



Mekong River Commission

## Regional Multi-Stakeholder Consultation on the MRC Hydropower Programme

# Consultation Proceedings



Vientiane, Lao PDR,  
25-27 September 2008



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The opinions and interpretations expressed within are those of the authors and presenters and do not necessarily reflect the views of the Mekong River Commission.

## TABLE OF CONTENTS

Foreword	5
Executive Summary	7
1. Introduction	9
1.1 Background	9
1.2 Towards the MRC Hydropower Programme	9
1.3 Consultation objectives and outcomes	10
1.4 The Consultation	10
1.5 The Consultation Report	11
2. Part 1 of the Regional Multi-Stakeholder Consultation	13
2.1 Opening session	13
2.2 Session 1: MRC's role in hydropower development	14
2.3 Session 2: Hydro potential and development, national and regional perspectives	16
2.4 Session 3: Lessons for sustainable hydropower development from around the world	18
2.5 Session 4: Innovative policy instruments, and challenges for implementation	19
2.6 Session 5: Project development, incentives for sustainability	20
2.7 Closing of Part 1 of the Consultation	22
3. Part 2 of the Regional Multi-Stakeholder Consultation	25
3.1 Working session on the MRC Hydropower Programme: presentations	25
3.2 Working session on the MRC Hydropower Programme: discussion	26
3.3 Closing of Part 2 of the Consultation	28
4. Conclusions and Recommendations	29
4.1 General conclusions and recommendations	29
4.2 Conclusions and recommendations on the role of MRC	30
APPENDICES	
Appendix 1 Programme	33
Appendix 2 List of Participants	37
Appendix 3 Consultation brief	49
Appendix 4 Existing and planned hydropower projects in Mekong	52
Appendix 5 Statement by the Government of the Lao PDR	57

Copies of presentations made at the meeting are available at the MRC website:  
<http://mrcmekong.org/programmes/hydropower.htm>

## LIST OF ABBREVIATIONS & ACRONYMS

ADB	Asian Development Bank
ASEAN	Association of South East Asian Nations
BDP	Basin Development Plan
CIA	Cumulative Impact Assessment
ECSHD	Environmental Considerations for Sustainable Hydropower Development
EP	Environment Programme
FP	Fisheries Programme
GMS	Greater Mekong Subregion
GW	Gigawatt
HP	Hydropower Programme
JICA	Japan International cooperation Agency
LMB	Lower Mekong Basin
MRC	Mekong River Commission
MRCS	Mekong River Commission Secretariat
MW	Megawatt
NGO	Non-governmental organisation
NMC	National Mekong Committee
PNPCA	Procedures for Notification, Prior Consultation and Agreement
SEA	Strategic Environmental Assessment
SIA	Social Impact Assessment
WWF	WorldWide Fund for Nature

# Foreword

The Lower Mekong Basin is seeing an intensity of private sector-led hydropower initiatives that will bring significant development opportunities to the region. At the same time, significant effects on the water resources of the basin will be experienced leading to changes in water flows, water quality, sediment flows and related natural resources such as fisheries. Driving these incentives is a recognition that hydropower is a major source of renewable energy and can provide an attractive response to global concerns over climate change and fluctuating oil and gas prices.

MRC's position is that it supports sustainable hydropower development that is implemented within the framework of the 1995 Mekong Agreement and that is in the joint interests of its Member States. It recognises that there are both opportunities and risks to be addressed. With this in mind, MRC has formulated a programme of work designed to facilitate and support the implementation of sustainability measures for hydropower development. Initial funding for the proposed programme, the subject of this Regional Multi-Stakeholder Consultation, has been provided by the Government of Finland and by Japan (through the Japan ASEAN Integration Fund).

As well as hydropower potential, the mainstream and tributaries of the Basin are also resources for local communities who depend upon them to meet their daily livelihood needs; through fisheries, water for domestic and industrial use and agriculture, and for water transport. It is often said that the Mekong River has not yet been developed. From an engineering perspective and consideration of exploiting the vast energy potential of the river, this is indeed the case. There are currently relatively few dams and control structures. But that should not be interpreted to mean that the resources of the basin are not being extensively utilised. Irrigated agriculture, predominately rice production, is practiced on approximately 3.2 million ha of which 47% is in the Mekong Delta. In 2000, the total fisheries production consumed in the basin amounted to about 2.6 million tonnes of which some 90% is from capture fisheries. Natural fisheries in the LMB are valued at approximately US\$2.5 billion annually. Recent years have also seen a dramatic increase in aquaculture, mostly in the Vietnamese Delta. Formal procedures among member countries of the Mekong River Commission (MRC) for notification of tributary hydropower projects and prior consultation for proposed mainstream projects are already being facilitated on a case-by-case basis by the MRC Secretariat under the 1995 Mekong Agreement. The process of prior consultation for proposed mainstream projects is expected to start formally in early 2009. To place these submissions within a more holistic and integrated framework for assessment, MRC is working on a number of important initiatives, including analysing the consequences of a range of future development scenarios under the Basin Development Plan Programme; a proposed Strategic Environmental Assessment of the mainstream dams in the Lower Mekong Basin; studies on fish migration; and pilot testing of sustainability assessments for hydropower projects in a major sub-basin of the Mekong. Many of these issues along with country perspectives were presented at the Consultation.

The meeting also demonstrated that MRC can take on a role as a facilitator of dialogue at various levels – not only with governments, but in a multi-stakeholder setting, and with private sector or civil society groups separately on specific issues. This facilitation role is a central focus of the MRC's Hydropower Programme and will take many forms. Clearly, more needs to be done to reach out and ensure the views of communities are reflected – both those communities that could be adversely affected by projects and those that are looking to such projects to provide electricity and support livelihoods in rural areas.

Hydropower and dams are, by their vary nature, sensitive topics. But that sensitivity is not a reason

to avoid engagement and discussion. Rather it is a reason to promote consultation and dialogue. Participants at the Consultation recognised the importance and unique position of MRC in providing a framework and context within which such discussion can take place. We have no illusions though that it will be a challenging path.

There are many people who contributed to making this first Regional Consultation a success – too many to mention by name, but our sincere thanks goes to them all. Our keynote speakers, country presenters, and speakers from the worlds of project development, government, NGOs, academia and development partners all made important inputs. Similarly through their comments, questions and roundtable discussions, the participants themselves helped to shape our future direction in this area. Thanks are also due to those that came from overseas, both outside the Mekong region, but also from agencies in our Dialogue Partner countries, the People’s Republic of China and the Union of Myanmar. The meeting would not have been possible without the financial support to the MRC from the Governments of Finland and Japan.

Finally, I would like to thank the staff from the Operations Division and the Secretariat more broadly, together with our consultants, who worked tirelessly to draw this all together.

The progress of taking forward the hydropower initiative within MRC can be followed through our website at [www.mrcmekong.org/hydropower](http://www.mrcmekong.org/hydropower) and I look forward to meeting again with all those who took part in the consultation during our future activities. Also to significantly broadening our contacts and outreach within the overall objective of attaining sustainable development and management of the water and related resources of the Lower Mekong Basin.



CEO, Mekong River Commission Secretariat

## Executive Summary

The Regional Multi-Stakeholder Consultation on the MRC Hydropower Programme was held in Vientiane, Lao PDR, 25 – 27 September 2008, with the main purpose of achieving an improved understanding of the Mekong hydropower development context and its key issues, and to seek recommendations on the further formulation process of the proposed MRC Hydropower Programme.

With the sharply increasing electricity demands in the region, and the resulting acceleration of hydropower development in the Mekong Basin, the Consultation took place at a critically important time. More than 200 participants from water, energy and other government agencies, private developers, international and national NGOs, MRC development partners and MRC staff participated.

The Consultation concluded that hydropower development is important for the region, but that this development must be sustainable, securing a fair distribution of benefits, and addressing resulting adverse impacts, both locally and basin-wide. It was recognised that hydropower dams have environmental and social impacts, particularly mainstream dams, the impacts of which can be both significant and of a trans-boundary nature. Adverse impacts should be avoided or, if inevitable, mitigated. The Consultation was informed by an Expert Group studying the barrier effects of dams to fish migration that current technologies for fish bypasses are not suitable for the large volume and diversity of migratory fish found in the Mekong, particularly in the mid and lower reaches of the Basin. New approaches will need to be found. Possible mitigation measures must be considered from the beginning of any development.

It was recognised that hydropower calls for integrated water and energy planning, addressing the full picture, and considering all costs and benefits including the wider values of the river. Multi-stakeholder participation in hydropower was seen as imperative, involving relevant stakeholders at all levels, not least the poor and most vulnerable. The Consultation recognised that a “responsible private sector” has an important role in hydropower development, and that private developers should work in close partnership with governments, MRC and other stakeholders to address social and environmental impacts.

The Consultation concluded that MRC has an important role to play in planning hydropower development within the context of an integrated basin-wide framework. MRC should provide the regional water governance for sustainable hydropower development, building on the 1995 Mekong Agreement and the agreed Procedures for Notification, Prior Consultation and Agreement. MRC should provide data and information, both technical and results of environmental and social assessments, with full transparency. MRC should also offer relevant knowledge, tools, guidelines and standards to governments, private developers and other relevant parties. As the obvious regional organisation to do so, MRC should continue to offer multi-stakeholder forums for hydropower discussions. The Consultation finally recommended that MRC should continue the development of the MRC Hydropower Programme, with careful consideration as to how this new programme will interact with hydropower related activities which will continue in other programmes, not least the Basin Development Plan, the Environment Programme and the Fisheries. MRC should also contribute to informed decision making on hydropower on the mainstream by conducting and SEA.



**Note on revised name for the Hydropower Programme and implementation modality**

Recommendations were made during the course of this Regional Multi-Stakeholder Consultation about ways to frame the institutional structure governing hydropower activities within MRCS. These recommendations are reported in this document.

Based on these recommendations and discussion at the Fifteenth Meeting of the MRC Council in November 2008, MRCS subsequently consulted with member states, development partners and other stakeholders. It is now proposed that these activities be conducted as an MRC Initiative on Sustainable Hydropower (ISH) fully reflecting and coordinating with the related activities of existing MRC Programmes. A detailed proposal and work plan will be submitted to the MRC Joint Committee for endorsement following further consultation with member countries.

At the time of printing following ongoing consultation with member countries a detailed

# 1. Introduction

## 1.1 Background

The Mekong Region is enjoying consistent economic growth. As a result, the region's demand for energy is rapidly increasing. This together with considerations of climate change and renewable sources of energy and the rising importance of regional trade and investment flows, have stimulated a new era of hydropower development in the basin. In response to market demands, a broad range of developers are now investigating a large number of potential projects, some of which were identified as early as the 1960s. Many concession agreements are already at advanced stages of negotiation. Projects for the Mekong mainstream are among them as these are now seen as more viable due to the expected increase in dry season flows that will result from dam projects currently being constructed in the upper Mekong Basin in China, as well as high oil and gas prices and considerations of climate change.

Hydropower generation potential and energy demand are geographically imbalanced, thus highlighting the importance of and opportunities for an emerging regional power market. This regional dimension is the driver behind most of the current projects with bilateral agreements being established for the export of electricity.

MRC supports sustainable hydropower development that is implemented in accordance with provisions of the 1995 Mekong Agreement and is in the joint interests of its member states. It recognises that there are both opportunities and risks that need to be addressed.

## 1.2 Towards the MRC Hydropower Programme

The MRC approved its Hydropower Strategy in 2001 and drafted a Concept Note for its Hydropower Programme (HP) in 2005. These documents were a comprehensive attempt to interpret emerging international good practice and lay out what it meant for the Mekong region, and identify strategic work areas and possible components of the programme.

Although due to funding constraints the HP did not start until earlier this year, a number of the strategic directions and activities identified under the Strategy were already incorporated into other related MRC programmes. Some of the elements under the Concept Note are actively being implemented, including:

- Assessment of cumulative impacts of basin-wide water resources development options, including hydropower development on the mainstream and tributaries - under the Basin Development Plan (BDP) Programme;
- Providing assessment tools for environmental and social aspects, with particular focus on trans-boundary impacts; and synthesising regionally appropriate sustainability considerations for hydropower development - under the Environment Programme (EP); and
- Broadening the understanding of the impacts of dams on fish migration, spawning and fisheries production – under the Fisheries Programme (FP).

Building upon the views and recommendations expressed during a round of national consultations held in July and August 2008, and recognising the complexities, but also the pace of hydropower development in the basin, MRC proposes a multi-track approach for its Hydropower Programme.

Track 1 aims at improving understanding of the regional implications of hydropower projects within a relatively short timeframe. Some aspects, such as changes in the flow regime, are already incorporated into the study of cumulative impacts of various development scenarios under the BDP. But there are other important questions to answer that go beyond the scope of any one individual project developer,

financing agency or national line agency. For example, Track 1 of the HP will focus on some of the important questions facing mainstream hydropower development – to what extent the barrier effect of mainstream dams can be minimised or successfully mitigated, and how to develop standard specifications and protocols for navigation locks.

Track 2 would take a longer term perspective and require more detailed formulation. It incorporates two types of activities. The first would build on and share knowledge, making available the vast array of experience already gained with integrating improved governance, social and environmental aspects into hydropower development. Some of the activities proposed involve expanding MRC's database on existing, planned and proposed hydropower projects; building capacity for strategic environmental assessment through a case study covering the mainstream of the Lower Mekong Basin (LMB); supporting the Environment Programme in developing a sustainability assessment tool for hydropower projects by implementing the initiative on Environmental Considerations for Sustainable Hydropower Development; disseminating policy options for benefit sharing from hydropower projects; improving availability of environmental baseline data; building capacity for independent monitoring among respective line agencies; and carrying out an initial scoping assessment of the potential for small-scale decentralised hydropower for rural communities.

Further tracks of the Hydropower Programme may be identified as it evolves.

In each of the various activities, the role of HP would be one of a facilitator of dialogue among different groups according to the nature of the issue involved. With its mandate and regional scope, MRC can reach out to the full range of stakeholders. At this initial stage, at least four areas of dialogue are proposed for further consideration: joint ministerial briefings across relevant sectors in each of the member countries aimed at discussing good practice; dialogue meetings among private sector developers and financiers to raise awareness of basin-wide issues and procedures under the 1995 Mekong Agreement to explore areas of improving sustainability performance and ensuring consistency and coordination on environmental mitigation measures; a regional multi-stakeholder forum for structured debate on key issues facing the sector, and continued strengthening of discussion with MRC's Dialogue Partners on the implications of upstream developments.

### **1.3 Consultation objectives and outcome**

The primary objectives of the Regional Multi-Stakeholder Consultation were to:

- gather information on the scope and approach of MRC's emerging Hydropower Programme, which will help shape it into an effective and relevant initiative;
- provide an opportunity to assess and disseminate major activities under the initial Track 1 of the HP and related activities of other programmes;
- promote MRC's role in facilitating dialogue on important aspects of hydropower development that require an integrated basin perspective; and
- provide a forum for discussing some of the key issues facing hydropower development in the Basin.

