PART B: GOVERNMENT SCOPING WORKSHOPS & MEETINGS SUMMARIES

A summary of Cambodian government meetings and national scoping workshop

An input to the SEA scoping process

ICEM – International Centre for Environmental Management

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Disclaimer

This document was prepared for the Mekong River Commission Secretariat (MRCS) by a consultant team engaged to facilitate preparation of a Strategic Environment Assessment (SEA) of proposals for mainstream dams in the Lower Mekong Basin in the 2009-2010 timeframe.

This document was prepared to assist the Secretariat as part of the information gathering activity. The views, conclusions, and recommendations contained in the document are not to be taken to represent the views of the MRC. Any and all of the MRC views, conclusions, and recommendations will be set forth solely in the MRC reports.

This document is a record of a meeting. All stakeholders whether at the meeting or not are invited to submit written contributions via the MRC website.

For further information on the MRC initiative on Sustainable Hydropower (ISH) and the implementation of the SEA of proposed mainstream developments can be found on the MRC website:
http://www.mrcmekong.org/ish/ish.htm and http://www.mrcmekong.org/ish/SEA.htm

The following position on mainstream dams is provided on the MRC website in 2009.
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MRC position on the proposed mainstream hydropower dams in the Lower Mekong Basin

More than eleven hydropower dams are currently being studied by private sector developers for the mainstream of the Mekong. The 1995 Mekong Agreement requires that such projects are discussed extensively among all four countries prior to any decision being taken. That discussion, facilitated by MRC, will consider the full range of social, environmental and cross-sector development impacts within the Lower Mekong Basin. So far, none of the prospective developers have reached the stage of notification and prior consultation required under the Mekong Agreement. MRC has already carried out extensive studies on the consequences for fisheries and peoples livelihoods and this information is widely available, see for example report of an expert group meeting on dams and fisheries. MRC is undertaking a Strategic Environmental Assessment (SEA) of the proposed mainstream dams to provide a broader understanding of the opportunities and risks of such development. Dialogue on these planned projects with governments, civil society and the private sector is being facilitated by MRC and all comments received will be considered.

Mekong River Commission Secretariat
P.O. Box 6101, Vientiane, 01000, Lao PDR
Email: mrcs@mrcmekong.org

About the MRC SEA of Hydropower on the Mekong mainstream

The Mekong River Commission (MRC) is an international, country-driven river basin organisation that provides the institutional framework to promote regional cooperation in order to implement the 1995 Agreement. The MRC serves its member states by supporting decisions and promoting action on sustainable development and poverty alleviation as a contribution to the UN Millennium Development Goals.

In a region undergoing rapid change and economic growth, the MRC considers the development of hydropower on the Mekong mainstream as one of the most important strategic issues facing the Lower Mekong region. Through the knowledge embedded in all MRC programs and coordinated through the new MRC Initiative for Sustainable Hydropower (ISH), the MRC seeks to assist Member states to work together and make the best decisions for the basin.

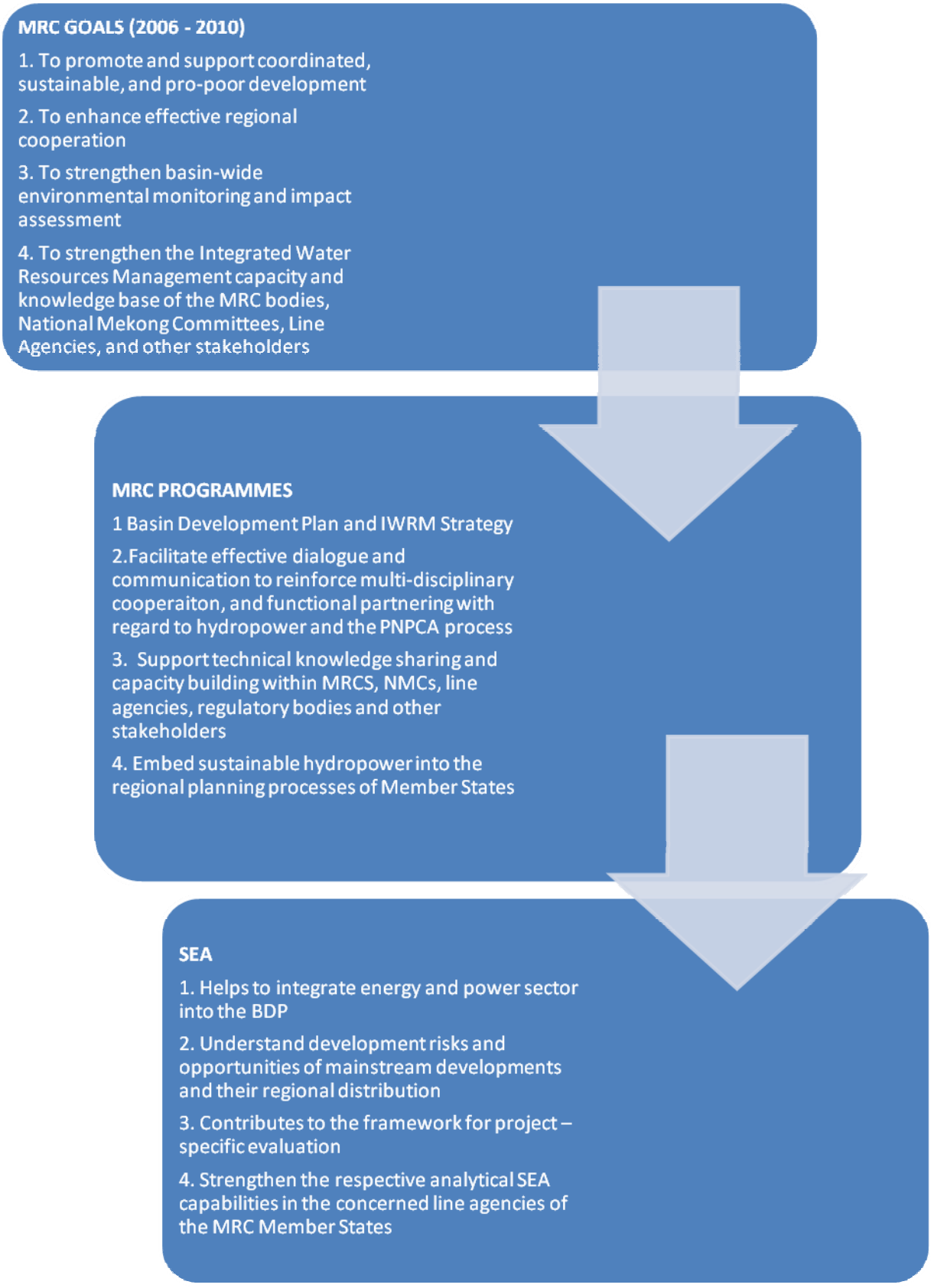
Eleven hydropower schemes have been proposed for the Lao, Lao-Thai and Cambodian reaches of the Mekong mainstream. Implementation of any or all of the proposed mainstream projects in the Lower Mekong Basin (LMB) could have profound and wide-ranging socio-economic and environmental impacts in all four riparian countries (Cambodia, Lao PDR, Thailand, Vietnam). The LMB governments decided that MRC ISH should conduct a Strategic Environmental Assessment (SEA) of all the proposed projects to fully assess their potential cumulative and multiplier effects.

