables (day length, temperature, flow regime) distribution of species and stocks, the major patterns of fish migration and habitat use during their life cycle, and the energetic basis of productivity and fish yields per habitat type.

2. Livelihood Enhancement

This thematic area covers all aspects of direct wealth creation related to inland fisheries, with emphasis on improving the socio-economic situation of the small-scale low-income groups dependent on fisheries for their livelihoods. These aspects include catch and aquaculture techniques, and post-harvest activities such as marketing, processing and prevention of wastage between catch and consumption. In addition, livelihood enhancement includes aspects of human nutrition and health practices.

3. Fisheries Management

Fisheries management takes place at various levels. All MRC member countries now recognise the importance of promoting participatory management practices on community level. This can be co-management techniques developed by the FP during the past seven years, or variations of those techniques adapted to fit particular circumstances in each country and particular situation. There is a need to extend the experiences gained in specific habitats into more general use in fisheries management in the Basin.

4. Communication

The overall goal of Fisheries Programme communication activities will be to inform, in easily understood language and a variety of formats, all stakeholders of the importance of fisheries to the livelihoods of people of the Mekong River basin, with a view to ensuring political and community support for the maintenance of healthy rivers and fisheries in the Mekong. Communication processes within the Programme will be integrated with the MRC Communication Strategy, so ensuring the information flows to a broad audience within the LMB. Communication processes and milestones will be formally built into all components of the Programme. There will also be a specialized function to coordinate the communications coming from the Programme, and to ensure their integration with the MRC Communication Strategy.

Component and Core Activities

Initially there will be four components under the new Fisheries Programme. These evolve out of the present programme. Changes are that the Assessment of Mekong Fisheries component and the Cambodian Capture Fisheries component will be amalgamated into the *Assessment of Mekong Capture Fisheries* component; and the Management of Reservoir Fisheries in the Mekong Basin will change name and expand its role to *Management of River and Reservoir Fisheries*.

A range of other potential components have been identified based on consultation between the FP, the core programmes of MRC and fisheries line agencies in the four countries. These are briefly described in the new Fisheries Programme documentation, and will form the basis of initial discussions with donors. It is expected that the component proposal list will be continually updated in response to the emerging needs for fisheries management and development in the Mekong Basin.

Budget:

Total FP Budget:	**US$ 13.08 million (five-years: 2004-2008)**
Funding Sought:	**US$ 7.63 million**
2005 Budget:	**US$ 2.90 million**
Donors:	**Australia, Denmark, Sweden and the United Kingdom**

6.3.2. Agriculture, Irrigation and Forestry Programme (Sustainable Land and Water Use Programme)

Programme Context and Situation Addressed

Balanced and efficient land and water use is essential to long-term food security and forestry production in the Basin. Agriculture is the most important industry that relies on the water resources of the Mekong River Basin (MRB) and forestry is a key to the regularity and quality of water runoff for agriculture. Agriculture provides employment for some 85% of the basin's population and its efficiency is a key to poverty alleviation. The MRB is one of the world's most

significant food sources, particularly for the growing urban population of the Greater Mekong Subregion. It provides the staple diet for perhaps 300 million people (ADB) and can, with care, produce much more as demand increases. Activities related to Agriculture and Forestry are the most significant direct human environmental influences on the basin and much of this impact occurs across national borders, requiring a regional approach to change. Other uses of the water resources of the basin, such as energy generation, also impact directly on people engaged in agriculture (and fisheries). Lasting solutions to many of these environmental impacts are to be found in inter-sectoral action at the local level between these industries and rural communities, often across national boundaries.

Objective

The development objective of the Agriculture, Irrigation and Forestry Programme (AIFP) is to "facilitate cooperative sustainable development and utilization of water and land in agricultural and forestry to the benefit of the basin community, and to contribute to poverty alleviation and food security."