The expected outcomes of the Consultation were to achieve:

- improved understanding of the Mekong hydropower development context and its key issues;
- recommendations on the further formulation process of the Hydropower Programme, in particular on scope, structure and implementation arrangements; and
- considerations on how to involve stakeholders – government, private sector, NGOs and development partners – on a regular basis in the MRC Hydropower Programme

#### **1.4 The Consultation**

The Consultation was held 25-27 September in Vientiane in accordance with the Programme attached as Appendix 1.

The total number of participants was around 200, as detailed in the attached List of Participants in Appendix 2. Stakeholders from all relevant groups were represented: large delegations from the four Lower Mekong Basin riparian governments, representing the water, environment, energy and other sectors, some delegates from China, international and national NGOs, private hydropower developers, development banks and bilateral donors, universities and other research institutions, international and riparian consultants and MRC representatives from the four National Mekong Committees and MRC Secretariat (MRCS).

As apparent from the appended Programme, the Consultation alternated between presentations and panel discussions during Part 1 of the Consultation on 25-26 September. A Consultation Brief (see Appendix 3) had been distributed to all participants in advance and this explained the flow of the Consultation and raised a number of “guiding questions” to focus and inspire the debate. Part 2 of the Consultation, on 27 September, was a Working Session to discuss the formulation of the MRC Hydropower Programme, based on a Draft Programme Document on the Hydropower Programme made available to participants upon arrival and which is now being revised.

All discussion sessions during the Consultation were facilitated by Prof. Torkil Jønch Clausen.

#### **1.5 The Consultation Report**

This Consultation Report provides a brief background of the Consultation, including the status of preparations for the MRC Hydropower Programme. It provides a brief summary of highlights of the presentations made, as well as the main points raised in the discussion at the end of each session. The concluding chapter provides a brief summary of the conclusions and recommendations emerging from the Consultation. All speeches and presentations made at the Consultation are on the MRC website ([www.mrcmekong.org](http://www.mrcmekong.org)), and contained in the accompanying CD.



## **2. Part 1 of the Regional Multi-Stakeholder Consultation**

### **2.1 Opening Session**

In his Welcome Remarks and Opening Address Mr Chanthavong Saignasith, Director-General of the Lao National Mekong Committee Secretariat and Member of the MRC Joint Committee for the Lao PDR, addressed “Hydropower development in the Mekong Basin – regional opportunities and shared responsibilities”. He recalled the rapidly growing demand for electric power in all four MRC states. In the context of the Mekong Region he stated that hydroelectricity had long been recognised as one of the cleanest, the most sustainable and in the long run, the least expensive of the various methods currently available to the region. However he also recognised that there are negative impacts associated with dam construction, and that, therefore, it is important to study the various benefits and costs associated with building hydropower dams before making decisions. Mr Chanthavong said that the Lao Government was committed to sustainable hydropower development within the framework of the 1995 Mekong Agreement, and welcomed the initiative of this Regional Multi-Stakeholder Consultation by the MRC. The Lao National Mekong Committee would work to support the process, in order to provide decision-makers in all four countries of the Lower Mekong with the best platform of knowledge, thereby enabling them to assess the gains and losses from each hydropower proposal.

Mr James P. Bond, Chief Operating Officer, Multilateral Investment Guarantee Agency of the World Bank Group, addressed “A development bank’s perspective on sustainability”. He made five key points relating to hydropower development in the Mekong Basin: A focus on weighing benefits and impacts; a focus on keeping a regional perspective on the basin’s development; a focus on properly mitigating the impacts on the environment and the people affected; a recognition of the private sector as a key player in this development; and, finally, that sustainable hydropower development in the Mekong Basin will not be possible unless there is an institution such as MRC that can liaise and coordinate between the varying interests of all the countries. Mr Bond saw MRC as capable of adding great value in this respect, and expressed that MRC needs to exercise its role of helping countries to promote sustainable hydropower development.

Dr Stuart Chapman, Programme Director, WorldWide Fund for Nature (WWF) Greater Mekong Programme, addressed the “Global precedents in trans-boundary conservation: Lessons for the Mekong region?” In so doing he talked about the environmental consequences of economic development, drew on parallel challenges of forest degradation in Borneo and water resources development in the Congo Basin, and explained how governments in these regions have begun to coordinate their actions to move towards more sustainable solutions. He stressed the need for ensuring a multi-stakeholder approach to sustainable hydropower development in the Mekong Basin, not least in the face of the possible impacts of climate change, including that of sea level rise affecting in the Mekong Delta. Dr Chapman informed the consultation that WWF, the Asian Development Bank and MRC were currently collaborating on an initiative on Environmental Considerations for Sustainable Hydropower Development (ECSHD). He finally called for a political “platform for the ecosystems”, and a Trans-boundary Agreement for Conservation and Sustainable Development in the region. (See presentation: Global Precedents in Transboundary Conservation Lessons for the Mekong region?)

Mr Jean-Michel Devernay, Vice President of the International Hydropower Association (IHA), addressed “Sustainability assessment – an industry approach”. With two thirds of the world’s hydropower potential remaining untapped, and with only 22% developed in this region, he made the case of industry engaging in hydropower development in a responsible and sustainable manner. Private developers always seek to reduce risks, and taking proper social and environmental considerations into account is therefore important for them. This can be done by working with others and in dialogue

with potentially affected parties. Developers need tools to assess sustainability, and IHA is in the process of developing practical guidelines in the form of a “Sustainability Assessment Protocol” for hydropower development, with active engagement of specialist country representatives and NGOs in a Hydropower Sustainability Assessment Forum. MRC is associated with this process, and proposes to test and adapt this Protocol in the Mekong Basin context in under the ECSHD. (See presentation: Sustainability assessment: an industry approach )

## **2.2 Session 1: MRC’s role in hydropower development**

The CEO of MRCS, Mr Jeremy Bird, initiated Session 1 by addressing “Hydropower in the context of basin wide water resources planning”. While emphasising the importance of integrated development in the basin, he stressed the need to learn from others and develop new approaches to hydropower development which would include sharing of both costs and benefits. He mentioned the Nam Theun 2 project in Lao PDR as an example of breaking new ground in areas such as watershed management and community development. The CEO previewed subsequent presentations by explaining how MRC has been dealing with hydropower issues in many programmes, such as the Basin Development Programme (BDP), the Environment Programme (EP), the Fisheries Programme (FP) and the Navigation Programme. He described the background and status of developing the new MRC Hydropower Programme and some of its priority activities, such as conducting a Strategic Environmental Assessment (SEA) of mainstream hydropower projects and acting as a facilitator of dialogue at various levels. (See presentation:Hydropower in the Context of Basin-wide Water Resources Planning)

The BDP Coordinator, Ms. Hang Pham Thi Thanh, described the “Modelling of flow changes in the Mekong mainstream for a range of development scenarios – preliminary results”. These scenarios include the “Baseline” (year 2000), the “Definite Future” including existing and planned dams in the basin (upper and lower), and scenarios for “LMB Mainstream Dams”, “LMB tributary Dams” and the “LMB 20-Year Future Plan” the latter representing all planned hydropower, irrigation and water supply development. Comparing preliminary results for the Definite Future to the Baseline scenarios average dry season flows will increase by 10-50%, while the while wet season flows are expected to reduce by 0-10%. In all the future scenarios changes compared to the Definite Future are small, typically less than 10%. Ms. Hang stressed that these were flow simulations only, and that analyses of impacts on sediments, water quality and social and other environmental aspects and climate change would follow during 2008-2009. (See presentation: Modelling of Flow Changes in the Mekong Mainstream for a Range of Water Resources Development Scenarios. Preliminary Results)

Dr Patrick Dugan of the WorldFish Centre, in his capacity as Chair of the Fishery Expert Group Meeting held by MRC on 22-23 September 2008 (i.e. few days before the consultation) reported the findings from this meeting entitled: “Examining the barrier effects of mainstream dams to fish migration in the Mekong, and taking an integrated perspective to the design of mitigation measures”. He observed that the fisheries in the lower and middle Mekong Basin are some 2.5 million tons, compared to some 60,000 tons in the upper basin. The findings from the Expert Group Meeting indicated clearly that the impact of dams on fish migration are much larger in the lower and middle than in the upper basin and the tributaries, and that presently known mitigation measures and technologies are inadequate to effectively mitigate the barrier effects of mainstream dams in these reaches. This led to the conclusion that dams in the upper parts of the LMB should be favoured to those in the middle and lower reaches. Stressing the very special nature of fisheries in the Mekong, he stressed that experience from elsewhere in the world cannot be directly transferred to the Mekong Basin. Considerable adaptation is necessary, and any dam development in the Mekong must integrate mitigation measures from the start. (See presentation: Examining the barrier effects of mainstream dams to fish migration in the Mekong, with an integrated perspective to the design of mitigation



Dams can create barriers to the movements of migratory fish but by protecting migratory pathways, for example, by building dams higher upstream, less migratory fish may be affected. For the giant Mekong catfish, pictured above, the only known spawning grounds are in northern Laos. Any barriers in the region will stop the catfish accessing their spawning ground so dam planning needs to consider the fish's migratory pathways if they wish to help preserve the fish.

measures (Conclusions from an independent Expert Group Meeting)

Dr George Radosевич, Legal Adviser on the 1995 Mekong Agreement, addressed the “Experiences from the Procedures for Notification, Prior Consultation and Agreement (PNPCA)”. He stressed that the 1995 Mekong Agreement is about sustainable development in the basin, about sharing benefits, and about developing “water and related” resources. He stressed in particular Article 6 about respecting existing uses, and Article 5 which with respect to mainstream dams calls for Prior Consultation. Dr Radosевич recalled that a number of Notifications have been made under the 1995 Mekong Agreement for tributary projects, but so far with no Prior Consultations and Agreements. He welcomed the initiative of the Lao PDR to share preliminary information on the proposed mainstream dams in the LMB prior to official Notification. He finally stressed that the MRC is the proper forum to ensure that these procedures will be indeed be applied in order for all LMB countries to benefit from the Notification procedures in a spirit of cooperation and enhanced planning security. (See presentation: Experiences from the Procedures for Notification, Prior Consultation and Agreement (PNPCA))

In the Panel Discussion, the issue was raised whether in fact this Consultation could be considered representative when local stakeholders and community representatives are not at the table. The response from MRCS was that considerable efforts had been made to publicise the development of the MRC Hydropower Programme, and in the invitations for this Consultation, and that these efforts will continue. Participation of community groups at a Consultation of this type would not be sufficient or effective in ensuring that their views are represented, and appropriate representative measures will be required. Several participants focused on the fact that only flow simulations have been made so far, and that siltation issues (including sediment monitoring), impacts on the delta (salinity and sediments), water quality issues and the impact of daily regulations, rather than just averages, need



to be considered. MRCS reiterated that these issues are indeed on the agenda to be addressed by relevant MRC programmes over the next 12 months. Commenting on the strong recommendation of the Fisheries Expert Group to avoid mainstream dams in the lower and middle reaches it was noted that fisheries in the upper reaches and tributaries, although smaller, are still important. Finally, on a question from a private developer on what the private sector can do to ensure compliance with the PNPCA it was stressed that this is clearly a government responsibility, and that more information on the Procedures should be disseminated to developers by MRCS.

### **2.3 Session 2: Hydro potential and development: national and regional perspectives**

The beginning of this session was dedicated to senior representatives from the four LMB countries to give an account of their countries' status with respect to hydropower development.

Mr Tung Sereyvuth, Deputy Director of Energy Development, Ministry of Industry, Energy and Mines of Cambodia addressed "Hydropower development in Cambodia". He provided an overview of the energy policy and power sector of Cambodia, including the inventory of the hydropower potential which is estimated at 6,695 MW, with around 50% of that being on the Mekong mainstream. He described the JICA-supported Master Plan Study for the sector, in which 29 projects were studied and 10 priority projects selected for further development. He stressed that hydropower development needed to be balanced and with environment conservation. Memoranda of Understanding (MOU) with private sector companies have been entered into for preliminary studies of 13 projects, including the 2,600 MW Sambor Dam on the mainstream. Finally Mr Sereyvuth addressed the development of power imports to Cambodia from Vietnam, Thailand and Lao PDR. (See presentation: Hydropower Development in Cambodia)

Mr Viraphonh Viravong, Director General, Department of Electricity, Ministry of Energy & Mines in Lao PDR talked about "Lao PDR – Powering progress". He described the objectives, policy and history of the power sector development in Lao PDR, stressing that the power sector not only generates revenues to the country, but also contributes to rural development and poverty reduction through rural electrification. A large number of MOUs have been concluded with private sector companies (Independent Power Producers, IPP), including eight for projects on the Mekong mainstream. Mr Viraphonh stressed the Lao commitment to the 1995 Mekong Agreement and its Procedural Rules, including environmental and social impact assessments, and he concluded by confirming that all hydropower development on the Mekong mainstream in Lao PDR will adhere strictly to this Agreement. Mr Viraphonh also presented a statement made by the Government of the Lao PDR which has been included in this report as Appendix 5. (See presentation: Lao PDR – Powering Progress)

Mr Suthep Liumsirijareern, Director of Bureau of Energy Development, Department of Alternative Energy Development and Efficiency in Thailand outlined "Pre-feasibility study and initial environmental examination of two run-of-river projects of the Mekong Cascade project". The two hydro-electric projects were the Pak Chom and the Ban Koum mainstream dam projects, both some 25m high, and with planned installed capacities of 1,079 MW and 1,872 MW respectively. The major issues addressed in the Initial Environmental Examination in both projects were flood protection and compensation for loss of agricultural land for the directly affected population in the project area. This involved extensive consultative meetings with the local populations. The projects are joint investment projects between Thailand and Lao PDR, and next steps are feasibility studies, environmental impact assessment and social impact assessments. (See presentation: Lao PDR – Thailand - Regional partner in hydropower development (5.7MB) Meeting rapid electricity demand growth)

Mr Vu Van Thai, Deputy Director, International Cooperation Department, Ministry of Industry and



Through rural electrification, the power sector is contributing to poverty reduction and rural development.