The Initiative for Sustainable Hydropower (ISH) is a cross-cutting program working with all MRC programmes, focussing on balancing social, environmental and economic considerations of potential energy futures for the Lower Mekong Basin. The MRC recognises that there are two main decision-making spheres in the LMB; the IWRM sphere (where integrated basin planning is undertaken) and the Power sector and industry sphere (where decisions on hydropower are taken). The ISH, through its projects and activities, aims to bring these two decision-making worlds together.

This MRC ISH SEA seeks to identify the potential opportunities and risks, as well as contribution of hydropower to regional development, by assessing alternative mainstream Mekong hydropower development strategies. In particular the SEA focuses on regional distribution of costs and benefits with respect to economic development, social equity and environmental protection. The SEA began in May 2009 and is scheduled to complete the final report and recommendations by mid-2010.

This document is one of a series of documents arising from an intensive program of consultations in the Lower Mekong Basin and detailed expert analysis of the issues associated with developing hydropower on the Mekong mainstream. The intention is to consolidate SEA activities and progressively make conclusions and outputs available for public and critical review, so that stakeholder engagement can contribute to the SEA in a meaningful way. A full list of documents is available on the MRC SEA website.

The context and aims of the MRC SEA of Proposed Hydropower Schemes on the lower Mekong mainstream



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NATIONAL SCOPING ACTIVITIES

This report summarises the results of Cambodian government agency meetings and a national workshop on the scope of the SEA of hydropower on the mainstream Mekong River.

BACKGROUND

Cambodia's position on energy is complicated by its relatively low level of development and high resource potential. The two mainstream dams proposed for Cambodia – Stung Treng and Sambor are targeted for export, however, of all the LMB nations, energy poverty is perhaps most wide-spread in Cambodia with per capita electricity usage of 56kWh per year, less than one-tenth the per-capita usage in Vietnam and more than 30 times smaller than Thailand's average per-capita usage (UNDP 2007). More than 90% of Cambodia's installed capacity is generated using imported diesel, resulting in some of the highest costs for power worldwide. The relationship between national economic development and provincial livelihoods, poverty reduction and rural development in the Mekong River provinces lies at the heart of the SEA strategic issues for Cambodia.

Consultative activities in Cambodia needed to be sensitive to both the national and local scales of development issues. Those different levels of focus reflected the complex and sometimes conflicting sets of interests which various communities and sectors bring to the debate over mainstream projects. The following range of interests was identified for Cambodia during the national consultations in considering the appropriate scope for the SEA:

(i) ***Communities impacted:*** Local concerns regarding flooding of Mekong districts by the two project reservoirs and serious relocation, livelihood and environmental issues at stake.
(ii) ***Power exporter:*** Cambodia's national interest in the mainstream projects is to become a significant power exporter as a key element in national economic development.
(iii) ***Competing resource users:*** Cambodia is a downstream user of Mekong River waters and resources (eg irrigation and fisheries) – and those uses may be affected by upstream mainstream developments in Yunnan Province and Laos.
(iv) ***Mainstream project planner and investor:*** The two mainstream projects will involve the Government of Cambodia intensively in project planning, as an investor and as a promoter of the project through the provision of subsidies and incentives.

NATIONAL SCOPING MISSION

The Cambodia national scoping mission was conducted over five days from 10 to 17 July 2009. Activities included:

i. An intensive program of individual meetings with key government line agencies
ii. A National Scoping Workshop to define the spatial, temporal and thematic coverage of the SEA
iii. A Cambodian Civil-Society Roundtable to define the development context and opportunities for cooperation with between the SEA and civil-society

A donor roundtable to define opportunities for value-adding the activities and outcomes of the SEA is to be conducted later this year.

The national scoping mission was conducted to build a network of institutional partners and experts within government as a foundation for conducting all phases of the SEA. Its primary aim of the scoping mission was to receive guidance from this network on the scope of the SEA and on its methodology. Similar scoping consultations were conducted in each of the LMB countries (Cambodia, Lao PDR, Vietnam and Thailand). When the national discussions on scope and methods are completed, the countries will come together in a regional workshop as part of the baseline assessment phase. The scoping mission consultations were an important start in integrating the concerns and views of Cambodian government experts in the SEA process, as well as improving initial awareness and understanding of the SEA process to build a strong participatory platform for future SEA activities.

The National consultations in each country are supported by civil society and donor round tables. In Cambodia, the first civil society was held on the 17 July 2009 and a donor roundtable is being considered for later this year. The results of that consultation will be covered in a separate summary report. Together these reports provide a summary of the Cambodia perspective on the scope and approach for the SEA.

1. NATIONAL GOVERNMENT LINE AGENCY MEETINGS

OVERVIEW

The purpose of the individual meetings with government line agencies was to

(i) introduce the SEA team, objectives, methodology and timing to key line agencies and
(ii) to receive their initial views on key strategic issues of concern to development in Mekong River.

The scoping meetings opened discussion on river wide challenges and priorities relating to, for example, energy security, fisheries, agriculture, transport and development in other economic sectors. They also covered the environmental and social pressures facing the Mekong River and its communities such as flooding, irrigation, land concessions, fishing habits, migration and pollution.

Over a period of 3 days the SEA Team met with 12 line agencies as identified in Table 1. The meetings were typically 1.5-2hours of facilitated discussion.

Table 1 Line agencies consulted during the Scoping Mission

No	Meeting with	Meeting location	Theme discussed
1	General Department of Energy, HydroElectricity Department	Ministry of Industry Mines and Energy (MIME)	Power development, trade & Energy security, ecosystem dependence of rural communities
2	Department of Hydrology and River Works	Ministry of Water Resource and Meteorology (MOWRAM)	River flows and sedimentation, groundwater, Tonle Sap Lake connectivity, Domestic energy demand

3	Inland Fisheries Research and Development Institute (IFReDI) & Fishery Administration (FiA)	Ministry of Agriculture Forestry and Fisheries (MAFF)	Aquatic habitats, migration pathways, Tonle Sap connectivity, food security and nutrition
4	Department of Environmental Impact Assessment (EIA)	Ministry of Environment (MoE)	Public consultation and decision making processes, community livelihoods, aquatic habitats
5	Ministry of Planning	Ministry of Planning (MOP)	Regional & national cooperation, Domestic energy demand, Planning and benefits time scales, community livelihoods
6	Planning and Development department, Environmental & eco-tourism office	Ministry of Tourism (MOT)	Cultural heritage, loss of forests, water supply
7	Department of Planning and public relations	Ministry of Rural Development	Water supply and sanitation, Rural infrastructure, Agricultural land use, Migration pathways & resettlement
8	Department of Planning & Statistics	Ministry of Agriculture Forestry and Fisheries (MAFF)	Agriculture and land use, aquatic habitats Soil erosion
9	Department of Waterways	Ministry of Public Works and Transportation (MPWT)	Navigation, riverbank erosion
10	Forestry Administration	Ministry of Agriculture Forestry and Fisheries (MAFF)	Fuel-wood dependency
11	Dolphin Conservation & Tourism Authority	Council of Ministers	Power trade, tourism, local livelihoods
12	Department of Preventative Medicine	Ministry of Health (MoH)`	Distribution of health services, water-borne diseases

A short summary report for each meeting is provided in Annex A, and organized according to the key strategic issues which the line agency identified.