Programme Strategy

The Programme strategy consists of a collaborative learning approach to change in resource use to meet the evolving needs of basin communities, as these become progressively apparent. While objectives and intended outputs are fixed, actions undertaken to achieve these will remain flexible. The Programme strategy focuses on three factors; water use (and drainage) efficiency, catchment management planning, and capacity building of the MRC Secretariat, NMCs and line agencies within relevant sectors. The Programme provides MRC with a micro level community-based mechanism for the basin development process, particularly in cross border situations where impacts from land and water use in one zone impacts upon others. The strategy particularly addresses cross border zones in isolated areas with significant ethnic minorities and where lack of means for integrated cross border planning is a serious constraint to poverty alleviation with consequent environmental impacts from unbalanced land use such as deforestation and erosion, threatening long term food security. The strategy also facilitates macro level policy development and capacity building in the forestry sector, building on the detailed forest cover and watershed classification work already undertaken under MRC by making it a basis for catchment planning and resource use monitoring for all land and water use for agriculture, forestry (and fisheries). The programme contributes to all of the MRC Strategic Plan Goals.

Component Descriptions

Component 1: Water Use Efficiency

Immediate Objective: To develop a collaborative applied research network between the riparian states to improve water use efficiency in the technical and social (management) spheres and in particular to evolve links between water user groups and the water utilization rules being developed under the WUP programme to facilitate their implementation. This will involve water use efficiency in the main irrigation areas, in the use of ground water and in upland agriculture and a study of the multi- functionality of paddy rice production in different ecological zones.

Main Outputs and Activities: The main output of this component will be improved water use efficiency in agriculture over time and an ability to monitor and influence water use through water user groups according to the rules being developed under the WUP programme. Programme activities will focus on both the technical and managerial and social aspects of water and related

input delivery systems. The outputs will include technical materials and field demonstrations for extension purposes, policy advice and data and other input to the Basin Development Planning (BDP) process and the Water Utilization Programme (WUP) and succeeding activities, calibrated according to ecological zone to suit MRC database formats.

The specific activities proposed include:

- Applied research and technology transfer for the modernisation of existing public irrigation systems in lowland areas and ground water and other water use in upland areas, including the monitoring and management of water through water user groups and the facilitation of links with the rules being developed under the WUP program. Factors such as soil salinity and acidity, optimal input use, alternative cropping patterns and a model to show the multi functionality of water use in paddy irrigation in a range of ecological zones will be addressed.
- The further development of a land and water inventory of the four countries, in common units and ecological zones to facilitate land use zoning and other resource use planning in agriculture and forestry (and fisheries).

Component 2: Catchment Management

Immediate Objectives: To institutionalise the catchment management planning in the MRC member countries and the MRC Secretariat make use of regional co-operation, information exchange / sharing and improved approaches for sustainable Water Shed Management (WSM) in the Lower Mekong River Basin. This will lead to an enhanced capability of the MRC member countries to manage their watersheds sustainably and increasingly in view of regional needs.

Main Outputs and Activities: The main output will be a capacity to plan and implement natural resources on a catchment basis in cross border and other fragile areas where adverse impacts from resource use are being experienced that have some basin wide implication. Program activities will focus on developing community-based means of addressing environmental issues as the environment programme or other means detects these and will particularly address poverty alleviation, gender and ethnic minority issues and food security where these are factors in resource use imbalances. The activities will include resource use monitoring and management involving cross-border cooperation including preventing and reducing illegal logging and forest related crimes with cross-border implications. Such monitoring will utilize forest use concepts from the MRC watershed classification and forest cover mapping projects and will integrate these into planning and implementing sustainable land and water use in agriculture (and fisheries). The activities will include a means to direct small grants towards community-based projects planned in the course of catchment management planning. The activities will also include forest rehabilitation in critical catchments on the basis of participatory land-use planning.

A special small community grant scheme will be established to enable small-scale development activities at local sub-basin level planned in the course of catchment planning to be funded. This will provide an incentive for cooperation at local level and 'real life experience' for collaborative learning about catchment management issues. The provision of such infrastructure rehabilitation or new construction would depend on the submission of a feasible operational plan and monitoring system that utilises the principles of catchment management planning and transparent accountability. The activity would either provide grants directly or facilitate community approaches to other relevant bilateral or multi lateral small grant schemes. It would also facilitate applications for funding of larger projects that might be considered through normal funding channels.