Trade of Viet Nam addressed the topic “Viet Nam - meeting rapid demand growth”. He explained the development of the power sector in Vietnam which by 2006 had an installed capacity of 12,270 MW of which 37% is from hydropower. Electricity production grew by 13% from 2006 to 2007. Viet Nam has a Master Plan for Power Development, targeted to meet the demand for the socio-economic development of the country, including rural electrification, with tariffs towards market conditions, and encouragement to local and foreign investors. He also described the Electricity Saving Programme, the recent Power Sector Reforms, and the interaction in power trade with neighbouring countries China, Cambodia and Lao PDR.. (See Presentation: “Meeting rapid electricity demand growth”)

Mr Chen Guanfu, on behalf of Chief Engineer of the Hydrochina Corporation, Mr Peng Cheng, addressed “Lancang river hydropower development and eco-environment protection”. He explained the condition of the Upper Mekong Basin the Lancang River, which accounts for 44% of the river’s total length, 90% of the total drop, but - according to Chinese estimates - only about 13% of the total average flow the Mekong. Hydropower development is presently ongoing; the planning is composed of eight cascades having two large reservoirs, with a total installation capacity of 15,900 MW. Dr Guanfu described the EIA programme for these dams which consider impacts in the entire Mekong

Basin. Indications are that the Lancang dams will have very little impact on overall downstream flow volumes, and that they in fact will contribute positively in terms of increased dry season flows and only slightly reduced flood flows. He recognised that the Lancang dams will obviously affect the sediment regime of the Mekong. He stressed that fish migration is not so significant in the Lancang, but that additional studies are underway in relation to the lower-most of the dams in the cascade. (See Presentation: “Lancang River Hydropower Development and Eco-environment Protection”)

Mr Yongping Zhai, Principal Energy Specialist of the Asian Development Bank, addressed the “Influence of regional power market in the GMS region on hydropower development in the Mekong Basin”. The GMS region is currently a net importer of energy; electricity consumption has increased at about 10% per annum during 1990-2000, with an accelerating trend. GMS countries are characterised by uneven load demands and quite different resource bases, with the biggest hydropower resources in Myanmar, Lao PDR and Viet Nam. He saw considerable benefits in a regional market providing energy security and regional stability, and to help to efficiently utilise the region’s energy potential. Mr Zhai stated that the power market will promote hydropower development in the GMS, with the additional advantage of reducing greenhouse gas emissions. (See Presentation: “GMS Regional Electricity Market and Hydropower Development”)

In the Panel Discussion, the issue of barriers to fish migration was raised for the two mainstream dams Pak Chom and Ban Koum for which the EIA so far has focused solely on local impacts. The response was that further studies are planned. Questions were raised as to the timing of mainstream dam development in the Mekong, and the role of MRC, including questions to whether projects are considered individually, one by one, or jointly or in ‘packages’. In response, timings for mainstream dams in the order of 2-3 years in process from signing the MOU to start of construction were considered realistic. Countries would turn to the MRC for support in the analysis of environmental and social impacts, using their modelling tools, SEA, Cumulative Impact Assessment (CIA) procedures etc. In that respect MRC would ensure that the combined impact would be considered, not only impacts from individual projects. MRC would also be able to assist in the optimisation of the cascade of dams. In pursuing that discussion, and with reference to the general transparency in the climate change debates, questions were raised on the sharing of data, research, analyses and studies from MRC, including analyses of cost and benefits. Reference was made to following the standards in this respect from the Nam Theun 2 project. MRCS responded by stating full commitment to the principle of transparency and information sharing in its work programme activities. To a final question on the regional power development and transmission in GMS, the ADB assured all participants that all environmental and social safeguard standards on hydropower development projects supported by the Bank, are being followed. (See Presentation: “Day 1: Some highlights”)

#### **2.4 Session 3: Lessons for sustainable hydropower development from around the World**

Dr Bolyvong Tanovan, Chief, Water Management Power Branch, US Army Corps of Engineers Northwestern Division, and Mr Robert Davidson, Research Hydraulic Engineer, US Army Corps of Engineers Research and Development Center, talked about “Adaptive management of the Columbia River system”. The Columbia River with its 669,000 sq.km. drainage area is the largest American river draining to the Pacific Ocean. Starting with the first dam in 1909, to the last completed in 1977, the Columbia River has over one hundred dams, built for multiple purposes, including 31 US federal dams with a total installed hydropower capacity of 22,400 MW. The Columbia River Treaty between the US and Canada was concluded in 1964 to address two purposes: flood control and hydropower, including the coordinated operation of the dams. However, new issues such as fisheries, cultural resources, etc. are pressing and a new, more comprehensive treaty covering “the bigger picture” may be required in the future. Considerable efforts have gone into addressing fish mitigation measures in the Columbia, the so-called 4H problems/4H solutions on: Habitat, Hatcheries, Harvest and Hydro dams, covering



Fish ladders, such as the one pictured above at Bonneville Dam on the Columbia River, are one of the many mitigation mechanisms used in an attempt to reduce the barrier effect on fish migration in America's largest river. These, however, are generally not applicable to hydropower dams in the Mekong.

structural (including fish passages), operational equipment (including fish friendly turbines) and reservoir operation issues. (See Presentation: "Overview of Columbia River System Operations for Hydropower and Fish Passage")

Dr Ma Chaode, Director of Freshwater Programme, WWF China, talked about "WWF's partnership in the Yangtze Forum". The Yangtze drains 1.8 million sq km, containing about one third of China's population, and representing 35% of China's runoff. Four major problems have been identified for this river: water resources, water disasters, water environment and water ecology. Integrated River Basin Management (IRBM) is seen as the best approach to address these. The Yangtze Forum has been created to "explore and demonstrate tailored river basin management mechanism for the Yangtze and China", involving three components: a platform for information sharing; a mechanism for dialogue; and a multi-stakeholder network of partners, Chinese and international, including WWF. Dr Chaode outlined the process of networks discussions and extended an open invitation to join the Third Yangtze Forum, with the theme "Yangtze, City and Estuary", to be held in April 2009. (See Presentation: "Promoting IRBM to Sustain a Living Yangtze, the Lifeline of China")

Mr Vincent Piron, Head of International Department, Compagnie Nationale du Rhône, introduced "Hydropower and navigation development on the Rhône River – impacts and environmental management". Development of the river has led to a reduction in sediment transport (mainly bed load) to the delta which has receded 4 m/year during the last 50 years due to a combination of sediment transport deficit and sea level rise. The main operational issues of the cascades of dams in the river include the hydraulic behaviour, sediment transport, flood protection and river morphology issues. These have been addressed by extensive river training works, use of naturally flooded areas, by-passes and generally by restricting development to run-of-river rather than dams with large storages. Fish

migration in the Rhône has been addressed by a combination of multiple pools, fish passes, ship locks, fish locks and lifts and eel passes. (See Presentation:” Hydropower and navigation development on the Rhône river (France)”

In the Panel Discussion four main issues were of particular interest: fish barriers, reservoir operations, sediments and the need for baseline information. Many questions were raised concerning mitigation measures to fish barriers in the three rivers: what works (fish passages upstream, fish bypasses and fish friendly turbines downstream), and will these technologies apply in the Mekong? The general sense was that such technologies can inspire, but not be directly transferred between very different river systems and fish population characteristics. On the trade-off between fisheries and power it was mentioned that some 1000 MW capacity in the Columbia had been sacrificed to reduce losses to fisheries. The issues of dam operations were raised as an important multi-operator, multi-country challenge with potentially large benefits accruing from joint operations. Sediments (and with that delta issues, river erosion, reservoir sedimentation etc.), and water quality issues, were also raised as a trans-boundary concern, in the case of Columbia to possibly be considered in a future treaty. Finally the need for proper baseline information and research as a basis for monitoring the performance and efficiency of various management measures to address negative impacts of dams was seen as critically important. MRC might draw valuable lessons from other basins in this respect.

#### **2.5 Session 4: Innovative policy instruments, and challenges for implementation**

Ms Hoang Ha Quynh Giao, Electricity Regulatory Authority, Ministry of Industry and Trade of Viet Nam, addressed “Benefit sharing from hydropower projects in Vietnam”. Three generic forms of benefit sharing are recognised in Viet Nam’s legal framework: equitably sharing electricity access and services; entitlement for enhancing resource access; and revenue sharing. Fundamental aspects of revenue sharing include the fact that this is a relationship between electricity consumers (towns, industries etc.) and the affected people, as reflected in the tariffs; it is not directly between the hydropower entity and the affected people. Affected people in this context are relocated people and communities bordering the reservoir and portions of the upstream and downstream river. A new decree and guidelines for benefit sharing is under development, being pilot tested in 2008, and expected to be finalised in 2009. (See Presentation:” Benefit sharing from Hydropower projects in Viet Nam”)

Mr Bun Chantrea from the NGO Forum of Cambodia talked about “A model initiative: Addressing social and environmental concerns in the context of hydro development in the Mekong Basin”. He focused on the experience from dams in the 3S area – Sesan, Srepok and Sekong - and concluded that limited public participation has taken place; that project planning and studies were not transparent; that communities themselves had to document impacts; that complaints had been ignored; and that no compensation, mitigation and dispute mechanisms were in place. As such he saw no model initiatives to address social and environmental impacts of hydropower development, and questioned the concept of sustainable hydropower in the Mekong. However, Mr Chantrea did see a role for MRC in three ways: to facilitate research and dialogue and hold trans-boundary dialogues and debates; to promote regional water governance and enforce the 1995 Mekong Agreement; and to engage in capacity building of Member States. (See Presentation:” A Model Initiative: Addressing Social & Environmental Concerns in the Context of Hydro Development in the Mekong Basin”)

Mr Carl Middleton, Mekong Programme Coordinator, International Rivers, asked the question: “Striving for excellence, or race to the bottom?” He delivered three key messages: that hydropower in the Mekong to date has been unsustainable; that integrated energy and water planning is urgently needed; and that project developers and their financiers should commit to international standards for projects endorsed through a public process. Mr Middleton made a number of concrete

recommendations to the MRC: define the environmental and social standards that the MRC Hydropower Programme will promote; support the call for integrated resources planning for the electricity sector and promote the river's wider values within this process; call for a moratorium on new dams until basin wide planning and cumulative impact assessments have been undertaken; and demonstrate the benefits of these approaches to MRC governments. (See Presentation: "Striving for excellence or race to the bottom?")

Mr Pham Anh Dung, Division Head, Ministry of Natural Resources and Environment in Viet Nam addressed "Strategic environmental assessment of hydropower development in the Vu Gia-Thu Bon River Basin in Viet Nam" He described the SEA for the existing master plan for hydropower in the 10,000 sq.km. Vu Gia – Thu Bon basin in Quang Nam and Da Nang provinces, involving some 60 hydro schemes. Through workshops and working groups 80 environmental, social and economic issues were identified and consolidated into 15 issues addressed by the SEA. This led to 4 strategic concerns for which mitigation measures were identified: water supply (flow changes); economic development in the provinces; ecosystem integrity; and ethnic minorities. (See Presentation: "SEA of Quang Nam Province Hydropower Plan for the Vu Gia-Thu Bon River Basin")

In the Panel Discussion, the experiences from the benefit sharing and SEA initiatives in Viet Nam were found interesting and promising; the question of their replicability and up-scaling to other parts of the Mekong Basin was raised. On benefit sharing the issue of how to compensate, including compensation for lost forest land, was raised as a particular challenge. On the SEA it was suggested that also alternative forms of power generation should be considered in dealing with critical issues. The linkage from SEA to the draft guidelines for sustainable hydropower development by IHA was made, including the view that these guidelines currently have shortcomings in ensuring environmental and social sustainability. The recommendations to MRC from the NGO community were welcomed; with respect to benefit sharing and SEA, MRCS found that they could contribute by sharing experiences, tools and dialogue mechanisms, including integrated resources planning.

## **2.6 Session 5: Project development, incentives for sustainability**

Mr Robert Kay, Executive Vice President, GMS Power, Lao PDR, addressed "Hydropower development – perspective of a developer". GMS Power is one of the longest established private developers in the region. He started by recalling that total investments for power generation and transmission in the GMS till the year 2010 average some US\$10 billion per year. Such investments are not possible without participation from the private sector. A checklist for private sector participation was proposed, which included incorporation of social and environmental standards and regulations; affirmative mitigation components; targeted subsidies to ensure access and equity; access to information; guaranteed public participation; and considerations of impacts on workers and spreading of benefits to employees. Mr Kay stressed that these and other conditions for successful public-private cooperation would require capacity building and support to governments. He stressed that projects should be seen and managed as accelerated integrated rural development schemes, ensuring that people affected by the project should be better off afterwards. Environmental and social impacts should be reflected in market prices, and environmental mitigation costs should be fully borne by the project. (See presentation: "Hydropower Development")

Mr Zhong Haixiang, Overseas Investment and Development Department, Sinohydro Ltd, PR China, also addressed the topic "Hydropower development – perspectives of a developer". Sinohydro has operated as a contractor and project designer for 58 years, the last 20 years in ASEAN countries, including hydropower projects in Cambodia and Lao PDR. Mr Zhong highlighted seven important needs from their perspective: sharing mechanism for data and information; integrated and cross-border planning in the Mekong area; integrated coordination among all parties in the same river basin; inter-

## Conclusion and Recommendations

- Good coordination among key stakeholders for sharing data/information
- Support from MRC for the wealth of its knowledge based on GMS
- Standardization for design and construction requirements
- Incentives for sustainability

As presenter Mr Peerwat Prechun of Team Consultants, Thailand explained, there are many incentives that can encourage the adoption of hydropower over alternative power sources, including lower environmental impacts through pollution relative to other power alternatives such as coal power plants.

government coordination for cross-border power purchase; involvement of international institutions (such as MIGA) to bring added value to good and transparent cooperation; broader sustainability perspectives in the interest of governments, developers and power purchasers; and help to ensure environmental and social safeguards. (See presentation: “SINOHYDRO presentation”)

Mr Peerawat Premchun, Senior Executive Director, Team Consultants, Thailand, addressed “Incentives for sustainability – from a consultant’s perspective”. Mr Peerawat stressed the importance of tools for addressing social and environmental sustainability, such as Environmental Impact Assessment (EIA), Social Impact Assessment (SIA), Environmental Management (EMP) and Resettlement Action Plans (RAP). He found it critically important that the MRC Agreement and Procedures are followed, such as Notification or Prior Consultation as required for tributaries (including Tonle Sap) and intra- and inter-basin uses, and for proposed project developments on the Mekong mainstream. Mr Peerawat looked to MRC for support on available data (such as hydrologic data and hydrographic charts), water management and flood control software, pool of knowledge and standard specifications. (See presentation: “Incentives for Sustainability from a consultant’s perspective”)

In the Panel Discussion, the need for private developers to have firm standards and guidelines for them to properly address not only complicated social and environmental issues but also navigation, fisheries and other aspects, was stressed by several participants. The question was raised whether private developers would indeed engage in projects with impacts which could not be properly mitigated, such as with respect to barriers to fish migration. Some developers considered that if trustworthy and independent studies reach such conclusions, then it is not in the interest of the developers to pursue such projects. In fact, a large proportion of all projects considered by private developers never materialise in the end (a rough percentage of 50% was mentioned, for all kind of projects, not specifically hydropower).



Mr. Chanthavong Saignasith, Director-General, Lao National Mekong Committee Secretariat, Member of the MRC Joint Committee for the Lao PDR stressed the importance of regional cooperation to the creation of sustainable hydropower industry and the minimization of environmental impacts throughout the Mekong Basin.

The issue of independent studies was pursued by referring to private developers hiring private consultants to conduct social and environmental impact studies; should consultants be ‘licensed’ to do this? The response was that a high and unquestionable ethical standard is important for consultants if they are to remain in the market. The final part of the discussion centred on the role of MRC as the “coordinating agency” which can prepare guidelines and standards to assist private developers, and in the process engage in dialogue with them. It was again stressed that MRC has an obvious value added in its capability to conduct trans-boundary and basin-wide studies using the range of tools available to them. Finally, as was raised in the very beginning of the Consultation, the role of MRC in engaging the local level was put forward, including MRC creating a forum for local NGOs to debate hydropower developments.