Some days before the meetings, the government officials were provided with background materials and guiding questions and an explanation of the SEA objectives and process. Consequently, meetings were generally able to remain focused. Some discussion moved towards an assessment of the opportunities and risks of mainstream hydropower before the issues of concern were consolidated. In this regard, the line agency meetings served an ancillary purpose of building understanding of the entire SEA process and its stages and better preparing stakeholders for the subsequent National Scoping Workshop. Most government agencies were concerned about a wide range of development issues transcending but affecting their agency's' mandate. This was most evident with economic issues associated with poverty and rural development as well as conservation and sustainable use of aquatic habitats.

SUMMARY OF FINDINGS

The following issues were identified during the line agency meetings as being of strategic and national significance for the Mekong River. The number in brackets denotes the number of line

agencies which identified the particular issue as having strategic significance. Comprehensive notes on each meeting appear as Annex A:

- Community livelihoods (x3[1])
- Aquatic habitats (x3)
- Energy security & domestic energy demand (x3)
- Agriculture and land use (x2)
- Tonle Sap Lake connectivity (x2)
- Power development & trade (x2)
- Food security & nutrition
- Fuel-wood dependency
- Ecosystem dependence of rural communities
- River flows and sedimentation,
- Groundwater,
- Fish migration pathways
- Public consultation and decision making processes
- Regional & national cooperation,
- Planning and benefits time scales
- Cultural heritage,
- Loss of forests,
- Water supply and sanitation,
- Rural infrastructure,
- Human migration pathways & resettlement
- Soil & riverbank erosion
- Navigation
- Tourism
- Health services
- Water-borne diseases

2. NATIONAL SCOPING WORKSHOP

OVERVIEW

The purpose of the national scoping workshop was to continue discussion begun in the line agency orientation meetings, with the aim of systematically honing in on the key strategic issues to be addressed by the SEA and their different geographical and sectoral levels of focus. Specifically, the National Scoping workshop aimed to:

i. Define the key strategic issues to be addressed by the SEA.
ii. Review and refine the SEA approach

The workshop was organised and chaired by the Cambodia National Mekong Committee. There were 46 participants: 46 from Government line agencies, 4 from MRCS and 6 from the SEA Team. Eight government ministries were represented. A full list of participants together with the workshop agenda appears as Annex B. There were three main components to the workshop - their function and time allocation is set out in Table 2.

Table 2 Main components of the Cambodia National Scoping Workshop

ITEM	WORKSHOP COMPONENT	FUNCTION	PROPORTION OF THE WORKSHOP
1	Presentations	▪ Stimulate discussion ▪ Share understanding of the sectoral focus and priorities	25%

[1] " "x3" indicates that three line agencies raised this issue, "x2" indicates that 2 agencies raised an issue and so on

		of the Government of Cambodia ▪ Build understanding of the SEA	
2	Plenary Discussions & Question time	▪ Orientate presented materials towards the strategic issues ▪ Record and consolidate points of agreement	25%
3	Working Group Sessions	▪ Build consensus on the: (i) 3-5 key themes which the SEA will need to address (ii) The development objectives and targets of the GoC* in relation to each theme (iii) sustainability principles# used by the government to direct planning in each theme or associated sector (iv) 10-20 strategic issues which the SEA will need to address	50%

* GoC= Government of Cambodia
# Sustainability principles = the guiding principles of the GoV which will ensure that government objectives are met without jeopardizing the ability of future generations to meet their objectives

2.1 OPENING SPEECH

MRC SEA OF HYDROPOWER ON THE MEKONG MAINSTREAM

NATIONAL SCOPING WORKSHOP
H.E. MR KOL VATHANA
DEPUTY SECRETARY GENERAL
CAMBODIAN NATIONAL MEKONG COMMITTEE

Good morning Ladies and Gentlemen,

It is my pleasure to be invited, to join and to open this important national workshop because it is of great significance. Our workshop and discussions today and tomorrow reflects many "firsts" for this region.

This is the first Strategic Environmental Assessment of transboundary issues ever undertaken in the Lower Mekong Basin. It was initiated by MRC to support and explore its role as an advisory body in regional development planning. It is the first time in the region that the hydropower sector has conducted a comprehensive study of many different proposals looking at their overall economic, social and environment effects – it is an analysis of their combined sustainability.

Perhaps the most important one, it is the first time that an integrated assessment has been conducted of proposed development on all parts of the great Mekong River – the study will consider the implications from Yunnan province in China right down to the tip of the Mekong Delta. Finally, it is the first time that Mekong countries will collaborate in applying the SEA tool to explore strategic issues and relationships relating to competing uses of the mainstream river.

Ladies and Gentlemen,

For all these reasons, i would like to congratulate the MRC in launching this very important regional assessment. It is a very timely initiative now that the intensive use of the Mekong mainstream for

power development is firmly back on the agenda.

At this stage the LMB countries and their development partners – China and Myanmar – have not established satisfactory processes and tools for collaborating on environmental assessments. There is no effective system for considering transboundary issues. This need for a collaborative assessment approach becomes urgent now that we are considering major transformation of our shared river which, in so many ways, is the backbone of the region.

I am in no doubt that this is a difficult study. It is addressing sensitive and controversial issues of national interest – even of global interest, given the significance of the Mekong River. World-wide the collaborative management of shared rivers is becoming more complex but more urgently required. Every benefit if river development comes with risks and trade-offs for affected communities and sectors. We need to make sure that those risks are well identified so that the best mitigation measures can be put in place to reduce the negative effects.

Major projects which use a shared river need to be developed carefully so that other uses and future generations continue to benefit from it. Water resources are becoming scarce and the critical resource for many different sectors. In the Mekong River we share that resource – and we must work to use it wisely and in a sustainable way. Of course the Mekong River is much more than water – it is a way of life and our cultural foundation. Many depend on the fisheries of the river for their basic livelihoods. The river supports agriculture, transport and tourism, as well as clean water to bathe, cook and drink. The Mekong is a fundamental element of Khmer culture; the Great lake – The Tonle Sap – is a unique feature of the river on which the Angkorian civilization was based. It is now a major tourism attraction and generator of foreign exchange for the country. The river dolphin, living above Kratie, near Sambor and Stung Treng, is also recognised as a part of Cambodia's natural heritage, as important as Angkor Wat.

Ladies and Gentlemen

The Mekong River has long been recognized as an important potential source for power to fuel economic development and export earnings. Recent changes, for instance the demand for energy within Cambodia and neighbouring countries, and the construction of dams on the Mekong in China, have improved the feasibility of the mainstream hydropower projects.