Utilizing the established catchment planning capability in the above regions specific studies would be undertaken in these subject areas related mostly to sustainable natural resources management:

- Support local actors in accessing funds for NRM implementation
- Facilitate in networking on NRM relevant topics at local, province and national level
- Analyse relevant international conventions and agreements on NR in review of their relevance to the programme
- Provide feedback into BDP, WUP and EP of identified key issues for regional co-operation in the WSM

Component 3: **Capacity Building for MRC**

Immediate Objective: To improve the capacity of MRC Secretariat, NMCs and related line agency staff to plan sustainable development of agriculture and forestry on a collaborative basis. In particular to promote a more 'holistic' inter-sectoral approach between agriculture, forestry and other MRCS programmes and to assist similar activities at NMC level. This will enhance the basin development planning process as an ongoing activity.

Main Outputs and Activities: The main output of this activity will be an enhanced capacity to plan and monitor land and water use in agriculture and forestry in the basin in a collaborative way between the four Riparian States. Activities under this component will focus on building a professional cadre with the particular expertise and approach of a River Basin Commission. The programme seeks to improve the quality and ownership of data generated under the program and building a better institutional understanding of the complex socio-economic and ecological linkages in land and water use by people.

The specific activities proposed include:

- The provision of 'customized' education and research fellowships to relevant staff prepared to commit to continuing to work on MRC related activities. This will involve collaboration with relevant agricultural and forestry related research and education institutions within the region and elsewhere and linking research to specific activities being conducted under the programme.
- The provision of funds to enable riparian staff of MRC Secretariat, NMCs and relevant line agencies to attend conferences related to river basin management.
- The provision of funds for study tours for the above staff and for community representatives involved in program.
- The provision of funds to recruit a consultative panel of regional and international opinion makers in land and water use in agriculture and forestry.

Budget:

Total AIFP Budget: **US$ 35.6 million (five years: 2001-2005)**

Funding Sought: **US$ 22.79 million**

2005 Budget: **US$ 2.5 million**

Donors: **Germany and Japan**

6.3.3. Hydropower Programme

Programme Context and Problem Addressed

Balanced development and management of water resources to provide the growing population with energy as well as economic development is central to achieving the basin vision of "An economically prosperous, socially just and environmentally sound Mekong River Basin".

Objectives

The development objectives of the Programme are:

1. Sustainable development of the Mekong River Basin's water resources to provide energy for social and economic development for the benefit of the basin's inhabitants.
2. Development of methodologies to investigate, monitor and mitigate potential effects of water resources development projects with trans-boundary impacts.

Programme Strategy

The growing population in the basin together with economic development will require protection from the destructive effects of floods and will also require more energy for development. At the basinwide level MRC will facilitate 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 organizations in the formulation of development initiatives will be ensured and activities will be linked to the BDP process.

Immediate Objectives: (i) identification of best options in the Lower Mekong Basin for sustainable development in the hydropower sector, based on the MRC Hydropower Development Strategy and the process and criteria for identifying and shortlisting development projects under the BDP (ii) Enhanced capacity of the MRC member countries in hydropower planning and development, based on the MRC Hydropower Development Strategy.

Main Outputs and Activities:

Establishment of cooperation structures with hydropower segments in the MRC member countries and provision of advice on the planning, development, operation and decommissioning of hydropower plants and dams based on the MRC Hydropower Development Strategy.

Review of previous hydropower studies, reports and plans at national and regional levels and conduction of supplementary studies to identify options for best hydropower development in the LMB in close consultation with the riparian governments and the BDP process. Costs and benefits of existing hydropower plants and dams analyzed to support identification of options for best hydropower development in the LMB. Possible alternatives to hydropower development studied and riparian governments advised on alternatives to support identification of options for best hydropower development in the LMB. Study carried out of the potential for improved efficiency, reduced power demand and savings in investments in the power sector in the MRC member countries through Demand Side Management (DSM) and other options. Study conducted on practices and obstacles for private and public participation in hydropower development in the MRC member countries; efficient and fair principles for private and public participation developed and proposed.

Long and short lists of hydropower projects in the Lower Mekong Basin identified for the BDP programme.

Budget:

Total HP Budget:	**US$ 1.70 million (five years: 2001-2006)**
Funding Sought:	**US$ 0.95 million**
2005 Budget:	**US$ 0.72 million**
Donors:	**Japan**

6.3.4. Navigation Programme

Programme Context and Situation Addressed

For centuries, the countries in the Mekong region have used the extensive natural river networks to transport goods and passengers to and from important trade centres. Still today waterborne transport is an important aspect of the regional infrastructure and for people living in remote rural areas boats are often the only means of transport available.