## **2.7 Closing of Part 1 of the Consultation**

In his concluding remarks for Part 1 of the Consultation the MRCS CEO, Mr Jeremy Bird, reflected on the past two days’ rich presentations and discussions by referring to the “4 Rs” of MRC he talked of during his inaugural speech in April 2008: the regional dimension (eg exchange of experiences and inclusive dialogues), the relevance of MRC (eg MRC capabilities in basin-wide assessments and discussions), the need for risk reduction (eg to rural livelihoods, to financing, to reputation) and the responsibility of MRC (eg adherence to the 1995 Mekong Agreement). He found that the discussions on MRC’s role in hydropower development in the Mekong Basin had been confirmed on all four Rs, and that MRC had received valuable recommendations for the formulation of the MRC Hydropower Programme. These recommendations would be considered in Part 2 of the Consultation starting the following day. He concluded by thanking the host, the Lao PDR Government, and the participants, speakers, chairpersons and finally organising committee, secretariat and resource people.

In his Closing Remarks, Mr Chanthavong Saignasith, Director-General, Lao National Mekong Committee Secretariat, Member of the MRC Joint Committee for the Lao PDR, thanked all



participants for the frank discussions and a very interesting exchange of information during the past two days. This event was the first of its kind in the Mekong region, and Mr Chanthavong found that it may be regarded as a landmark in cooperation between the Mekong countries. The Consultation had showed that cooperation is essential to optimising our chances of creating a sustainable hydropower industry that can bring us the benefits of power and water control, while minimising the disturbance to our natural environment and traditional way of life. He expressed the hope that many of the participants would join the field trip to the Theun Hinboun Power Company site in Khammouane province. This facility had doubled the GDP of Laos when it opened in 1998, illustrating the importance of hydropower to the country's economic planning and progress. However, the project also faced problems with regard to its impact in downstream areas. These were acknowledged and subsequently addressed in project implementation and now by an extension phase. The Theun Hinboun dam therefore offers interesting lessons for sustainable hydropower development. Mr Chanthavong finally thanked all participants, once again, and invited all those interested to join Part 2 of the Consultation the following day.

### **3. Part 2 of the Regional Multi-Stakeholder Consultation**

#### **3.1 Working Session on the MRC Hydropower Programme: presentations**

Mr Do Manh Hung, Director, Operation Division, MRCS, introduced the session by welcoming participants and recalling the positive discussions and recommendations to MRC on the formulation of the MRC Hydropower Programme (HP) received during the preceding two days. He explained the process of developing the HP from the approval of the MRC Hydropower Strategy in 2001 and the first Concept Note for the HP in 2005. A number of components under this Concept Note are actively being implemented by various MRC programmes, particularly the Basin Development Plan. A Discussion Brief building on these achievements and outlining a multi-track approach to formulation and implementation of the HP was presented to the Joint Committee at its Informal meeting in June 2008. The Draft Programme Document for the HP, prepared for handing out at this Consultation, is based largely on this Discussion Brief.

Mr Voradeth Phonekeo, Hydropower Project Manager, Hydropower Programme, Operations Division, MRCS, provided a “Summary of national hydropower consultations”, held in the four LMB countries in July-August 2008. The opportunities and issues raised during these consultations included hydropower development in the Mekong Basin; mainstream dams; cost-benefit analysis and benefit sharing; sector environment assessment and cumulative impact assessment; capacity building; information exchange; and formulation of the HP. The key messages received from the countries were that a multi-track approach for the HP was required; that MRC should support sustainable hydropower development; that MRC has the mandate and regional knowledge to do so; and that MRC has an important role as dialogue facilitator. (See presentation: “Summary of countries hydropower consultations”)

Mr Christoph Mor, Technical Coordination Adviser, MRCS, presented the Draft Hydropower Programme Document, which had been handed out to participants at the beginning of the Consultation. He emphasised the objectives of the HP as being “to promote and facilitate regional cooperation among member countries and developers for the sustainable development of hydropower resources in the LMB, thereby realising mutual benefits, supporting economic growth, reducing poverty and minimising negative impacts on the environment and people in the basin”. Mr Mor described the structure of the HP with four themes (programme management and communication, regional planning support, knowledge base and support, and improving hydropower sustainability), and seven components to be executed in two tracks (the short term Track 1 and the medium-long term Track 2). The next steps, after this Consultation, are to finalise the HP Programme Document, continue and complete Track 1, initiate Track 2 activities, and mobilise additional funds for Track 2. (See presentation: “Draft Hydropower Programme Document”)

Mr Keu Moua, Senior Environment Specialist, Environment Programme, MRCS, presented the “Draft Project Document on Environmental Considerations for Sustainable Hydropower Development (ECSHD)”. This project to develop a sustainability assessment tool for hydropower projects started in 2006 as a joint initiative of the Asian Development Bank (ADB), WWF and MRC. The objectives of the project are to “ensure that hydropower development is sustainably developed with minimal social and environmental impacts, and that hydropower should remain a viable, profitable and renewable source of energy, supporting the region’s economic development”. The ECSHD Project will have four steps: to document current impact assessments of hydropower development in the Mekong region; to modify the existing IHA sustainability assessment guidelines to the Mekong context; to test these modified guidelines through current or planned SEA processes; and to report the results of the testing phase. The Testing Phase is planned for October 2008 – March 2009, with a subsequent Consolidation and Capacity Building Phase through September 2010. It is a joint project of the MRC Environment

Programme and Hydropower Programme, with overall guidance being provided by a Steering Committee of MRC, ADB and WWF. (See presentation: “Project Document on Environmental Considerations for Sustainable Hydropower Development (ECSHD)”)

### **3.2 Working Session on the MRC Hydropower Programme: discussion**

After the presentations, and a brief question and answer session, the participants discussed in eight groups around tables, organised per MRC country, and four other tables. A brief report-back from the groups concluded the session, and, with it, the Consultation. (See presentation: Ideas emerging from the Consultation & Instructions for group work”)

Group 1 from Cambodia found that the outcome of the HP would be to promote sustainable hydropower development in the Mekong region, but including focus on improvement of local economies/livelihoods, support to national economic growth and integration of the regional economy. On activities the group emphasised the following: regional cooperation among member countries and dialogue partners is crucial; multi-stakeholder consultation is a very important activity, and capacity building and institutional strengthening should be considered in this context; community impact assessment and strategic impact assessment should be included; building partnerships and networking internationally and regionally would be important; expert group meetings should be organised within specific fields, such as on fisheries mitigation. On implementation the group found involvement of national member countries as critically important; there is a need for MRC inter-programme coordination; and there is a need to set up regional and national working groups.

Group 2 from Lao PDR found that hydropower development is both a national priority (‘battery of Asia’) and a regional priority (hydropower development with environmental protection). In stressing the importance of data sharing, the group recalled the Data and Information Exchange Agreement 2002-2003 (MRC Countries); data, information and technical knowledge should be provided by MRCS who would also communicate with the private developers. Track 1 proposed by the MRC HP was found appropriate, but further dialogue is needed. The HP budget arrangement should be coordinated with other MRC programmes. The HP should focus on hydropower development in the region, but also address the multipurpose approach.

Group 3 from Thailand stressed the main outcome of HP as “cooperation for sustainable development”. The group proposed three sub-activities: planning on the mainstream, including SEA, and with the themes of sediment, fisheries and navigation; dialogue between member countries and upstream countries (China and Myanmar); and capacity building. With respect to implementation of HP the group agreed to support a regional mechanism for the HP, but stressed that the HP should link with the existing MRC programmes, e.g. BDP, FP, Flood Management and Mitigation Programme and EP.

Group 4 from Viet Nam found that hydropower development should ensure the maintenance of mainstream regime flow, reserve the habitats and address sedimentation in accordance with the 1995 Mekong Agreement. For the sustainable development of hydropower, the group would like to see optimisation studies of hydropower stations on the mainstream to be carried out, and this would be an important role of the MRC. Finally the group found that a mechanism for the monitoring of hydropower projects on the mainstream should be proposed.

Group 5 found that MRCS (rather than MRC) could provide assistance to developers in the form of objective analysis within areas of their competence (water resources, navigation, fisheries), but not resettlement. MRC can help in identifying projects that are most sustainable, but should not get involved in routine operations. MRC could provide a valuable contribution in certification or



Break out work groups provided participants with the opportunity to identify key priorities of the hydropower industry over the next few years.

institutionalisation of the certification of dams, and in the monitoring of performance. This group found that tributaries have water resources of trans-boundary importance – and also electricity using water resources of one country for another country. More information is needed on tributary hydropower schemes. Within the 1995 Mekong Agreement, modalities to address hydropower schemes in the tributaries are needed.

Group 6 agreed that hydropower should be a priority of the MRC, but questioned if there is there a need for a separate hydropower programme, housed within the MRC structure. An alternative solution could be to include hydropower as part of an elevated BDP.<sup>1</sup> Some of the issues that other programmes are working on could also be fast-tracked to consider HP needs. The group found that MRC should act as dialogue facilitator, but it should not be restricted to looking at impacts and assessment of impacts.

Group 7 found that effects of tributary dams should be included in the HP. A basin-wide vision requires considering tributaries as well. HP should include activities to understand the regional power market and trading mechanisms, demand and supply, and alternatives – the realities of hydropower generation. The MRC HP should be represented on ADB-GMS working groups on energy and power production. The group found that the proposed Hydropower Advisory Board should also include non-traditional stakeholders, such as energy regulators, river basin organisations and NGOs.

Group 8 mainly looking at the developers' perspective, emphasised information sharing through newsletters, and keeping developers informed about research results, eg hydrology, geology, and topographic data of the lower Mekong River Basin. This group found that MRC should work together with the host governments to formulate standards for environmental and social impact assessments and to enforce their implementation within HP feasibility studies. The standard should be formulated through multi-stakeholder consultations before being endorsed. Finally the group found that developers should be provided with the procedures on mainstream dam assessment and construction.

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1. This recommendation has been implemented. Please refer to page 8.

### 3.3 Closing of Part 2 of the Consultation

## *Informing the Hydro Discussion* **Regional Multi-Stakeholder Consultation on the MRC Hydropower Programme**

*Vientiane, Lao PDR, 25-26 September 2008*



Informing the Hydro Discussion - the Regional Consultation scopes out the role of MRC in hydropower development in the region.

Part 2 of the Regional Multi-Stakeholder Consultation of the MRC Hydropower programme was closed by brief remarks from the MRCS CEO, Mr Jeremy Bird, and Mr Chanthavong Saignasith, Director-General, Lao National Mekong Committee Secretariat, Member of the MRC Joint Committee for the Lao PDR. Both expressed great satisfaction with the discussions throughout the Consultation which had contributed valuable recommendations to MRC on how to proceed with the formulation of the MRC Hydropower Programme. They thanked the many participants who had stayed on for this final working session and made such a valuable contributions.

## 4. Conclusions and recommendations

### 4.1 General conclusions and recommendations

*Hydropower development is important for the region, but it must be 'sustainable'*

The Mekong region is experiencing sharply increasing electricity demands, and as a result hydropower development in the Mekong Basin is accelerating as one way of meeting this demand. Benefits from hydropower development are not only revenues from power sales, internally and between countries; they also contribute to rural development and poverty reduction through increased economic activity and rural electrification. However, hydropower development in the Mekong must be sustainable. It must leave people better off than before the development, and it must address the environmental and social impacts which inevitably flow from this development, not only locally, but in the entire basin. Recognising the benefits, the Consultation also focused on the sustainability aspects of hydropower development.

*Hydropower dams have environmental and social impacts*

Dams displace people, change the hydrology of the river basin, and create barriers to fish migration and to navigation. The hydrologic impacts in the form of changes in downstream flows in the mainstream (dry season flows and flood flows) are generally minor, and mostly positive in the dry season. Other impacts include changes in water quality and sediment transport, and changes to ecosystems livelihoods and biodiversity. The magnitude and significance of such impacts depend on the types of dams: small or large; run-of-river or storage; tributaries or mainstream. Impacts of all dams in the Mekong Basin, from tributaries to upper (Lancang), middle and lower mainstream, were discussed. However, the Consultation concluded that the most critical issues for hydropower development in the Mekong at this point in time relate to the currently planned mainstream dams, particularly in the lower and middle reaches of the basin, where such impacts are both significant and of trans-boundary nature. At the same time cumulative impacts of hydropower developments on tributaries need to be acknowledged and taken up in HP.

*Adverse impacts should be avoided or mitigated*

Dialogue between stakeholders, and application of the Procedures for Notification, Prior Consultation and Agreement (PNPCA) of the 1995 Mekong Agreement, will identify any unacceptable adverse impacts of dam projects and feed these considerations into the decision-making process. Where adverse impacts cannot be avoided, however, all efforts need to be made by all parties (governments and private developers), to mitigate such impacts from the beginning. Retrofitting is much more expensive and less effective. Conclusions from the Consultation are that effective mitigation of barriers to fish migration in the Mekong is not possible with the present level of knowledge and technologies for mainstream dams in the lower and middle reaches of the basin. If dams in these areas are to be built, alternative approaches to mitigating their impact would be required. Experience from navigation locks are promising. At the local level, examples of identification and implementation of mitigation measures were discussed, both successful and less successful. The promising examples included initiatives towards local benefit sharing with affected people, and SEAs as an approach to comprehensively identify impacts and required mitigation measures.

*Hydropower development calls for integrated water and energy planning*

The "full picture" is required for hydropower development. This includes consideration of the distribution of all cost and benefits, and requires moving beyond integrated water resources management as conceived and practised today, towards integrating energy issues more fully in planning and management, including in the MRC Basin Development Plan. This involves addressing

the regional power sharing arrangements, as well as measures to improve energy efficiency and identify alternative energy production forms. It also calls for analyses of cost and benefits which consider the river's wider values.

*Multi-stakeholder participation in hydropower development is imperative*

Hydropower developments in the Mekong Basin affect a large number of people from all stakeholder groups (public and private, rich and poor, central to community level). The poor whose livelihoods depend directly on the riverine ecosystems are the most vulnerable. All these groups, at all levels, need to be represented in a structured and sequential decision making process through well informed consultations

*The "responsible private sector" has an important role in hydropower development*

With significant capital and expertise required for the accelerating hydropower development in the Mekong, governments need to collaborate with private developers. For any responsible private developer, addressing environmental and social impacts, in dialogue with relevant stakeholders, is not only a moral imperative; it is also good business and sound risk management. Private developers seek good cooperation with the governments they serve, but also with MRC as the only competent regional organisation capable of making the necessary trans-boundary and basin-wide impact assessments. It is in the interest of the developers to comply with the existing procedures (PNPCA). However, compliance in this regard within the MRC is clearly a government responsibility. In order to improve performance, the private developers seek firm guidelines and standards for how to address environmental and social impacts of their activities.