The SEA needs to weigh up and analyse these existing and potential uses and arrive at fair and reasonable recommendations for balanced development. The SEA is a systematic methodology for identifying the risks associated with strategic decisions and ways of reducing them.

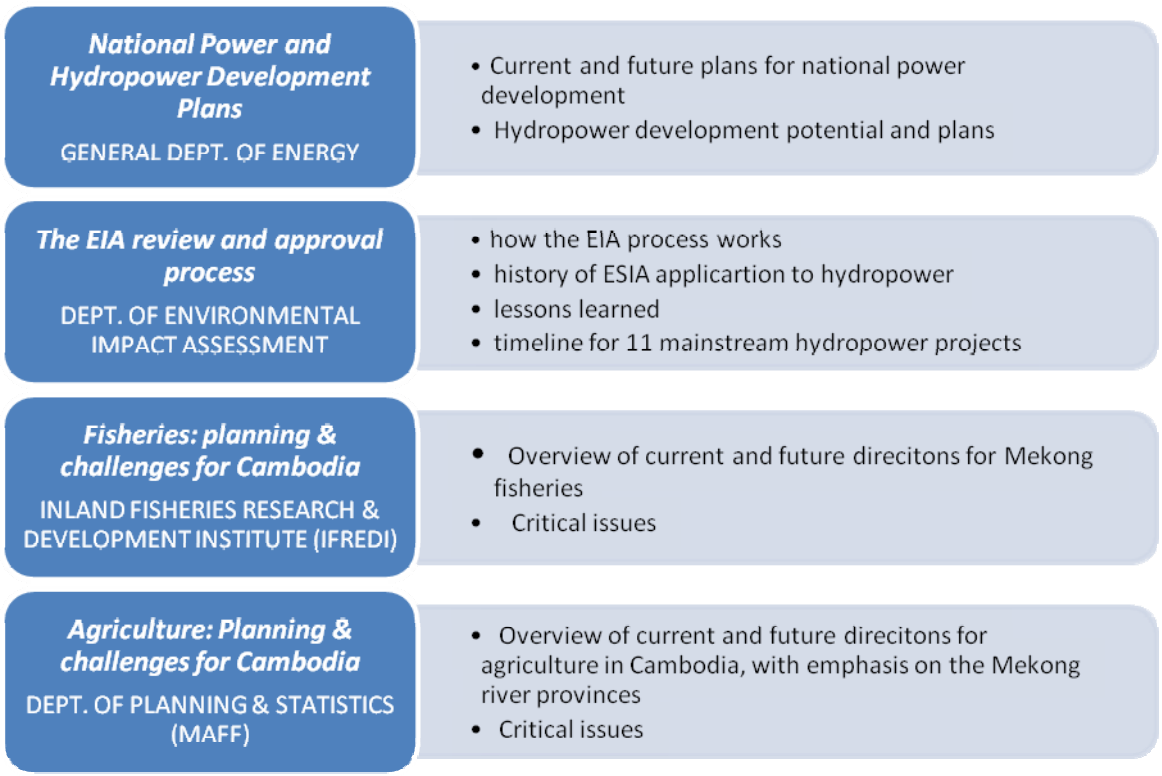
The SEA team will need our full and active support. We are all part of the process from the very beginning – so i call on you all to provide the information and expert advice and opinion that the SEA team requires to do its job. This is the very first stage of the SEA – where we help determine the scope of the assessment. By the end of this workshop we should have painted a clear picture of the key issues which the SEA must address. I know you will work hard to make this critical stage of the SEA a success.

With this, allow me to declare our National Scoping Workshop open.

2.2 PRESENTATIONS

Following a number of presentations by the SEA team on the SEA objectives, the mainstream hydropower projects under assessment and the SEA approach, four presentations were made by government agency and developer representatives during the workshop. The four presentations and their respective focus are outlined in Figure 1. Presentations by government and the SEA Team are available in full from the MRC website.[2]

Figure 1 Workshop Presentations



2.3 PLENARY DISCUSSIONS

The two plenary discussions focussed on identifying the strategic issues, by orienting discussion around two broad subjects: current issues facing development in the Mekong River provinces of Cambodia, and Cambodia's national position as a partner for power trade and regional cooperation.

The discussion has been summarized in Table 3, with comments and questions divided by theme.

Table 3: Summary of plenary discussions

No.	National Scoping Workshop, Cambodia (July 16-17, 2009) Key Themes

[2] http://www.mrcmekong.org/ish/SEA.htm

	1. Metrology, Climate Change, Hydrology, Water Quality & Sediment
1	Changes in water flows creating adverse impacts
2	Uncertainty whether water levels increasing or decreasing, and timing of changes
3	Consequences of flooding on tourism
4	Changes in water quality, particularly downstream of a dam
5	Some dams may increase flooding, others may reduce it. Flooding along the Mekong is a natural phenomenon - unknown to what extent dams will exacerbate or relieve this
6	Reservoirs will flood forest. Forest decayed will generate more CH4
7	To what extent will Chinese dams with large reservoirs affect Lao dam construction which are run-of-river with quite long but relatively small reservoirs (mostly contained within the river channel). Reservoirs become very long downstream as topography flattens out (e.g. Cambodia Sambor and Stung Treng and associated areas down to Tonle Sap Lake).
	2. Aquatic Biodiversity & Fisheries
1	Decrease/loss of indigenous fish species
2	Livelihood dependence on fisheries
3	Loss of aquatic ecosystem
4	Loss of spawning areas & deep pools
5	90% of fish species are migratory species
6	Current EIA on Lower Sesan 2 shows 66% of total fish species affected by dam construction. This will be even worse for the mainstream such as in Sambor and Stung Treng
7	Impact on wetland and fish stock in Tonle Sap Lake
8	Dolphin and man depend on fish. Tourism is dependent on dolphin conservation
9	Only small fish species could migrate up the fish pass
10	Government maintain the fish catch around 400,000/year and will increased to 600,000 to 700,000 tonnes by 2020 due to population increase
	3. Terrestrial Ecology, Forestry and land use/change
1	Watershed protection necessary to improve dam performance & increase power generation. Most provinces have commercial planting in mind when talking of reforestation, not indigenous species. This is not genuine reforestation and cannot protect the environment.
2	Poor understanding of environmental issues & concerns. With brown issues (waste disposal) dominating understanding
3	Associated erosion problems created by other activities, e.g. removing soil from wetlands for biofertiliser, removing gravel and sand from river banks
4	increased mono-crop agriculture, especially with regard to land concession planning
5	Flooding of economic land concessions
6	Establishment and maintenance of riprarian forest buffer zones 500 to 1000 m from river bank and stream during and after land concession agreements
	4. Agriculture, Irrigation & Water Supply
1	Irrigation Service Fee (ISF) collection, operation and maintenance
2	Rain fed agriculture is still dominant. The country has produced rice surplus in recent years and there is an increasing interest in increasing number of harvests
3	Government plan to increased 4%/year for irrigated areas
4	Clean water supply remains low in the two Mekong provinces (Kraties and Stung Treng)
	5. Transport & Navigation
1	Decreased revenues from transport and related income-generation activities
2	Loss of transport-related livelihoods for those with small boats unable to cope with changed water levels and water flows
3	Water flow/level changes impeding navigation
4	About 30 ton of vessels could have access in Kraties and Stung Treng due to rapids in dry season
	6. Power Development