In 1926, the first presently known international agreement on Mekong Navigation was signed and for many years the Mekong hosted traders with ships from near and faraway. These ships were serving the countries in the Lower Mekong Basin and important trade partners in the Southeast Asia region and beyond. Due to periods of civil unrest and war in the region, the navigation declined, and despite prosperous development in many areas during the past decade development in the waterborne transport sector is still falling behind. In many stretches, the Mekong River of today has not exploited its inherent potentials to boost trade relations and income for the countries situated in its Basin.

On a global scale, regional integration is vital and more visible than ever before. Several countries in the Mekong region have taken part in regional cooperation frameworks for many years. The recent high-level ASEAN meetings have discussed a strong commitment to further integrate the areas of trade and transport development and the establishment of efficient customs procedures to facilitate regional trade and strengthening access from individual countries to the regional and global trade networks. Trade does not only bring about income, local employment opportunities, product development, services, and investments in new technologies. Trade relations are also believed to foster understanding among different cultures and dissemination of new ideas, methods and thinking that can lead to innovation in the sectors and areas that are not directly related to the actual exchange of goods and services.

MRC has been implementing navigation projects under the section called *River Works and Transport*. However, the Navigation Strategy that provided the framework for this work dated back to 1994. Due to major developments in the region during the past decades, this strategy does not reflect the current state of the regional navigation conditions; neither does it reflect the strategic commitment to and the implementation of the 1995 Agreement. It was therefore decided to recast this programme by initiating a process of formulating a regional navigation strategy and a regional navigation programme. The new Navigation Programme has been submitted to the MRC Council for approval in November 2003.

The Navigation Programme is now in line with other areas of work within the MRC, which are based on specific strategies and subsequent programmes.

Objective

Reflecting the content of article 9 in the 1995 Agreement, the development objective of the draft Navigation Strategy is stated as:

- *MRC will assist in coordination and cooperation in developing sustainable, effective and safe waterborne transport in a protective manner for the waterway environment;*
- *To promote freedom of navigation; and*
- *To increase the international trade opportunities for the mutual benefit of the Member Countries of the MRC*

Programme Strategy

The updated *MRC Navigation Strategy* 2003 version is based on basin-wide studies and reviews of the navigation conditions that helped to identify the most apparent regional weaknesses and strengths. The strategy formulation took place in close cooperation with the MRC member countries and other partners. The strategy argues that the navigation sector holds comparative advantages that justify a higher allocation of investments in order to develop important business and trade potentials in the Lower Mekong region. At the same time it is stated that a number of institutional and physical barriers must be overcome, to which a regional approach is indispensable.

Based on review findings, contents of the MRC Strategic Plan, inputs by the countries and partners, selected criteria and principles, four distinctive roles were proposed for the Mekong River Commission to assist the countries in materializing the regional transport and trade opportunities:

- *Develop and Implement Article 9, Freedom of Navigation*
- *Provide Technical products*
- *Strengthen Institutions and Capacity*
- *Promote and Coordinate Regional Navigation*

To materialize this development objective, the analysis and review findings led to identification of 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 - 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 - Improve water transportation during floods - Increase river-based employment.

  The MRC Navigation Strategy clearly reflects that MRC is seeking to promote safe and environmentally sustainable navigation in the Mekong region.

Component Descriptions

A total of 5 components have been identified and will be implemented within a time frame of 6 years. For each programme component a separate volume giving a comprehensive overview of its contents has been formulated. In the following sections only a brief overview of the programme components are provided.

Component 1: Socioeconomic Analysis and Regional Transport Planning

The Socio-economic Analysis and Planning component (Component 1) will be a strategic regional planning tool to identify comparative advantages for the navigation sector and thereby a tool to direct investments to strategic important locations and objects. The outcome of this component is intended to feed into the Basin Development Plan (BDP) and regional infrastructure planning frames and serve as identifying priority areas for regional development with due consideration of social concerns and environmental impacts.