*The daily operations of hydropower dams matter*

Whilst most of the discussion on impacts of hydropower dams focuses on their location and construction characteristics, it is important to consider their operation regimes as well, and the way in which this contributes to both optimisation of benefits and mitigation of adverse impacts. The operational issues are complex because of multiple dams, including cascades of dams, on the river, making it a multi-operator and, also in most cases in the Mekong, a multi-country issue.

## **4.2 Conclusions and recommendations concerning the role of MRC**

*MRC should provide regional water governance for sustainable hydropower development*

The Mission for MRC is "to promote and coordinate sustainable management and development of water and related resources for the countries' mutual benefit and people's well being". As such the Consultation considered MRC to be the natural regional actor to facilitate sustainable hydropower development in the basin. The primary instrument for MRC to play this role is the 1995 Mekong Agreement, and the associated procedures (PNPCA and others), the word and spirit of which MRC should bring into play for hydropower development with trans-boundary and basin-wide impacts. Although China is not a member, MRC has an important role to continue and deepen relationships with China as an upstream country with significant existing and planned hydropower development. Cooperation with Myanmar also needs to be continued and enhanced. MRC should reach out to and cooperate with private hydropower developers to facilitate their understanding of the 1995 Mekong Agreement and its procedural requirements in relation to hydropower development.

*MRC should provide data and information with full transparency*

MRC has an important role in the region to collect, analyse and disseminate data and information for and on hydropower development. This includes hydrologic data (quantity, quality sediments), databases on existing and planned hydropower facilities, and data and results from environmental and social studies of hydropower projects, both individual and cumulative. Transparency and inclusiveness in the dissemination of this information is being called for, including as a basis for

informed consultations with and between stakeholders. The MRC data and information provides important baseline information on which to base monitoring of the performance and impact of hydropower projects.

*MRC should offer relevant knowledge, tools, guidelines and standards*

MRC has developed and applied a suite of tools in its various programmes, in particular the BDP, the EP, the FP and the Information and Knowledge Management Programme, which have been and should continue to be used to support sustainable hydropower development in the basin. The Consultation focused particularly on the modelling of impact of development scenarios by BDP, the SEA and the CIA as critically important to be used in the analysis of planned mainstream dams. MRC has a strong reputation and perceived value added in this respect. For hydropower development MRC should also develop guidelines and standards to be used by developers of hydropower projects, such as the sustainability assessment tools under the ECSHD being developed in partnership with the ADB and WWF.

*MRC should continue to offer multi-stakeholder forums for hydropower discussions*

The present regional multi-stakeholder Consultation was seen as a positive and innovative step in the right direction, bringing the ‘water’ and ‘energy’ sectors, and the public and private developers, together for the first time. However, although invitations had been extended widely to local level NGOs, the community level was not well represented in the present Consultation, and a commitment was given by MRC to ensure engagement through representative arrangements at the local level to ensure that dialogue occurs also at that level.

... and, finally

*MRC should continue the development of the MRC Hydropower Programme*

The Draft Programme Document for the MRC Hydropower Programme was generally well received during the Consultation, and a number of constructive suggestions were made which should be considered in its further development. These ranged from almost full endorsement of the activities proposed in the present proposal to a question on whether a separate Hydropower Programme was required. A key consideration should be the coordination role and how the new MRC Hydropower Programme<sup>2</sup> will interact with activities for which other MRC programmes will naturally take the lead, particularly within the BDP, the FP, the EP and the Navigation Programme. The specific suggestions made for the formulation of the MRC Hydropower Programme echoed most of the above conclusions and recommendations concerning the role of the MRC, with particular emphasis on the “full picture”, including tributary dams, and the MRC’s role as facilitator of regional multi-stakeholder dialogue at all levels.

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2. Please see page 8





# Appendix 1 - Programme

**Regional Multi-Stakeholder Consultation  
on the MRC Hydropower Programme  
Don Chan Palace Hotel, Vientiane, Lao PDR, 25-27 September 2008**

<b>Wednesday, 24 September 08</b>	
18.00 – 20.00	Cocktail reception for participants in the garden / lobby of the MRC Secretariat

<b>Thursday, 25 September 08</b>		
08.00 – 08.30	<b>Registration</b>	
	<b>Opening Session</b> Chaired by Mr Chanthavong Saignasith, Director General, LNMC, Lao PDR, on behalf of the MRC Council Chair	
08.30 – 09:00	0.1 - Welcome remarks and opening address: Hydropower development in the Mekong Basin – regional opportunities and shared responsibilities	Mr Chanthavong Saignasith, Director General, LNMC, Lao PDR
09.00 – 09.20	0.2 - Keynote address: A development bank's perspective on sustainability	Mr James P. Bond, Chief Operating Officer, Multilateral Investment Guarantee Agency, World Bank Group
09.20 – 09.40	0.3 - Keynote address: Global precedents in trans-boundary conservation: Lessons for the Mekong region?	Mr Stuart Chapman, Programme Director, WWF Greater Mekong Programme
09.40 – 10.00	0.4 - Keynote address: Sustainability assessment – an industry approach	Mr Jean-Michel Devernay, Vice President, International Hydropower Association
10.00 – 10.30	<b>Coffee</b>	
	<b>Session 1 – MRC's role in hydropower development</b> Chaired by Mr Viraphonh Viravong, Director General, Department of Electricity, Ministry of Energy and Mines, Lao PDR	
10.30 – 10.35	Introductory remarks by Chair and Facilitator	
10.35 – 10.55	1.1 - Hydropower in the context of basin wide water resources planning	Mr Jeremy Bird, CEO, MRCS
10.55 – 11.10	1.2 – Modelling of flow changes in the Mekong mainstream for a range of development scenarios – preliminary results	Ms Hang Pham Thi Thanh, BDP Coordinator, MRCS
11.10 – 11.25	1.3 - Examining the barrier effects of mainstream dams to fish migration in the Mekong, and taking an integrated perspective to the design of mitigation measures	Dr Patrick Dugan, WorldFish Centre, Facilitator of Fishery Expert Group Meeting at MRC
11.25 – 11.40	1.4 – Experiences from the “Procedures for Notification, Prior Consultation and Agreement”	Dr George Radosevich, Legal Advisor on the 1995 Agreement
11.40 – 12.30	1.5 - Panel discussion	Dr Torkil Jønch Clausen, Facilitator
12.30 – 14.00	<b>Lunch</b>	

	<b>Session 2 – Hydro potential and development, national and regional perspectives</b> Co-chaired by Mr Tung Sereyvuth, Deputy Director, Department of Energy Development, Ministry of Industry, Energy and Mines, Cambodia, Head of the Cambodian Delegation and Mr Jean-Michel Devernay, Vice President, International Hydropower Association	
14.00 – 14.05	Introductory remarks by Chair and Facilitator	
14.05 – 14.25	2.1 - Hydropower development in Cambodia	Mr Tung Sereyvuth, Deputy Director, Department of Energy Development, Ministry of Industry, Energy and Mines, Cambodia
14.25 – 14.45	2.2 - Lao PDR – powering progress	Mr Viraphonh Viravong, Director General, Department of Electricity, Ministry of Energy and Mines, Lao PDR
14.45 – 15.05	2.3 - Thailand – regional partner in hydropower development	Mr Suthep Liumsirijarern, Director of Bureau of Energy Development, Department of Alternative Energy Development and Efficiency, Ministry of Energy, Thailand
15.05 – 15.25	2.4 – Viet Nam – meeting rapid demand growth	Mr Vu Van Thai, Deputy Director, International Cooperation Department, Ministry of Industry and Trade, Viet Nam
15.25 – 15.45	Coffee	
15.45 – 16.05	2.5 - Hydropower development on the Lancang	Mr. Chen Guanfu, China Hydropower and Water Resources Planning & Design General Institute Chief Engineer, China
16.05 – 16.25	2.6 - Influence of regional power market in the GMS region on hydropower development in the Mekong basin	Mr Yongping Zhai, Principal Energy Specialist, Asian Development Bank
16.25 – 17:15	2.7 - Panel Discussion on Session 2	Facilitator
19.00 – 21.00	<i>Dinner</i> at the Don Chan Palace Hotel, hosted by Mr Chanthavong Saignasith, Director General LNMC, Member of the MRC Joint Committee, Lao PDR	
<b>Friday, 26 September 08</b>		
	<b>Session 3 – Lessons for sustainable hydropower development from around the world</b> Co-chaired by Mr Chanthavong Saignasith, Director General LNMC, Head of the Lao PDR Delegation and Mr Stuart Chapman, Programme Director, WWF Greater Mekong Programme	
08.15 – 08.30	Brief summary of Day 1 by Facilitator, and introductory remarks by Chair and Facilitator	
08.30 – 08.55	3. 1 - Adaptive management of the Columbia River System	Dr Bolyvong Tanovan, Chief, Water Management Power Branch and Mr Robert Davidson, Research Hydraulic Engineer, Engineer Research and Development Centre, US Army Corps of Engineers Northwestern Division
08.55 – 09.20	3. 2 - WWF’s partnership in the Yangtze Forum, PR China	Dr Ma Chaode, Director of Freshwater Programme, WWF China
09.20 – 09.45	3. 3 - Hydropower and navigation development on the Rhône river – impacts and environmental management	Mr Vincent Piron, Head of International Department, Compagnie Nationale du Rhône

09.45 – 10.25	3.4 - Panel discussion	Facilitator
10.25 – 10.45	Coffee	
	<b>Session 4 – Innovative policy instruments, and challenges for implementation</b> Co-chaired by Mr. Thanade Dawasuwan, Deputy Director-General, Department of Water Resources, Thailand, and Mr James P. Bond, Chief Operating Officer, Multilateral Investment Guarantee Agency, World Bank Group	
10.45 – 10.50	Introductory remarks by Chair and Facilitator	
10.50 – 11.10	4.1 - Benefit sharing from hydropower projects in Viet Nam	Ms Hoang Ha Quynh Giao, Electricity Regulatory Authority, Ministry of Industry and Trade Viet Nam
11.10 – 11.30	4.2 – A model initiative: Addressing social and environmental concerns in the context of hydro development in the Mekong Basin	Mr Bun Chantrea, NGO Forum of Cambodia
11.30 – 11.50	4.3 - Striving for excellence or race to the bottom	Mr Carl Middleton, Mekong Programme Coordinator, International Rivers
11.50 – 12.10	4.4 - Strategic environmental assessment of hydropower development in the Vu Gia-Thu Bon River Basin, Viet Nam	Mr Pham Anh Dzung, Division Head, Ministry of Natural Resources and Environment, Viet Nam
12.10 – 13.30	Lunch	
13.30 – 14.30	4.5 – Panel discussion on Session 4	
	<b>Session 5 – Project development, incentives for sustainability</b> Co-chaired by Dr Dao Trong Tu, Deputy Secretary General, VNMC, Head of Viet Nam delegation and Mr Yongping Zhai, Principal Energy Specialist, Asian Development Bank	
14.30 – 14.35	Introductory remarks by Chair and Facilitator	
14.35 – 14.55	5.1 – Hydropower development - Perspective of a developer (1)	Mr Robert Kay, Executive Vice President, GMS Power, Lao PDR
14.45 – 15.05	5.2 – Hydropower development - Perspective of a developer (2)	Mr Zhong Haixiang, Overseas Investment and Development Department, Sinohydro Ltd, PR China
15.05 – 15.35	Coffee	
15.35 – 15.55	5.3 - Perspective of a consultant	Mr Peerawat Premchun, Senior Executive Director, Team Consultants, Thailand
15.55 – 16.40	5.4 – Panel discussion	Facilitator
	Closing of Part 1 of the Regional Multi-Stakeholder Consultation	
16.40– 16.50	5.5 - Concluding remarks: Outcome of Consultation	Mr Jeremy Bird, CEO MRCS
16.50 – 17.00	5.6 – Closing remarks	Mr Chanthavong Saignasith, Director General, LNMC, Lao PDR
<b>Saturday, 27 September 08</b>		
	<b>Part 2 of the Regional Multi-Stakeholder Consultation</b> Working Session: Formulation of the MRC Hydropower Programme Co-chaired by Mr Jeremy Bird, CEO, MRCS, and Mr Do Manh Hung, Director, Operation Division, MRCS	
08.00 – 08.10	6.1 - Introduction of the working session	Mr Do Manh Hung, Director, Operation Division, MRCS
08.10 – 08.25	6.2 - Summary of national hydropower consultations	Mr Voradeth Phonekeo, HP Project Manager

08.25 – 08.45	6.3 - Presentation of draft documents: A - Draft Hydropower Programme Document	Mr Christoph Mor, Technical Coordination Adviser, MRCS
08.45 – 09.05	B - Draft Project Document on Environmental Considerations for Sustainable Hydropower Development	Mr Keu Moua, Senior Environment Specialist, EP, MRCS
09.05 – 09.20	6.4 - Ideas emerging from the Regional Multi-Stakeholder Consultation	Facilitator
09.20 – 09.40	Coffee	
09.40 – 10.30 10.30 - 11.00	6.5 A – Group discussions around tables 6.5 B – Reporting back and final plenary discussion	Facilitator
11.00 – 11.10	6.6 - Summary, conclusions and next steps	Facilitator
	<b>Closing of Part 2 of the Regional Multi-Stakeholder Consultation</b>	
11.10 – 11.20	6.7 - Summary statement	Mr Jeremy Bird, CEO, MRCS
11.20 – 11.30	6.8 - Closing statement	Mr Chanthavong Saignasith, Director General, LNMC, Lao PDR
11:30 – 12:30	Lunch	

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<sup>1</sup>The aim of the working session is to provide input to the draft programme document for the MRC Hydropower Programme. All participants to the Consultation are invited to join the Working Session if they wish.