1	Generating national income through hydropower revenues
2	Energy vulnerability high and rising
3	Power trade for export to neighbouring countries
4	Indirectly contributing to poverty alleviation in rural areas, but to export to neighboring countries such in Vietnam and Thailand
5	Govt. supports & encourages foreign investors for investment opportunities (e.g. mining)
6	Development of hydropower sector ability to cooperate with other sectors
7	Overall sustainability of power development, how to manage it, where the money comes from to finance social and environmental performance indicators
8	Electricity sector responsibility to mitigate adverse impacts of power development
9	Tariffs to bear costs of sustainable hydropower, particularly electricity tariff.
10	Major LMB regional and national differences in per capita electricity use, and in fuelwood share as contribution to total energy sources (e.g. 88% fuelwood Cambodia, 16% Thailand)
11	Other power sources (e.g. renewables) not considered sufficiently
12	Different power sector policies in different countries presents challenges to synchronised processes and agreements
13	RGC targets on electrification do not identify financial sources to achieve targets (e.g. 70%hhs electrified by 2015). Will electricity reach the people, or will people be transferred to locations where electricity is available?
	7. Tourism
1	Destruction of habitat (e.g. rapids, islands) leading to tourism decrease
2	Increased flooding impacts on tourism
3	Eco-tourism and cultural tourism are high priority in northeast provinces such as Kratie, Stung Treng, Rattanakiri and Mondulkiri in order to reduce pressure on Siem Reap and surrounded areas.
	8. Poverty, ethnic groups & livelihoods
1	Existing biodiversity the base for majority of people's livelihoods
2	Loss of livelihoods depending on agriculture, fisheries, water transport, sand and gravel extraction, with no direct replacement options. Existing biodiversity the base for majority of people's livelihoods
3	Diverse ethnic people are living within Kratie and Stung Treng provinces. They are vulnerable to natural resource changes and resettlements.
4	Mekong has long-associated livelihoods dependence, cultural associations (e.g. river "nagas"), transportation and resources for economic development, social and political boundaries
	9. Health & Nutrition
1	National program on nutrition focusing on children and mother
	10. Resettlement, migration, population growth, human trafficking & urban development.
1	Lack of replacement land for resettlement and livelihood
2	Riverine/riparian areas already highly populated and among the best agricultural land. Severe impacts on livelihoods.
3	Provincial difficulties deciding what resettlement action to take following impact notification
4	Compensation often inadequate and with poor resettlement alternate locations
5	Lost cultural ties and social cohesion among the local community resettled.
	Other Issues Raised (mainly Governance)
1	Mekong mainstream dams also conflict national interests because of transboundary impacts
2	Cambodia agencies still lack of capacity to understand EIA, CIA, SIA and SEA. Who is going to responsible for SEA ownership?
3	Government agenda needs to be consistently reflected in government budgets and economic equity
4	Objectives of different agencies/sectors within the same country are at odds with each other (e.g. hydropower/tourism/forestry)
5	Provincial targets and outcomes are unrealistic, growth slow compared with potential.
6	Provincial objectives to change rural economic structure, moving away from high agricultural dependence

7	Increasing provincial decision-making independence from central govt. The recent introduction of D&D (Deconcentration and Decentralisation process). Individual developers negotiate separately with provinces. Lack of transparency and clarity over process
8	Existing transboundary accusations, e.g. Cambodia accusing Laos of waste disposal and plastic bags problems, Laos counters with accusations of Cambodian boats illegally crossing boundaries and causing the problem
9	Financial consequences/burden of transboundary impact mitigation - joint protection sought (e.g. watersheds)
10	Difficulty of clarifying/accepting what is a national issue and what is a transboundary issue, and related financial consequences
11	General principle of developer pays costs for adverse impact mitigation, environmental protection, dam maintenance, community livelihood restoration. Single/unified chart of payments needed with % from royalties. However, developer refusing to pay or to allocate royalties towards such higher costs.
12	Lack of experiences in hydropower construction and development, lack of human & budgetary capacity among government institutions in hydropower planning, tariff discussions, social & environmental mitigation measures, monitoring
13	Production costs the same, but capacity costs very different and much higher than they should be because human capacity is very limited.
14	Tendency to approve projects without anticipating or allocating finances to address problems
15	Timing and extent of public disclosure of project-specific EIAs, who can have access and who will publicise to be included in new decree
16	Time consuming process to obtain required feedback, comments, document approvals & safeguard frameworks. Delays in review & approval process, limited English language skills to review documents from many different nationality developers
17	Legal and institutional framework form social and environmental safeguards and monitoring poorly understood (particularly at provincial and district levels) and legislation inadequately linked to process
19	Clarify of review process needed, including of who is responsible for what, to reduce unnecessary delays and to clarify what happens if required steps are not followed
20	SEA is good for Cambodia, but might put more pressure on developers who is the major investment in the country
21	Difficulty of obtaining accurate overall information for ministries to report to central Gov.
22	How to support prior notification process of MRC to facilitate different nations decision-making
23	Weight given to different sectoral issues - does tourism "count" as much as fisheries? Each sector thinks their concerns are the most important. What is the desirable balance?

2.4 WORKING GROUP SESSIONS

The working group sessions aimed to define and build consensus on the:

(i) The strategic themes and their ranking,
(ii) Key strategic issues under each theme
(iii) government objectives and targets for each theme and
(iv) sustainability principles for the themes (Table 4).

The plenary was split into two working groups, with facilitation from the SEA Team.

STEPS IN THE WORKING SESSION

The methodology guidelines for the working session were as follows:

1. Define 5-6 key themes
2. Rank the themes according to their importance

Then for each theme, starting with the most important:

3. Define the key strategic issues
4. Define Cambodia's development objectives
5. Define the targets and principles to achieving sustainability
6. Summarize the group's findings in a short (5-10min) presentation
7. Deliver presentation back to the plenary
8. Synthesize group outcomes into one set of templates for the workshop

Once consensus was reached within each group, outputs from group discussion were recorded using a simple template (Annex C.

COMBINED RESULTS OF THE WORKING GROUP SESSION

Based on plenary and group discussions, five priority strategic themes were recommended by the workshop to direct the baseline assessment, ranked as follows:

1. Fisheries
2. Energy (also ranked 1)
3. Hydrology
4. Agriculture and water supply
5. Navigation & transportation

For each theme; key strategic issues, government development objectives and sustainability principles were identified. The following are summaries based on the combined results of the two working groups:

Table 4: Summary scoping conclusions of the workshop

THEME: FISHERY	THEME RANKING: 1
KEY ISSUES	
▪ Migration routes ▪ Overfishing ▪ Habitat destruction ▪ Use illegal and destruction fishing gears ▪ Wetland conversion ▪ Exotic species • Loss and degradation of aquatic diversity and ecosystems and fishes and subsequent negative effect on tourism and eco-tourism (eg. dolphins), • Barrier or loss of fish migration pathways, • Habitat modification and loss for fisheries, • Fluctuations in nutrient supply with implications for aquatic resources and fisheries, • Concern of dam impact to downstream water quality and hydrology, particularly Tonle Sap	

Lake.

DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ Sustainable development of fishery resource ▪ Food security ▪ Species and diversity conservation ▪ Community development ▪ Sustain and maintain productivity and yields ▪ Increase rural employment opportunities ▪ Capacity development in aquatic resources ▪ Conserve and sustain utilization of aquatic resources ▪ Rural infrastructure development, ▪ Reduce flood risk disaster (flood controlling)	▪ Fishery law 2005 ▪ national fishery policy ▪ strategic planning framework for fishery 2009-2018 ▪ fishery development plan (draft) ▪ fishery annual priority action plan (draft) ▪ Sub-decree on Community Fishery ▪ Sustain maximum fish harvesting yield by promoting and balance aquaculture program - plan ▪ National Fisheries Policy ▪ Draft Strategic Planning Framework for Fisheries 2009-2018 ▪ Draft Fisheries Development Plans 2009-2011 ▪ Fisheries Annual Priority Action Plan (2008, 2009, 2010 ...) ▪ Agricultural development planning of which fishery is one of the sector
SUSTAINABILITY PRINCIPLES	
▪ Sustain and maintain migration route and habitats for spawning and stocking ground ▪ Effective law enforcement ▪ Public awareness and participatory ▪ Apply IWRM principles ▪ Applying principles of community based management in fishery, ▪ Minimise impact from hydropower development on fisheries and eco-tourism, ▪ Minimise impact from hydropower on aquatic resources ▪ Introduce eco-agriculture approach and principle focusing on fisheries	

THEME: ENERGY	THEME RANKING: 1
KEY ISSUES	
▪ Supply demand discrepancies ▪ High price per unit ▪ Dependence on external supply sources ▪ Lack of experiences and capacity in hydropower sector ▪ Use old equipment and existing old infrastructure ▪ Lack of demand management ▪ High use of fuel woods for energy ▪ Lack of power and energy supply ▪ High electricity tariff per unit ▪ National energy security concerns	

- High dependency of imported fuel for power and electricity
- Contribution to water pollution
- Affect to tourism/eco-tourism

DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ Promote renewable energy and power sources & sustainable hydropower development ▪ Alternative power supply (for transition) ▪ Transmission development line ▪ Speed up ongoing planned projects in place ▪ Support Cambodia Millennium Development Goal and RGC Rectangular strategic development plan ▪ Fulfil energy demand ▪ Reduce dependency on woods for energy and fuel, ▪ Increase rural living standard, ▪ Support to economic development ▪ Mitigate negative impact of hydropower development ▪ Poverty reduction through maximizing benefit of energy and power development	• Cambodia Power Sector Strategic 1999-2016 • Strategic Power Development Plan 2010-2020 • National Forest Programme (under development) • Electricity Law 2001 • Guideline for: (i) Power Purchase Agreement, (ii) Implementation, (iii) Lease agreement, (iv) Trade agreement.

SUSTAINABILITY PRINCIPLES

- Apply trade off principles
- Promote long-life operation principles (ie. Still be function after handover to government)
- Apply mutual and equitable benefit sharing among upstream and downstream and stakeholders in affected areas
- Minimize negative impact to other sectors (fisheries, agriculture and tourism)
- Apply integrated basin flow management
- Promote and apply public participation and involvement in decision-making process
- Implement MRC's agreement, guideline and procedures
- Implementation of adaptive climate change approach and principles
- energy and power self-sufficiency principles

THEME: HYDROLOGY	THEME RANKING: 2

KEY ISSUES

- Global warming (emission of CO2)
- Dry season hydrology and minimum flow
- flooding and maximum flows

DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ *Not identified during the workshop due to time constraints*	▪ 1995 MRC agreement • Law on Water Resource Management in 2007 • Sub-decree on Formation of Farmer Water User Community • Water Resource Road Map • National Strategic Water Resource Development Planning

	2006-2010 • National Strategy for Agriculture and Water Resource Development 2008-2013 (joint MOWRAM and MAFF). ▪ Master Plan on Water Resource Development (supported by ADB) • Master plan for Vaico irrigation scheme proposal • Proposal on Stung Sen Irrigation Scheme and hydropower development plan ▪ Climate change in water (MOWRAM) 2020
SUSTAINABILITY PRINCIPLES	
• Clear forest in reservoirs to reduce CO2 emission into the atmosphere • Minimise disruption to sedimentation dynamics • Determine and maintain environmental flows	

THEME: AGRICULTURE & WATER SUPPLY	THEME RANKING: 3
KEY ISSUES	
▪ Sustained water supply ▪ Depends on rain fed for agriculture ▪ Change behaviour ▪ Low productivity yield ▪ Resources (credit, money, capital investment)	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ Main back born economic development ▪ Food security insurance ▪ Extend irrigation system across country ▪ Extension + intensive agriculture practices ▪ Diversification agriculture practices ▪ Multi-inter-crops practices	• Law on water resources management • Law on forest • Agriculture-water strategy • Rectangular Strategic Development Phase II • Strategy for Agriculture, Forestry and Fishery Development • Strategic Agriculture and Water Resource Plan • Agriculture sectoral development planning
SUSTAINABILITY PRINCIPLES	
• Reduce poverty by providing good access to transportation and markets (reduce timing and expense) • Maintain water transport for poor communities	

THEME: NAVIGATION & TRANSPORTATION	THEME RANKING: 8
KEY ISSUES	
• Community road networks • Commercial road pathways • River transport and shipping routes	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ To increase potential of navigation system ▪ Cheaper transportation	▪ Policies to construct additional port and navigation poles along the Mekong River ▪ Draft Law on Inland and Water Transportation

▪ Reduce traffic problems ▪ Facilitate heavy transportation on waterway	▪ Master Plan for Navigation Development ▪ Many laws and policies are still in drafting stages
SUSTAINABILITY PRINCIPLES	
• Reduce poverty to good access of transportation (reduce timing and expense) • Water storage in reservoir might effect on waterway transportation on tributaries/streams	

3. CLOSING REMARKS – SECRETARY GENERAL CNMC

H.E. Kol Vattana, Secretary General of the Cambodian National Mekong Committee and chair of the workshop, commended participants on a very productive workshop and congratulated them on the high level of cooperation and discussion.

H.E Vottana acknowledged the sensitivity of issues being discussed and the importance to Cambodia's future, and was pleased that participants all spoke plainly and honestly, without discussion deteriorating into conflict. Mainstream hydropower will have transboundary and national implications, but it will also influence the assistance Cambodia receives from donors and the private sector. H.E Vattana encouraged line agencies to actively participant throughout the SEA process in providing baseline information and then in discussions on risks and opportunities and in defining mitigation and avoidance measures.

4. NEXT STEPS

A similar scoping mission was undertaken in Lao PDR, Vietnam and Thailand during August-October 2009. The results of these missions form the backbone of the MRC SEA Inception Report of which this national scoping consultations report is part.