Immediate Objectives: (i) Assess the socio-economic outcome of enhancing navigation on the Mekong River; (ii) Examine and propose cost-effective and practical ways in which cargo and passenger transport on the Mekong waterway network can be increased as a separate transport mode and as a part of the regional multimodal transport network; (iii) Provide a feasible and competitive scheme for Regional Navigation Development to target investments; (iv) Assist in developing rural waterborne transportation to improve access to markets, schools, hospitals transport in remote areas and to improve navigation during floods; and (v) Protect and promote the interest of the people that live directly with the river (e.g. bank erosion).

Main Outputs/Activities: Traffic and trade scenarios; a Master plan for regional (intermodal) waterborne (Cargo, Passengers and Tourism) transport and development of rural water transport; Evaluate the socio-economic outcome of the development of both regional and rural waterborne transport; Formulate recommendations for prioritised investments in the inland waterway infrastructure; Identify sources of finance for the recommended investments; and a Master Plan for Mekong Navigation in Cambodia. Further, the activities constitute an improvement of the navigation conditions on the Mekong River in Viet Nam; Pilot project in the Lao PDR: Impact of morphological changes and sedimentology on the navigation operations and infrastructure impact of the navigation operations; Pilot projects on tourism and navigation; Institutional strengthening and capacity building and training.

Component 2: Legal Framework for Cross-border Navigation

The Legal Framework for Cross-Border Navigation addresses the need for improvement of the legal framework and operationalisation of Article 9 of the 1995 Agreement. One important aim is to build on Article 9 to develop a set of detailed technical and operational rules comparable to what has been established by other international river commissions. This component has clear relations to the rules for water use developed within the Water Utilization Programme (WUP) and it is foreseen that the experiences made by the WUP team should be taken into consideration when developing the detailed implementation plan.

Immediate Objective: *To establish an appropriate legal regime to ensure freedom of regional and international cross-border navigation on the Mekong and to ensure its implementation and sustainability.*

Main Outputs/Activities: A comprehensive legal study of the current regime of navigation on the Mekong and of the conformity of national rules and regulations on navigation with international conventions; and a definition of basic principles for the development of navigational uses of the

Mekong, are the main activities under component 2. A definition of roles for MRC as an international river commission in the field of navigation; an updated and harmonised legal regime legal to guarantee freedom of navigation consisting of legal and an operational navigation agreements; legal capacity building, legal expertise and legal working group; and legal assistance and implementation by MRC, form the remaining activities under component 2.

Component 3: Traffic Safety and Environmental Sustainability

The Traffic Safety and Environmental Sustainability Component (Component 3) highlights the need for improving the signalling systems along the Mekong, promotion of environmental awareness and putting in place a system for trans-boundary Environmental Impact Assessments (EIA). It is also intended that contingency plans making the countries able to deal effectively with accidents on-board and on-land.

Immediate Objectives: (i) To increase the efficiency of domestic and cross-border waterborne transport in the LMB and to reduce the accidents in ports, on the vessels and on the waterways; (ii) To propose measures for the progressive removal of physical obstacles to navigation duly taking into account environmental and social aspects; (iii) To promote and realise the concept of environmental standards 'for clean' river transportation, focusing on strategic prevention of environmental damage; and (iv) To balance the environmental consequences of projects against their economic and social significance.

Main Outputs/Activities: Installation of aids to navigation; updated charts and maintenance plans; updated and harmonised Rules and Regulations; Risk Analysis and scope for prevention and contingency; management strategy for prevention, management and combating pollution from navigation, development of a standardised regulatory framework; environmental protection and impact assessment; Institutional Strengthening– Capacity Building; and public consultation on waterborne transport and environmental aspects**.**

Component 4: Information, Promotion and Coordination

The Information, Promotion and Coordination component addresses the establishment of a regional River Information System providing data on waterborne transport on the Mekong River (for planning and operational uses). The component also identifies activities to promote regional, safe and environment-friendly transport and improved coordination mechanisms to facilitate efficient navigation development.