**Field visit to Theun Hinboun Hydropower Scheme  
in Khammuan Province, Lao PDR, 27-28 September 2008**

**Final Programme**

<b>Saturday, 27 September 08</b>		
12:30-13:00	Assembly at MRCS office in Vientiane	Mr Voradeth Phonekeo, HP Project Manager, MRCS
13:00-18:30	Travel by bus to Thakhek, Khammuan Province	MRCS
18:30-19:00	Transfer to hotels in Thakhek	
19:00	Dinner	

<b>Sunday, 28 September 08</b>		
06.00 - 06.30	Breakfast in Hotel, Short briefing on trip arrangements	Mr Voradeth Phonekeo, HP Project Manager
07.00 – 10:00	Travel by bus to Theun Hinboun Hydropower Scheme, Khammuan Province	MRCS
10.00 – 10.30	Briefing on Theun Hinboun Hydropower Scheme and Extension Project	Theun Hinboun Power Company
10.30 – 12.00	Visit to damsite	Theun Hinboun Power Company
12.00 – 13.00	Lunch at THPC Camp	Theun Hinboun Power Company, and MRCS
13.00 - 14.30	Site visit to power house, downstream area, local communities	Theun Hinboun Power Company
14:30 – 18:00	Travel by bus to Vientiane	MRCS



## Appendix 2 - Participants

### Participants from Member States

Name and surname	Title	Organisation	Country
HE Mr Tun Lean	Director General	Ministry of Industry, Mines and Energy	Cambodia
Mr Theng Marith	Director	Ministry of Water Resources and Meteorology	Cambodia
Mr Chiv Huor	Deputy Director	Ministry of Industry, Mines and Energy	Cambodia
Mr Tung Sereyvuth	Deputy Director	Ministry of Industry, Mines and Energy	Cambodia
Mr Lieng Sopha	Deputy Director	Energy Development Department	Cambodia
Mr Sam Nuov	Deputy Director	Ministry of Agriculture, Forestry and Fisheries	Cambodia
Mr Danh Serey	Deputy Director	Fishery Administration	Cambodia
Mr Keo Serey Pich	Chief Office	Ministry of Agriculture, Forestry and Fisheries	Cambodia
Mr Chheang Hong	Chief Office	Cambodia National Mekong Committee	Cambodia
Mr So Sophort	National Hydropower Coordinator	Cambodia National Mekong Committee	Cambodia
Mr Ou Sophanna	National ICBP Coordinator	Cambodia National Mekong Committee	Cambodia
Mr Heng Phearith	National EP Coordinator	Cambodia National Mekong Committee	Cambodia
Mr Bounthavy Sisouphanthong	Minister	Ministry of Environment	Lao PDR
Ms Monemany Nhoibouakong	Permanent Secretary General	Water Resources and Environment Administration	Lao PDR
Mr Chanthavong Saignasith	Director General	Lao National Mekong Committee Secretariat	Lao PDR
Mr Phonechaleun Nonthasay	Director General	Water Resources and Environment Administration	Lao PDR
Mr Viraphonh Viravong	Director General	Ministry of Energy and Mines	Lao PDR
Mr Sourasay Phoumavong	Deputy Director General	Lao National Mekong Committee Secretariat	Lao PDR
Mr Bounkham Vorachit	Deputy Director General	Lao National Mekong Committee	Lao PDR
Mr Sychath Boutsakitirath	Deputy Director General	Ministry of Energy and Mines	Lao PDR
Mr Phouvang Luangxaysana	Director EIA Division	Water Resources and Environment Administration	Lao PDR
Mr Bounthom Manibob	Division Director	Ministry of Foreign Affairs	Lao PDR
Mr Aloun Sayavong	Chief of Planning	Lao National Mekong Committee	Lao PDR
Mr Bounpakone Phongphichit	Deputy Chief of Planning Division	Member of the Joint Committee for Lao PDR Director-General Lao National Mekong Committee	Lao PDR
Mr Thongthip Chandalasane	National HP Coordinator	Lao National Mekong Committee	Lao PDR



Mr Heuan Chanphana	Deputy Head of GMS National Coordinator	Water Resources and Environment Administration	Lao PDR
Mr Viraphanh Nandavong	Manager	Electricite du Laos	Lao PDR
Mr Saikham	Advisor	Lao National Mekong Committee	Lao PDR
Mr Bounphom		Ministry of Foreign Affairs	Lao PDR
Kongngeun Chounlamounty	Assistant to Director General	Department of Water Resources	Lao PDR
Mr Thanade Dawasuwan	Deputy Director General	Department of Water Resources, Ministry of Natural Resources and Environment	Thailand
Ms Pakawan Chufanamee	Director	Department of Water Resources MRC Affairs Branch	Thailand
Mr Suthep Liumsirijareern	Director	Bureau of Energy Development , Department of Alternative Energy	Thailand
Mr Thanphong Bunyaratapan	Director	Department of Water Resources Bureau of International cooperation	Thailand
Mr Naruepon Sukumasawin	Director / National Fisheries Programme Coordinator	Department of Fisheries Information Technology Centre	Thailand
Ms Kaniknan Patomnuphong	Chief	Electricity Generating Authority of Thailand (EGAT) Project Study and Analysis Department	Thailand
Mr Thanatip Jantarapakde	Chief	International Maritime Organisation Affairs Section, Marine Department	Thailand
Mr Nawarat Kraiapanond	Chief of Cooperation Unit 4	Office of Natural Resources and Environment Policy and Planning	Thailand
Nirat Phuriphanphinyo	National Hydropower Coordinator	Department of Water Resources	Thailand
Dr Chaiyuth Sukhsri	TNMC member	Chulalongkorn University Faculty of Engineering	Thailand
Mr Chaleo Kaenchan	Senior Forestry Officer	Department of National Park, Wildlife and Plant Conservation	Thailand
Ms Chawee Wongprasittiporn	Senior Civil Engineer	ONREPP	Thailand
Ms Potchana Auengpaibul	Senior Policy and Plan Analyst	National Economic and Social Development Board	Thailand
Dr Dao Trong Tu	Deputy Secretary General	Vietnam National Mekong Committee	Viet Nam
Mr Tran Tuan Dzung	Director	Ministry of Industry and Trade International Cooperation Division, Electricity of Viet Nam	Viet Nam
Mr Do Hong Phan	Director, Center for Resources Department and Environment	Ministry of Industry and Trade	Viet Nam
Mr Nguyen Ngoc Anh	Deputy Director	Ministry of Agriculture and Rural Development Southern Institute of Water Resources Planning	Viet Nam
Nguyen Van Trong	Deputy Director	Ministry of Agriculture and Rural Development Research Institute for Agriculture No2	Viet Nam

Mr Le Bac Huynh	Deputy Director	Ministry of Natural Resources and Environment International Cooperation Division, Electricity of Viet Nam	Viet Nam
Mr Vu Van Thai	Deputy Director,	Ministry of Industry and Trade International Cooperation Department	Viet Nam
Mr Tran Quoc Khanh	Deputy Director	Ministry of Industry and Trade Investment and Planning Department of Gia Lai Province	Viet Nam
Mr Huynh Minh Ngoc	National Hydropower Coordinator	Vietnam National Mekong Committee	Viet Nam
Mr Pham Anh Dzung	Head of Division	Ministry of Natural Resources and Environment Appraisal and EIA Department	Viet Nam
Mr Nguyen Viet	Head of Planning Division	Ministry of Agriculture and Rural Development Water Resources Department	Viet Nam
Ms Hoang Ha Quynh Giao	Expert	Ministry of Industry and Trade Electricity Regulation Department	Viet Nam
Mr Nguyen Hong Toan	Expert	Vietnam National Mekong Committee	Viet Nam
Mr Dao Hoang Kien	Programme Officer	Vietnam National Mekong Committee	Viet Nam
Mr Nguyen Quoc Bao	Vice Chairman, People's Committee of Ben Tre Province	Ministry of Industry and Trade	Viet Nam

### Others Governments

Name and surname	Title	Organisation	Country
Mr Peng Cheng	Chief Engineer	China Hydropower Engineering Consulting Group	China
Mr Li Ningjun	Chief, Division of International Cooperation	China Hydropower Engineering Consulting Group	China
Mr Guanfu Chen		China Hydropower Engineering Consulting Group	China
Mr Robert Davidson	Research Hydraulic Engineer	US Army Corps of Engineers Research and Development Centre	USA
Mr Bolyvong Tanovan	Chief, Power Branch, Water Management	US Army Corps of Engineers, Northwestern Division	USA

## Development partners

Name and surname	Title	Organisation	Country
H.E. Mr. Peter Wienand	Ambassador Extraordinary and Plenipotentiary	Embassy of Germany	Lao PDR
Mr Simon Buckley	First Secretary	Embassy of Australia	Lao PDR
Mr John Dore	AusAID Advisor	Embassy of Australia	Lao PDR
Mr Sam Beever	Counselor AusAID	Embassy of Australia	Thailand
Ms Xouchai Panyanouvong	Research Officer	Embassy of Australia	Lao PDR
Mr Ken Nakamura	First Secretary	Embassy of Japan	Lao PDR
Mr Keiichi Sato	JICA expert ( Advisor to Power Sector)	Ministry of Energy and Mines	Lao PDR
Ms Helena Ahola	First Secretary	Embassy of Finland	Thailand
Ms Sanna Pulkkinen	Programme Officer	Ministry for Foreign Affairs of Finland	Finland
H.E. Mr Peter Lysholt Hansen	Ambassador Extraordinary and Plenipotentiary	Embassy of Demark	Viet Nam
Ms Karin Isaksson	First Secretary and Senior Programme Officer	Embassy of Sweden	Thailand
Ms Suripaphone Meys		Embassy of United States	Lao PDR
Mr John R. Pasch	Regional Water Policy Adviser	United States Agency for International Development (USAID)	Thailand
Dr Vitoon Viriyasakultorn	Senior Governance Specialist	United States Agency for International Development (USAID)	Thailand
Mr Richard Paton	Eco-Asia	United States Agency for International Development (USAID)	Thailand
H.E. Mr Francois Senemaud	Ambassador Extraordinary and Plenipotentiary	Embassy of France	Lao PDR
Mr Nicolas Fornage	Environment and Social Support Unit	Agence Française de Développement	France
Mr Guy Francois	Charge de Mission	Agence Française de Développement	Lao PDR
Mr Samuel Cantell	First Secretary	European Commission	Thailand
Mr Kean Sarat	First Secretary	Embassy of Cambodia	Lao PDR
Mr Dinh Cong Ton	First Secretary	Embassy of Viet Nam	Lao PDR

## International Financial Organisations

Name and surname	Title	Organisation	Country
Mr Yongping Zhai	Principal Energy Specialist	Asian Development Bank (ADB)	Phillippines
Mr Pradeep Perra	Senior Water Resourceces Specialist	Asian Development Bank (ADB)	Phillippines
Mr Ian Makin	Project Engineer	Asian Development Bank (ADB)	Phillippines
Mr Phomma Chanthirath	Project Implementation Officer	Asian Development Bank (ADB)	Lao PDR
Mr James Bond	Chief Operating Officer	Mutilateral Investment Guarantee Agency, World Bank	Thailand
Mr. Patchamuthu Illangovan	Country Manager	World Bank	Lao PDR
Ms Pichaya Fitts	External Affairs Officer	World Bank	Thailand
Mr Jitendra Shah	Country Sector Coordinator	World Bank	Thailand
Ms Manida Unkulvasapaul	Senior Environmental Specialist	World Bank	Thailand
Ms Nanda Gasparini	Communication Associate	World Bank	Lao PDR
Viengkeo Phetnavongxay		World Bank	Lao PDR

## Developers/Contractors

Name and surname	Title	Organisation	Country
Mr Jean Foerster	Environment Director	Nam Theun 2 Power Company	Lao PDR
Mr Zhang Lei	Representative	Sinohydro Corporation Thailand Office	Thailand
Mr Zhong Haixiang	Deputy General Manager	Overseas Investment and Development Dept 1, Sinohydro Corporation	China
Mr Li Bin	Representative	Sinohydro, China National Electronics Export and Import, China-Pak-Lay HPP	Lao PDR
Mr Junya Yamamoto	General Manager	International Network Group, Corporate Planning Department	Japan
Mr Phonesavanh Phimmasone		International Network Group, Corporate Planning Department	Japan
Mr Bounnom Khounsammane	Director	Norpower AS,	Lao PDR
Mr John Chu Beng Han	Project Coordinator	Megafirst Berhad Crop, Malaysia-DonSahong HPP	Lao PDR
Mr Khoo Teng Keat		Mega First Berhad Corporation - Don Sahong HPP	Malaysia

Mr Thirapong Subpa-Asa	Director	Ratchaburi Electric Generating Holding Public Company Limited	Thailand
Mr Vincent Piron	Head of International Department	Compagnie Nationale du Rhone ( CNR)	France
Mr Franck Leglise	EDF Representative	EDF Representative Office in Lao PDR	Lao PDR
Mr. Robert James Kay	Executive Vice President	GMS Power Public Company Limited	Thailand
Mr. Xinying Du	Representative Office in Laos of Datang	International ( Hong Kong ) Limited	Lao PDR
Mr. Shuhui Wei	Senior Engineer, Representative Office in Laos of Datang	International ( Hong Kong ) Limited	Lao PDR
Dr Surachet Tamronglak	Managing Director	Charoen Energy and Water Asia (CEWA) Co Ltd	Thailand
Mr Ngo Tuan Dzung	Business Development Manager	Saigon Investment Group	Viet Nam

### Consultants

Name and surname	Title	Organisation	Country
Mr Peter-John Meynell	EIA Specialist	Norconsult, Engineering and Management Consultants	Lao PDR
Mr Goran Lifwenborg	Vice President	SWECO International	Thailand
Mr Nanong Khotpathoum	Executive Director	Earth Systems Lao	Lao PDR
Mr Peerawat Premchun	Senior Executive Director	TEAM Group of Companies Co. Ltd.	Thailand
Dr Nguyen Duc Lien	Senior Consultant in Water Resources Management and Hydropower	Private consultant	Vietnam
Dr George Radosevich	Legal Advisor	RAD Intl	Thailand
Mr Eric Tilman	Water Management Specialist/ Team Leader, Sesan, Sre Pok and Sekong River Basins Development in Cambodia, Lao PDR and Viet Nam	Private consultant	Philippines
Mr Clive Lyle	River Basin Management Consultant Department of Water Resources	Water Resources and Environment Administration Lao PDR	Lao PDR
Dr Peter King	Senior Policy Advisor	Institute for Global Environmental Strategies, Japan	Thailand
Mr Ningjun Li	Director International Cooperation	China Hydropower Engineering Consulting Group. Co	China
Mr Garry Thorncraft	Fish Passage Consultant	Private Consultant	Lao PDR

Dr Alfred Birch	Team Leader/IWRM Specialist	Water Resources Coordination Committee Secretariat	Lao PDR
Mr Andrew Mellor	Environment Scientist	Earth Systems Lao	Lao PDR
Mr Supachai Rakpanitmanee	Managing Director	Panya Consultants Co. Ltd. Thailand	Thailand
Mr Phetmany Sanasiane		NCC	Lao PDR
Mr Peter Evans	Communications Consultant	EPD, Ministry of Mines	Lao PDR
Mr Outhai Oudavong	Chairman and CEO	Right Engineering Co Ltd	Lao PDR

### Academia & Civil Society

Name and surname	Title	Organization	Country
Dr Leon Gaillard	Head of Academic Research	Lao Institute for Renewable Energy	Lao PDR
Ms Yu Yin	Research Fellow	Mekong Program on Water Environment and Resilience (M-Power)	Thailand
Ms Rachel Cooper	PhD Researcher Department of Politics	Newcastle University	United Kingdom
Ms Kannika Janchidfa	Project Researcher Gender Development Study (GDS)/School of Environment, Research and Development	Asian Institute of Technology	Thailand
Mr Matti Kummu	Researcher, M.Sc. Water & Development Research Group	Helsinki University of Technology	Finland
Mr Marko Keskinen	Researcher, M.Sc. Water & Development Research Group	Helsinki University of Technology	Finland
Mr Toshiyuki KASAI	Professor in Economics Faculty of Economics	Ritsumeikan University	Japan
Dr Trinh Ling Van		VNCOLD	Viet Nam
Dr Richard P. Cronin	Program Director/Senior Associate Southeast Asia Program	Henry L. Stimson Center	USA
Dr Chayanis Krittasudthacheewa	Deputy Director of SEI Asia Centre	Stockholm Environment Institute Chulalongkorn University	Thailand
Dr Richard Friend	M-Power Fisheries Theme Leader	M-Power (Unit for Social & Environmental Research, Chiang Mai University)	Thailand
Mr Prasert Povichien	Mekong Working Group	Chulalongkorn University Alumni Foundation	Thailand