The Inception report determines the SEA scope and methodology based on the outcomes of the scoping missions. Timing for the subsequent steps in the SEA is outlined in Table 5.

The scoping process leads into and provides the framework for the baseline assessment phase which runs from November 2009 through to February 2010. The baseline assessment gathers information and analysis on the past trends and current status in the strategic themes and their issues. It also identifies the national and local development objectives and targets for those themes as defined in government policy or plans. The impacts assessment phase will overlay futures with and without dams to assess the opportunities and risks of mainstream hydropower on the themes issues of key concern for each LMB country. The final step is to explore avoidance, enhancement and mitigation measures to increase opportunities and minimise the risks for each nation.

The scoping mission was of particular importance, because subsequent reporting will use the consolidated list of key strategic themes to define and present the assessment. Future consultation events are presented in Table 5 below.

Table 5 Schedule of the major consultation events

DATE		MEETING	LOCATION	SEA STAGE
		NATIONAL CONSULTATIONS		
	Viet Nam	***Scoping Phase JUNE – SEPT***		**SCOPING** What are the key development issues for the Mekong River?
JUNE	29-30	VN Government line agency meetings	Ha Noi	
JULY	02	VN National Workshop		
	03	VN Civil Society meeting		
	Lao PDR			
JULY	06-07	LAO Government line agency meetings	Vientiane	
	08-09	LAO National Workshop		
	09	LAO Civil Society meeting		
	10-11	LAO Field Mission: Xayaburi, Luang Prabang	Luang Prabang	
	Cambodia			
JULY	14-15	KH Government line agency meetings	Phnom Penh	
	16-17	KH National Workshop		
	17	KH Civil Society meeting		
AUG	03	VN Civil Society meeting	Ha Noi	
	Thailand			
AUG	14	THAI National Workshop	Bangkok	
SEP/OCT	29-01	THAI Government line agency meetings	Bangkok	
NOV	03	THAI Civil Society meeting	Bangkok	
		REGIONAL CONSULTATIONS		
	Cambodia	***Baseline Assessment Phase OCT - DEC***		**BASELINE ASSESSMENT** What are the past & current trends for these issues?
JAN	21,25	Follow Up: KH Government line agency meetings	Phnom Penh	
	22-23	Cambodian Field Mission: Stung Treng, Sambor	Sambor	
	27-28	Regional Baseline Assessment Workshop	Phnom Penh	
	Thailand	***Impacts Assessment Phase JAN - APR***		**IMPACTS ASSESSMENT** What are the future trends for these issues, with & without mainstream hydropower?
APR	19-20	Follow up: THAI Govt. Line agency meetings		
	22-23	Regional Impacts Assessment Workshop	Bangkok	
	24-25	Thai Field Mission: Ban Koum	Ban Koum	
	Lao PDR			
APR	27-28	Follow up: LAO Govt line agency meetings	Vientiane	
	30	Regional Multistakeholder Workshop	TBD	
MAY	01-02	Lao Field Mission: TBD	TBD	
	Viet Nam	***Avoidance, Enhancement & Mitigation Assessment Phase MAR - JUN***		**MITIGATION** What measures will be useful in enhancing the benefits and avoiding or mitigating the negative effects of mainstream hydropower?
JUN	18, 21-22	Follow up: Vietnam Government line agency meetings	Hanoi/Ho Chi Minh	
	24-25	Regional Mitigation Workshop	Can Tho	

ANNEX A: LINE AGENCY MEETING SUMMARIES

AIM: to explore the key strategic issues for the Mekong River provinces

i. *What are the strategic concerns for the development of the Mekong provinces?*
ii. *What are the strategic concerns for the sustainable use and conservation of Mekong River resources?*
iii. *What methods should the SEA adopt to effectively involve stakeholders and to conduct the assessment?*

General topics covered:

- Introduction to the team and recent activities
- SEA mandate & rationale
- The difference between SEA and EIA
- Cambodian interests in the mainstream projects and implications of:
  i. The two projects built on the mainstream in Sambor of Kratie and in Thalaboriwat district in Stung Treng province,
  ii. upstream development on the mainstream

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: General Department of Energy, HydroElectricity Department	*MINISTRY*	MIME
Ministry of Industry Mines and Energy (MIME), # 47, Norodom Blvd, Phnom Penh Phnom Penh, Cambodia	*DATE*	13/07/2009
ITEM	DISCUSSION SUMMARY	
1	**CURRENT & FUTURE PLANS**	

Current power sources status in south-western coastal areas:

- 193 MW Kamchay Hydro-project BOT by Sinohydro from China (2011)
- 200 MW Coal Power Plant, BOO project by Power Synergy Corporation in Sihanouk Ville (SHV) by 2011).
- 120 MW Atay Hydropower Plant, BOT by CYC from China (2012)
- 338 MW Lower Russei Chhrum Hydro Power Plant, BOT by Michelle Corporation from China (2013)
- 108 MW Stung Chay Areng Hydro power plant (2017) by China Southern Grid (CSG) in Koh Kong
- 246 MW Tatay Hydro power plant (2015) in Pursat province.

Project proposals on Mekong Tributaries

- 400 MW Lower Sesan II & Lower Srepok II Hydro power plant (2016) by EVN
- Prek Te: 2 and 3
- Prek Chhlong

Current dam proposals on Mekong mainstream

- Stung Treng: MOU between the Russian company and MINE dated 05 February 2008, expired on 05 February 2009. MIME is currently issuing letter to follow up since there was no progress report from the company. No request by the Russians to renew MoU at this stage.
- The proposed dam has an estimated installed capacity of 980MW/4,870 GWhr based on JICA desktop study
- Sambor dam in Kratie: JICA feasibility study estimated installed capacity at 3,300 MW while the Chinese developer estimates 2,600 MW. Sambor has submitted a feasibility study

Energy trends

- By 2030, Cambodia will need an installed capacity of ~700 MW.