Immediate Objectives: (i) establish an integrated Mekong River Information System necessary for navigation development that covers operational data, traffic monitoring and information on navigation development and management throughout the lower Mekong Basin; (ii) demonstrate the advantages and potentials of the waterborne transport sector and disseminate essential information to relevant stakeholders with a view to change misguided perceptions and promote public and private investments in this sector; (iii) avoid duplication of efforts and ensure the countries' commitment to increase international trade by identifying co-ordination and co-operation mechanisms that include national and regional initiatives, the private sector and the two dialogue partners the People's Republic of China and the Union of Myanmar.

Main Outputs/Activities: River Information Services Implementation Plans; standardisation and harmonisation of data; Mekong traffic monitoring: Cargo and passengers statistics; operational services and fairway information; integration of Navigation issues in National Development Planning; organising and implementing specific promotion and information

campaigns; Navigation information and promotion training; Pilot projects; Public Participation; national and regional navigation forums; coordination between Upper and Lower Mekong Navigation; coordination frameworks for Public-Private Partnerships; strengthen regional coordination mechanisms; and Mekong Navigation Development Catalogue.

Component 5: Institutional Development

The Institutional Development component is the overall frame for implementation of the Navigation programme provided extensive capacity building within the member countries and at the MRC Secretariat. During the six years programme implementation a regional Navigation Working Group and several Expert Groups consisting of country experts will be established to guide implementation and facilitate regional cooperation on navigation issues. This set-up is intended to ensure ownership of the activities carried out by all MRC member countries. Extensive cooperation mechanisms are established between the specific working groups, the National Mekong Committees (NMCs), the national line agencies, relevant regional stakeholders and beneficiaries.

Immediate Objectives: *(i) To establish the institutional structures on the regional level and to provide the necessary resources for the MRC member states to establish the management structures on the national level for implementing the NAP; and (ii) To facilitate, coordinate and harmonise the identification, formulation and implementation of a capacity development programme for the waterborne transport sector in the member countries.*

Main Outputs/Activities: General preparations and coordination for Programme Implementation; selection and nomination of the Navigation Advisory Body (NAB) and the Navigation Working Groups (NWG) to be ready for Phase 2; establishment and functioning of the Navigation Advisory Body (NAB); establishment and functioning of the Navigation Programme Office and Working Groups (NWG); strengthening of Management Capacities of National Counterparts directly related to the implementation of the Navigation Programme and its functioning; establishment and functioning of the industry associations; publication of MRC Navigation Management and Coordination handbook; and preparation for Phase 3.

Budget:

Total NAP Budget:	**US$ 22.57 million (six years: 2004-2009)**
Funding Sought:	**US$ 19.27 million**
2005 Budget:	**US$ 3.27 million**
Donors:	**ADB; Belgium through bilateral assistance to Cambodia**

6.3.5. Tourism Programme

Context of Programme and Situation Addressed

The Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin provides a new and broad framework for regional cooperation among the riparian and member countries of the MRC to work and cooperate in all fields of sustainable development, including "**recreation and tourism**". The tourism industry is already making a significant contribution to the economies of the member countries. Being blessed with abundant historical and cultural heritage and unspoiled natural beauty, the Mekong River Basin has also a great potential to attract visitors from various parts of the world, generating even more income from foreign exchange. Being a highly labour-intensive industry, tourism also plays a significant role in generating employment opportunities to localities where it is promoted. However, it is a major concern whether in addition to the economic rationale tourism might have adverse environmental effects. There is therefore a

need to ensure that tourism can be promoted within the framework of the MRC for a sustainable development of the Mekong River Basin.

Related projects and activities are those being carried out under the ADB's initiatives tourism sector of the Greater Mekong Subregion and those being carried out by the Transport, Communications and Tourism Division of ESCAP, especially the Mekong/Lancang River Tourism Planning Study.

Objective

The overall objective of the programme is to promote tourism within the Mekong River Basin in a balanced manner, which also ensures necessary protection of the environment against adverse effects of tourism.

Main Outputs and Activities

Outputs and activities have not yet been identified. Development of the programme would be subject to availability of funds and would be based on an analysis of needs and opportunities. This will include: (a) a review of documents concerned; (b) consultations with the national and international agencies concerned with tourism industry in the MRC member countries; and (c) studies to determine the scope of work and identify priority activities.

Budget:

Total TP Budget:	**US$ 3.00 million**
Funding Sought:	**US$ 3.00 million**
2005 Budget:	**US $ 0.2 million**
Donor:	**None**