## Professional Associations

Name and surname	Title	Organisation	Country
Mr Jean Michel Devernay	Vice President	International Hydropower Association (IHA)	United Kingdom
Dr Olivier Le Sang	Energy Economist, Expert in charge of Development	Lao Union of Science and Engineering Associations (LUSEA)	Lao PDR
Mr Trinh Cong Van	Senior Expert	Viet Nam National Committee on Large Dams and Water Resources Development	Viet Nam
Prof Pham Hong Giang	Chairman	Viet Nam National Committee on Large Dams and Water Resources Development	Viet Nam

## International Organisations

Name and surname	Title	Organisation	Country
Dr Erik Nielsen	Country Programme Coordinator	IUCN	Lao PDR
Ms Claudia Cooney	Programme Officer	IUCN	Lao PDR
Ms Charlotte Hicks	Officer Private Sector Engagement	IUCN	Lao PDR
Dr Patrick Dugan	Deputy Director General	The WorldFish Center	Egypt
Dr Blake Ratner	Regional Director	The WorldFish Center	Cambodia
Dr Eric Baran	Research Scientist, Greater Mekong Region	The WorldFish Center, Greater Mekong	Cambodia
Dr Mrigesh Kshatriya	Environmental Modeller	The WorldFish Center	Cambodia
Dr Andrew Duncan Noble	Regional Director IWMI Southeast and Central Asia	International Water Management Institute (IWMI)	Vientiane
<b>UN Agencies</b>			
Mrs Sonam Yangchen Rana	UN Resident Coordinator and UNDP Resident Representative	United Nations Development Programme (UNDP)	Lao PDR
Dr Linda Norgrove	Chief Environment Unit	United Nations Development Programme (UNDP)	Lao PDR

## Export Credit Agencies

Name and surname	Title	Organisation	Country
Mr Gregory Scopelitis	Investment Officer	Promotion et Participation pour la Cooperation Economique	Thailand
Ms Setasuda Tulyatan	Assist Vice-President	International, Export-Import	Thailand
Ms Soison Lohsuwannakul	Economist	Exim Thailand Export-Import Bank	Thailand
Ms Kanyarat Kanaprach	Senior Analyst	Exim Thailand Export- Import Bank	Thailand

## NGOs

Name and surname	Title	Organisation	Country
Ms Kate Lazarus	Dialogue Team Leader, Associate Researcher	M-POWER governance network	Lao PDR
Dr Stuart Chapman	Programme Director	WWF Greater Mekong-Living Mekong Programme	Lao PDR
Mr Marc Goichot	Acting Manager Mekong River Programme and IRBM Coordinator	WWF Greater Mekong Programme	Lao PDR
Mr Pen Somony	Coordinator	Cambodian Volunteers for Society	Cambodia
Mr Bun Chantrea		NGO Forum Cambodia	Cambodia
Mr Tek Vannara	Communication and Advocacy Program Manager	Culture and Environment Preservation Association	Cambodia
Dr Ma Chaode	Director Freshwater Program	WWF China Programme Office	China
Dr Carl Middleton	Mekong Program Coordinator Southeast Asia Program	International Rivers	USA
Ms Pianporn Deetes	Coordinator	Living River Siam-SEARIN	Thailand

## Media

Name and surname	Organisation	Country
Pannyasith Thammavongsa	Vientiane Times	Lao PDR
Mr Souliyo & Mr Somsavanh	Vientiane Mai	Lao PDR
Boukong Ratsavong	KPL	Lao PDR
Mr Phouviengkham & Mr Somchit	Pasason	Lao PDR
Thongsy Thammavong	Lao Patthana	Lao PDR
Mr Kongkham	Lao National Television	Lao PDR
Mr Sanay & Mr Souksavanh	Pathet Lao	Lao PDR
Mr Khonesavanh	Social Economy newspaper	Lao PDR
Am Tham	Koh Santepheap	Cambodia
Bopha Phorn	Popular Magazine	Cambodia
Peter Starr & Lem Chamnap	Catch and Culture, MRC Newsletter	Cambodia
Somphirom Khan	Rasmei Kampuchea Daily	Cambodia
Ky Soklim	Cambodge Soir	Cambodia
Nguyen Tung Thuy	Sai Gon Giai Phong Newspaper	Viet Nam
Doan Quoc Anh	Nguoi Lao Dong Daily, Ho Chi Minh	Viet Nam
Pham Nguyen Quang	Tranh Nien	Viet Nam
Lin Shuo	Xinhua	China
Timo Kuronen	Freelance	Finland



## MRCS staff

Name and surname	Title	Programme
Mr Jeremy Bird	CEO	OCEO
Mr Do Manh Hung	Director	OPD
Mr Boriboune Sanasisane	Director	PLD
Dr Pornsook Chongprasith	Director	END
Mr Te Navuth	Director	TSD
Mr. Voradeth Phonekeo	Project Manager	HP
Mr Suparek Janprasart	Secio-economist, Sociologist	BDP
Dr Terrence Muir	HP Consultant	HP
Mr. Antonius Lennaerts	Chief Technical Advisor	BDP
Mr Tatsuo Kunieda	Senior Advisor on River Management	BDP
Mr Phetsamone Southalack	Environment Specialist	BDP
Mr Wolfgang Schiefer	Chief of ICCS	ICCS
Mr Christoph Mor	Technical Coordination Advisor	OCEO
Dr Christopher Barlow	Programme Manager	FIP
Dr Cornelis Van Tuyll	Advisor	GTZ
Mr Jonh Forsius	Senior Hydrologist	TSD
Dr Erland Jensen	Advisor	TSD
Ms Chongchith Chantharanonh	Programme Officer	ICCS
Ms Berengere Prince	Technical Coordination Advisor	ICCS
Mr Aiden Glendinning	Interim Communication Officer	ICCS
Ms Hanne Bach	Chief Technical Advisor	END
Mr Vithet Srinetr	Environment Programme Coordinator	END
Mr Keu Moua	Environment Policy and Management Specialist	END
Mr Thanapon Piman	Modeling Specialist	BDP
Dr Sengamphone	HRS/Gender	HRS
Mr Yamauchi Katsuhiko	Technical Advisor	AIFP/OPD
Mr Fongsamuth Phengphaengsy	Programme Officer	AIFP/OPD
Ms Sasitorn Kanthiya	Assistant to the CEO	OCEO
Ms Chitlatda Keomuongchanh	Secretary	BDP
Ms Patoumphone Soundara	Secretary	OCEO
Mr Lieven Geerinck	Chief Technical Advisor	NAP
Ms Iwona Conlan	Consultant	IKMP
Ms Sandy Lusa	Consultant	OPD
Ms Chanchouly Athanaphone	Secretary	OPD
Ms Somchit Luangkhot	Secretary	BDP
Ms Aksone Phaniphong	Secretary	AIFP

## Appendix 3 - Consultation Brief

**Regional Multi-Stakeholder Consultation on the MRC Hydropower Programme  
Vientiane, Lao PDR, 25-27 September 2008**

### Consultation Brief

This brief, dated 1 September 2008, and the attached draft Programme, comprise the second announcement for the Regional Multi-Stakeholder Consultation on the MRC Hydropower Programme (HP). It summarises the background and proposal for this Programme, and provides an overview of the objectives, expected outcomes and overall approach to the Consultation.

A key element in the brief is inclusion of “guiding questions” and “expected outcomes for HP formulation” which are proposed to guide the presentations and discussions at the Consultation, and lead to recommendations for the final formulation of the MRC Hydropower Programme.

The Consultation Brief builds on national consultations on the HP in the Lower Mekong Basin countries, organised by the MRC Secretariat and considerations of some initial concepts by the MRC Joint Committee in June 2008. A preliminary draft Programme Document for the HP is under preparation and will be made available to participants one week prior to the Consultation.

#### **Background**

The Mekong Region is enjoying consistent economic growth. As a result, the region’s demand for energy is rapidly increasing. This together with considerations of climate change and renewable sources of energy and the rising importance of regional trade and investment flows, have stimulated a new era of hydropower development in the basin. In response to market demands, a broad range of developers are now investigating a large number of potential projects, some of which were identified as early as the 1960s. Many concession agreements are already at advanced stages of negotiation. Projects for the Mekong mainstream are among them as these are now seen as more viable due to the expected increase in dry season flows that will result from dam projects currently being constructed in the upper Mekong Basin in China, as well as high oil and gas prices and considerations of climate change.

Hydropower generation potential and energy demand are geographically imbalanced, thus highlighting the importance of and opportunities for an emerging regional power market. This regional dimension is the driver behind most of the current projects with bilateral agreements being established for the export of electricity.

MRC supports sustainable hydropower development that is implemented in accordance with provisions of the 1995 Mekong Agreement and is in the joint interests of its member states. It recognises that there are both opportunities and risks that need to be addressed.

#### **Towards a MRC Hydropower Programme**

The MRC approved its Hydropower Strategy in 2001 and drafted a Concept Note for its Hydropower Programme (HP) in 2005. These documents were a comprehensive attempt to interpret emerging international good practice and lay out what it meant for the Mekong region, and identify strategic work areas and possible components of the programme.

Although due to funding constraints the HP did not start until earlier this year, a number of the strategic directions and activities identified under the Strategy were already incorporated into other related MRC programmes. Some of the elements under the Concept Note are actively being implemented, including:

- Assessment of cumulative impacts of basin-wide water resources development options, including hydropower development on the mainstream and tributaries - under the Basin Development Plan (BDP) Programme;
- Providing assessment tools for environmental and social aspects, with particular focus on trans-boundary impacts; and synthesizing regionally appropriate sustainability considerations for hydropower development - under the Environment Programme (EP); and
- Broadening our understanding of the impacts of dams on fish migration, spawning and fisheries production – under the Fisheries Programme (FP).

In recognising the complexities but also the pace of hydropower development in the basin, MRC proposes a multi-track approach for its Hydropower Programme.

*Track 1* aims at improving understanding of the regional implications of hydropower projects within a relatively short timeframe. Some aspects, such as changes in the flow regime, are already incorporated into the study of cumulative impacts of various development scenarios under the BDP. But there are other important questions to answer that go beyond the scope of any one individual project developer, financing agency or national line agency. For example, Track 1 of the HP will focus on some of the important questions facing mainstream hydropower development – to what extent the barrier effect of mainstream dams can be minimized or successfully mitigated, and how to develop standard specifications and protocols for navigation locks.

*Track 2* would take a longer term perspective and require more detailed formulation. It incorporates two types of activities. The first would build on and share knowledge, making available the vast array of experience already gained with integrating improved governance, social and environmental aspects into hydropower development. Some of the activities proposed involve expanding MRC's database on existing, planned and proposed hydropower projects; building capacity for strategic environmental assessment through a case study covering the mainstream of the Lower Mekong Basin; supporting the Environment Programme implement the initiative on Environmental Considerations for Sustainable Hydropower Development; disseminating policy options for benefit sharing from hydropower projects; improving availability of environmental baseline data; building capacity for independent monitoring among respective line agencies; and carrying out an initial scoping assessment of the potential for small-scale decentralised hydropower for rural communities.

Further tracks of the Hydropower Programme may be identified as it evolves.

In each of the various activities, the role of HP would be one of a facilitator of dialogue among different groups according to the nature of the issue involved. With its mandate and regional scope, MRC can reach out to the full range of stakeholders. At this initial stage, at least four areas of dialogue are proposed for further consideration: joint *ministerial* briefings across relevant sectors in each of the member countries aimed at discussing good practice; dialogue meetings among *private sector developers and financiers* to raise awareness of basin-wide issues and procedures under the 1995 Agreement and explore areas of improving sustainability performance and ensuring consistency and coordination on environmental mitigation measures; a regional *multi-stakeholder* forum for structured debate on key issues facing the sector, and continued strengthening of discussion with MRC's Dialogue Partners on the implications of *upstream* developments.

### **Consultation Objective**

The primary objectives of the Regional Consultation are to:

- gather information on the scope and approach of MRC's emerging Hydropower Programme, which will help shape it into an effective and relevant initiative;
- provide an opportunity to assess and disseminate major activities under the initial Track 1 of the HP and related activities of other programmes;
- promote MRC's role in facilitating dialogue on important aspects of hydropower development that require an integrated basin perspective; and
- provide a forum for discussing some of the key issues facing hydropower development in the Basin.

### **Outcomes of the Consultation**

The expected outcomes of the Consultation are:

- improved understanding of the Mekong hydropower development context and its key issues;
- recommendations on the further formulation process of the Hydropower Programme, in particular on scope, structure and implementation arrangements;
- considerations on how to involve stakeholders – government, private sector, NGO's and development partners – on a regular basis in the MRC Hydropower Programme

### **Overall approach to the Consultation**

A Detailed Draft Programme of the Consultation is attached. It will be structured in four blocks as follows:

- *An Opening Session on 25 September*, chaired by the MRC Council Chair, to welcome participants and set the overall stage for the Consultation through an opening Address by a Senior Representative of the Government of Lao PDR, followed by keynote addresses by key international partners
- *Five Technical Sessions 25-26 September*, co-chaired by Senior Representatives of the MRC countries and international partners, to present and discuss hydropower development issues and approaches in the Lower Mekong Basin (LMB) from the perspective of the main stakeholders: the riparian countries, the private sector developers and commercial banks, the NGOs and civil society groups and development partners. These sessions will consist of presentations leading to facilitated discussions of the issues and challenges, with focus on the role of MRC and its proposed Hydropower Programme. Guiding questions will direct the debate towards addressing the expected outcomes of the Consultation.
- *A final Working Session on the Formulation of the MRC Hydropower Programme on 27 September*, chaired by the CEO of the MRCS, to review and discuss the draft Programme Document of the Hydropower Programme and provide recommendations to the MRC for the formulation of the programme, based on the ideas and views emerging from the five Technical Sessions of the Consultation. This process will subsequently continue through the normal preparation and approval process through the MRC Joint Committee.
- *A Field Visit 27-28 September* to the Theun Hinboun Hydropower Scheme to give interested participants an impression of actual conditions in the field and continue interaction in this setting.

*The Consultation is expected to have some 120 - 150 participants, and some 20 presentations are invited. Hence, in order to ensure adequate time for discussions, presenters have been requested to stay within the allocated time, and participants are encouraged to be brief, focused and concise in their interventions.*

### **Sessions 1-5: Key issues and questions to be addressed in the Consultation**

In the following outline of the sessions a brief overview of the expected issues to be raised in the five technical sessions is provided, along with guiding questions for the discussions.

### *Session 1 – MRC’s role in hydropower development*

In this session, MRCS representatives will outline the overall context of hydropower development in the LMB from a basin perspective, and describe the contribution of MRC through the existing programmes, particularly the Basin Development Plan (BDP), the Environment Programme (EP) and the Fisheries Programme (FP), as well as the proposed new Hydropower Programme (HP). The role of MRC as stipulated in the 1995 Agreement, and the “procedures for notification, prior consultation and agreement”, will be briefly presented. Finally, the important issue of barrier effects of mainstream dams to fish migration will be addressed by a brief report on the outcomes of an Expert Group Meeting on this issue organised by MRCS a few days prior to the Consultation (on 22-23 September)

#### Guiding questions:

- What are the main opportunities, risks and responsibilities for MRC in hydropower development in the Lower Mekong Basin (LMB)?
- Does MRC require additional capacity, expertise or state-of-the-art tools to advise on and support decision-making on hydropower development in the LMB?
- What are the perceptions of hydropower line agencies, private developers and financiers on the role that MRC can play, and the services it can provide?

#### Expected outputs for HP formulation:

- Raised awareness of MRC’s role in providing an integrated analytic framework to guide basin-wide development;
- Raised awareness of MRC’s role on cumulative and trans-boundary issues
- Challenges for MRC and areas in need of strengthening

### *Session 2 – Hydro potential and development: national and regional perspectives*

In this session senior representatives from the energy line agencies in the four MRC countries will provide the national view on hydropower development, including overviews of the planning and licensing processes in the countries. Conditions for and lessons from private sector participation and measures taken to address environmental and social issues in hydropower development will be raised, but detailed discussions of this issue will be deferred to Session 5. The presentations will briefly address the development context and forecasts of energy demands and hydropower development potential, as well as planned major projects in the Mekong tributaries and mainstream. A senior representative from China has been invited to provide a brief status on the planning, implementation and operation of the Lancang hydropower cascade, and the cooperation between China and the Lower Mekong Basin (LMB) countries in hydropower development in the basin. Finally the influence of the regional power market in the Greater Mekong Sub-region (GMS) on hydropower development in the Mekong basin will be addressed by a representative from the Asian Development Bank.

#### Guiding questions:

- What are the key issues in hydropower development at national level for each of the MRC countries?
- What are the key regional opportunities, risks and benefits in hydropower development (sustainability, bilateral/regional benefit sharing, co-operation with China)?
- What are the main factors/drivers motivating accelerated HP development (energy prices, climate change concerns, etc.)?
- What is the contribution of hydropower development to social development and poverty reduction, by itself, by associated multi-purpose use of reservoirs, and through targeted poverty reduction initiatives?
- What are the main trade-offs in the planning and operation of hydropower dams vis-à-vis irrigation, flood protection, fisheries, navigation etc?

#### Expected outputs for HP formulation:

- Improved understanding of key country and regional/trans-boundary issues in hydropower development (thematic and geographic), to be taken up by the proposed MRC HP

### *Session 3 – Innovative policy instruments, challenges for implementation*

In this session, senior representatives from government and NGO's will address ways to deal with the social and environmental aspects of hydropower development, through innovative policy instruments for benefit sharing from hydropower development with affected communities and as part of a wider programme of payment for environmental services and through new approaches to strategic environmental assessment. It will address how such instruments can be applied towards mitigation measures and environmental safeguards, and how they can be included in the consultation and decision processes for hydropower development by both public and private actors, with appropriate support from MRCS.

#### Guiding questions:

- What are the opportunities and real life limits to benefit sharing at local level?
- What are the requirements and opportunities to develop new policy tools?
- What are examples of innovative approaches to stakeholder consultation for hydropower development (at regional, national and project/local level)?
- Can the Vu Gia Thu Bon experience with Strategic Environmental Assessment (SEA) be replicated and up-scaled in LMB?
- What is the scope for SEA for mainstream dam development?
- How can MRC provide support to countries (and their private developers and financiers) in SEA, Cumulative Impacts Assessment (CIA) applications and compliance monitoring of safeguards?

#### Expected outputs for HP formulation:

- MRC's role in raising awareness of, developing, and supporting development of innovative policy tools at national and basin scale
- Innovative approaches to stakeholder involvement at regional, national and project/local level

### *Session 4 –Lessons from sustainable hydropower development from around the World*

In this session the Mekong basin will take inspirations and draw lessons from other parts of the World, such as the Columbia River in the US, the Rhone River in France, and the Yangtze River in China, presented by senior representatives from these basins and countries. Issues in these basins of relevance to the Mekong include operational issues of cascades of dams, sediment and delta management issues, mitigation measures for fish migration, adaptive river basin management, benefit sharing with affected communities, and generally how to achieve sustainable hydropower development by balancing development and environmental protection.

#### Guiding questions:

- What are the approaches in other international river basins in addressing hydropower development? How do they promote and implement the principles of Integrated Water Resources Management (IWRM)?
- What are the experiences with the role of the Regulator in private sector driven development?
- What are the main operational issues of cascades of dams?
- What are the key challenges and solutions to sediment management, long term bed stability and delta stability?
- What are international experiences in addressing barriers to fish migration?

#### Expected outputs for HP formulation:

- Experiences and good practices to inspire or be replicated in the LMB with support of the HP
- Institutional and programmatic lessons for MRC from other river basins
- Mechanisms and activities for HP to benefit from international good practice, and for MRC to engage at various levels as a recognised dialogue partner in hydropower development issues.

### *Session 5 –Project finance, incentives for sustainability*

In this session, senior representatives from private developers and commercial banks will provide their perspectives on incentives for achieving environmental and social sustainability in hydropower development, whether through corporate social responsibility, regulation, financing mechanisms and/or other means. The session will address the roles and interaction between the various actors through appropriate institutional frameworks and public-private partnerships. The possible role of MRC to support private developers and banks and identify potential solutions between the public and private actors that result in improved outcomes when viewed from a basin perspective will be considered.

#### Guiding questions:

- What are the regulatory framework conditions, appropriate from the perspective of both governments and the private developers and banks, under which private sector participation in hydropower development should take place?
- What are the required mechanisms for sharing data and information between the various parties, leading towards coordinated efforts to ensure integrated sustainable development of hydropower in the Mekong Basin?
- What is the potential of regulation vis-à-vis financial incentives to promote sustainable hydropower development by private developers?
- What is the feasibility/appropriateness of different financial incentive options to private developers to adequately consider environmental and social impacts in hydropower development in LMB, and to what extent can such incentives influence decision making in hydropower development?
- What is the role of credit agencies and banks in environmental and social safeguards?
- How can development partners (donors/banks) work in partnership with private investments in hydropower to raise sustainability?
- What are the most appropriate arrangements for MRCS to engage with private developers and financiers?

#### Expected outputs for HP formulation:

- MRC's role in raising awareness and supporting private sector development, and the appropriate entry points in private sector project cycles
- MRC's role in incentive development and facilitating improved outcomes

### *Session 6: Formulation of MRC Hydropower Programme – working session*

The many constructive observations and recommendations with respect to the role of MRC in hydropower development that are expected to emerge from the five technical sessions will be synthesised and guide the final session which will address the formulation of the MRC Hydropower Programme (HP). The facilitated discussion in this session will be introduced by presentations by MRC staff and consultants, covering: a summary of national hydropower consultations in the LMB countries, draft project document for the HP, and draft project document of the ADB/WWF/MRC project on “Environmental Considerations for Sustainable Hydropower Development” (ECSHD).

#### Guiding questions:

- What are the main national and regional priorities (thematic and geographic) to be considered in HP formulation?
- In light of the outcome of the previous sessions: are the proposed scope, thematic areas and activities of HP appropriate?
- Is the proposed multi-track approach appropriate, and what is the realistic time frame for Track 1? Are there any additional immediate priority activities for Track 1? What other activities could be considered for Track 2 and subsequent tracks?
- What are the most appropriate arrangements for MRCS to engage with private developers and financiers? What are the next steps?

- What are the appropriate implementation arrangements, including regular involvement of stakeholders – government, private sector, NGO' and development partners –in the MRC Hydropower Programme
- How can HP be financed, in the short and longer term?

Expected outputs for HP formulation:

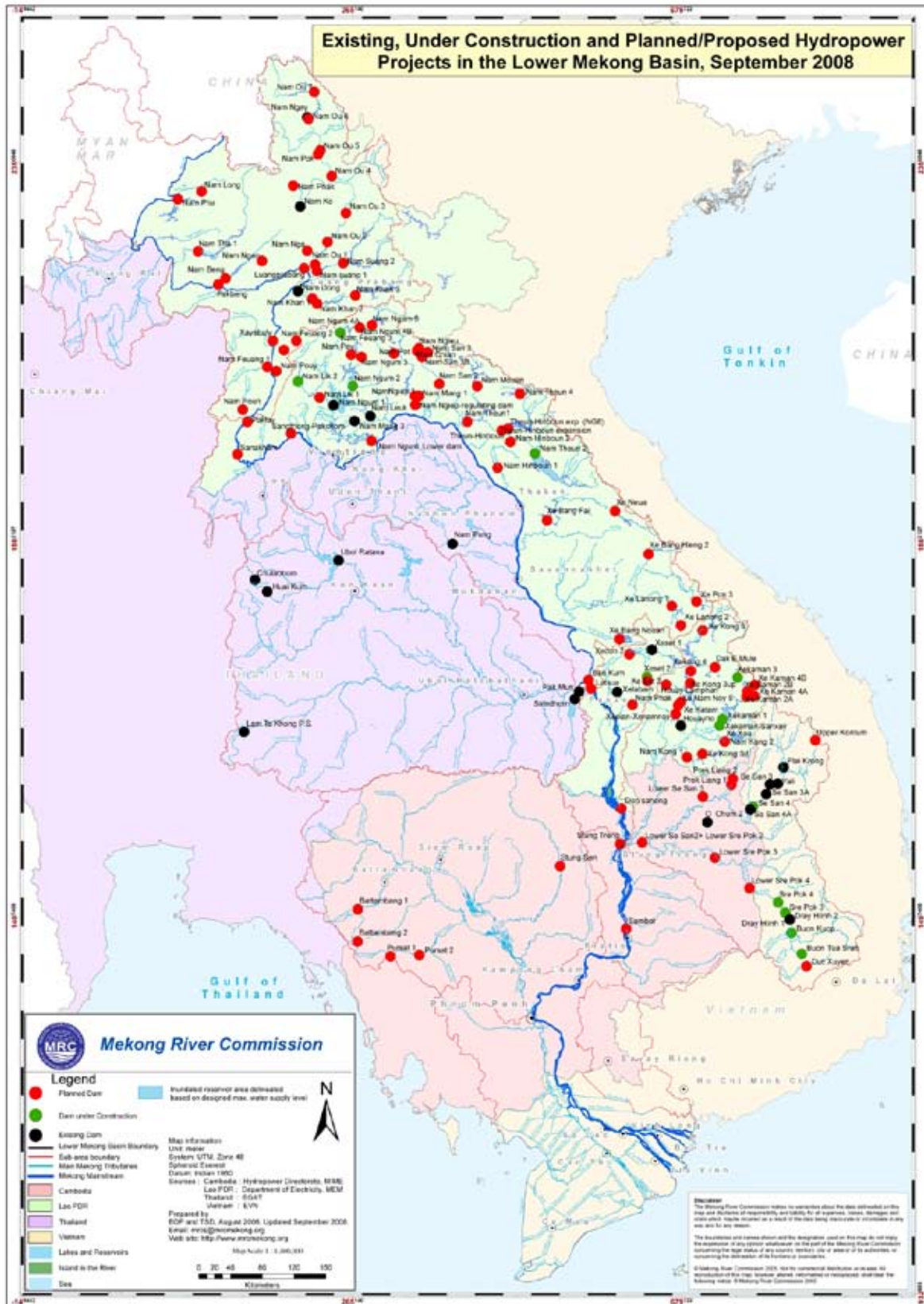
- Raised awareness of MRC's role in providing guidance and advice for hydropower development in the LMB
- Consensus on the scope, priorities, entry points and implementation arrangements of the MRC's HP
- General agreement on draft project document for ECSHD
- General agreement on next steps in the development of MRC Hydropower Programme

*Vientiane, 26 August 2008*





# Appendix 4 - Existing and Planned Projects in the LMB





## **Appendix 5 - Statement by the Government of the Lao PDR**

The Lao Delegation wishes to take the opportunity presented by Forum to state the Lao Government Policy on National Development which is aimed at ensuring strong economic growth and lifting the country out of poverty by the sustainable use of its natural resources. We have embarked on a program of economic growth, which includes development of the key sectors namely: hydropower, agriculture, forestry, tourism, infrastructure, mining, and industrial processing, mindful that our development strategy must also ensure protection of our precious environment.

The implementation of our policies has already seen the successful development of a number of major infrastructure projects. The Nam Theun 2 hydropower project is an excellent example of one such project. It demonstrates the importance of transparency in developing large scale sustainable infrastructure projects. Not only has Nam Theun 2 been a successful project in its own right; the whole hydropower sector in Lao has benefited from the work that Country's National Policy on Environmental and Social Sustainability of the Hydropower Sector of 2005. After overcoming initial capacity challenges, the relevant institutions are now implementing this important National Policy.

Our challenge as a country and as a development community is to put in place the necessary mechanisms that will allow us to distribute growth more evenly across the country. This inclusive growth will make many things possible for our people: for children in remote areas to attend school, for families to access health clinics, for people in isolated communities to be connected by new roads.

The government has embarked on its national development program fully aware of the capacity constraints it must work under to successfully implement its strategy; the building of institutions, the development of human resources, and putting in place and implementing the necessary legal and regulatory framework all present a huge challenge for the government.

The establishment of the Water Resource and Environment Administration (WREA) is an example of the Lao Government facing up to challenge. A relatively new government agency within the national administration, under difficult circumstances WREA has been carrying out its role of managing water resources in an integrated way, reviewing the all important Environment Impact Assessment (EIAs). It has also been monitoring the implementation of projects. In keeping with government policy, the institution itself is being strengthened with the creation of a new department to handle the EIA responsibility.

WREA is also in the final stages of introducing revised regulations on EIA based on both experience gained and best practices, this being reflected in the improvement of the process itself together with the introduction of the disclosure policy. This is typical of the changes sweeping right across the government sector where reform is an ongoing process.

We welcome people and organizations that are willing to work with us to achieve our goals. In the massive task of meeting the challenges of achieving strong economic growth and lifting our country out of poverty, there are many challenges along the way. We welcome your constructive input.



For further information please contact

**Mekong River Commission**  
184 Fa Ngoum Road , Unit 18, Ban Sithane Neua, Sikhottabong District,  
Vientiane 01000, Lao PDR

Telephone: (856-21) 263 263 Facsimile: (856-21) 263 264  
E-mail: [mrcs@mrcmekong.org](mailto:mrcs@mrcmekong.org)  
Website: [www.mrcmekong.org](http://www.mrcmekong.org)