	• Committed projects with urban development expansion: (1) Camko city, diamond island and Phnom Penh city. The three modern cities will need more energy.
2	**KEY ISSUES**
	Identified Key Issues: A. Power Trade B. Domestic Energy demand C. Ecosystem dependence of rural communities
A	**Power Trade**
	• Hydropower has high export potential to neighboring countries and is a lucrative foreign exchange earnings option for Cambodia • Power Trade, primarily with Thailand and Vietnam • Power trade feasibility is reliant on market price for proposed hydropower • Power Trade to Vietnam: MoU signed with EVN for Sesan 1,2,5 • National agenda to make use of its own natural resources: hydropower would generate 10,000 MW and mini-hydropower would generate 3000 MW. Mini-hydropower power refers to installed capacity which is less than 10 MW • Total supply budget: more than 10,000 MW (50% in the Mekong River mainstream, 40% in the tributaries of Mekong River and 10% in the South-western coastal area outside the Mekong Basin).
B	**Domestic Energy Demand**
	• Currently, Cambodia energy demand is dependent on diesel with 90% imported fuel elevating electricity costs. • High electricity tariff (range of 30-90c/kWh and average 50c/kWh). • In 2007, Cambodia has total annual power generation capacity of 314 MW and 1347 GWhr • Annual energy consumption per capita is 103 kWh/ person. • Only 20% of the population have access to electricity. • By 2020, firm government commits to provide access for 70% of population. • Reduce the dependence of the imported fuel
C	**Ecosystem dependence of local communities**
	• Local livelihoods are directly dependent on water flow, sedimentation, fish migration and fish stock in Cambodia • Most villagers are fishery dependent livelihoods • Sambor project will resettle 90,000 people
3	**CHALLENGES**
	• Lack of power supply • High electricity tariff • Low dependability of power supply • About 90% of the total installed capacity of 314 MW in 2007 was supplied by diesel power generation using imported fuel. This makes the Cambodia the lowest level of electrification in SE Asia. • No experience in MIME to mobilize money, experts and technology of private sector • Promote energy security within the country and exporting to neighbouring countries (clean energy)
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• To cope with above mentioned challenges, the Cambodia power sector strategy 1999-2016 was formulated in 1999 for empowerment of institutional and organisational part of the power sector. • The current strategic Power Development Plan (PDP) 2010-2020 with financial and technical assistant from ADB and will be finalized by September 2009. • National Guidelines for: (i) Power Purchase Agreement, (ii) Guideline for Implementation, (iii)

	guideline for lease agreement, and guideline for trade agreement. • MIME Responsible for feasibility study of hydropower development and investment while MOE responsible for EIA. • Sekong River is covered by JICA Master Plan • Kapko (a Korean company) is currently studying future energy demand (to be completed this year) • Sambor has submitted a feasibility study • Govt has 17 committed power development projects (mostly coal and hydro) with a total capacity of 5,392MW – to be brought on line by 2020 • There are guidelines for Hydropower development which MIME gives to developers
5	**POINTS TO FOLLOW UP**
	• Need to request the Power Development Sector Strategic Plan in 1999 • Need to request the current strategic of Power Development Plan 2010-2020 expected to be finalized by September. • Master plan of hydropower development plan by JICA, 2009. • Hydropower development guidelines • Sambor feasibility study • CNMC to write letter to request these mentioned documents

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Department of Hydrology and River Work, Ministry of Water Resource and Meteorology (MOWRAM)	*MINISTRY*	MOWRAM
# 576, National Road No. 2, Chak Ang-re Krom, Phnom Penh, Cambodia	*DATE*	13/07/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	• MOWRAM established in 1999 (younger than MIME). • *Single purpose dams* (such as generating power) is the responsibility of the MIME, *navigation issues* will be the responsibility of Ministry of Public Works and Transportation (MPWT). *Multipurpose dams*, flood controlling will be the responsible of MOWRAM. • MOWRAM is mainly responsible for irrigation and reservoir construction. Currently, 40% of cultivated area is under irrigation and ministry plans to increase 4% per year. • The former Tonle Sap authority has been dissolved and transformed to Ministry of Water Resources and Meteorology (MOWRAM) managed by minister. • Sambor dam in Kratie will maintain 2000 m^3/s and expect to flood 6200 km^2. • The ministry also develop various large-scale projects, in particular irrigation scheme in Vaico river in Svay Rieng and Prey Veng Province where majority of water will be converted from the Mekong River (large-scale project around 100,000 ha) project proposal development • Stung Sen Irrigation scheme (large-scale project with 130,000 ha), in planning process. • Identified a potential for Sambor to be multi-use (hydropower generation, flood control and navigation) • Calmatage/Prek irrigation system are built and developed along the river???
2	**KEY ISSUES**
	Identified Key Issues: A. River Flows & sedimentation B. Ground Water C. Tonle Sap Lake connectivity D. Domestic Energy demand
A	**River Flows & sedimentation**
	• MOWRAM strongly concerned about river flows (minimum flow/environmental flows) and maintenance of flows,

	• Identified a difference between direct and indirect impacts of mainstream Mekong hydrology. This is important in terms of MOWRAMs primary concern with river flows and sedimentation • water quality, • Irrigation along the river bank uses calmatage gravity network and is sensitive to changes in the hydraulic gradient. • Sedimentation important for many water users. • Flood waters are an important feature of the local hydrology, they drive channel irrigation (calmatage) and transport water and sediment to the field.
B	**Groundwater**
	• Ground water in Sambor during both wet and dry season are critical for human livelihoods, • Not identified by the feasibility study. • arsenic is an issue • in the wet season groundwater table is ~1m below surface, down to 10-20m in the dry season
C	**Tonle Sap Lake connectivity**
	• Hydrological connectivity of Tonle Sap is a delicate balance driven by complex variation in seasonal hydraulic gradient • Changes to water quality and quantity will affect Great Lake Tonle Sap • Sediment balance and drainage times
D	**Domestic Energy Demand**
	• Acknowledged that power demand is increasing • Hydropower represents a valuable potential
3	**CHALLENGES**
	• Incorporating Climate change in water resource planning and management framework • Human resources at the ministry level
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• Water law approved in 2007 (with accompany around five sub-decrees) • Sub-decree on formation of Farmer Water User Community • Water Resource road map • National strategic Water Resource Development Planning 2006-2010 • National Strategy for Agriculture and Water Resource Development 2008-2013 (joint MOWRAM and MAFF). • Master Plan on water Resource Development (supported by ADB) • Draft Strategic Plan 2010 – 2019 • National Water Resource Policy
5	**POINTS TO FOLLOW UP**
	• Master plan for Vaico irrigation scheme proposal • Proposal on Stung Sen Irrigation Scheme and hydropower development plan • Climate change in water (MOWRAM) 2020

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Fishery administration, (FiA), Ministry of Agriculture, Forestry and Fisheries (MAFF)	*MINISTRY*	MAFF
# 186, Norodom Blv, Phnom Penh, Cambodia	*DATE*	14/07/2009
ITEM	DISCUSSION SUMMARY	
1	**CURRENT & FUTURE PLANS**	

	• The current government objective on fishery resource is to maintain maximum catch of 400,000 tons of fish for the next 10 to 20 years • 50% of fish larvae drifted from Stung Treng and Kratie province (Mekong river) while 50% spawn in Tonle Sap Lake • Next 10 to 20 years: biomass of fish will not decrease much, but decreased quality, from big to small size of fish catch. Small size fish composed of 80% catch. • 5 and 19 year planning cycle • Stun Treng is undergoing rapid repopulation
2	**KEY ISSUES**
	Identified Key Issues: A. Aquatic habitats B. Migration pathways C. Tonle Sap Lake connectivity D. Food security & nutrition
A	**Aquatic habitats**
	• About 97 deep pools from Kratie up to Stung Treng are considered as protected area for fish refuges where commercial fish exploitation are not allowed • Stung Tren, Khone Falls, Ratanakiri are spawning grounds for big fish species • Spawning (May – July) season is being effected by climate change • Climate change affect fish spawning behaviour (refers to change of rainfall pattern affecting the spawning behaviour) • Seasonal variability in flow • Khone Falls represent the ecological threshold between two distinct aquatic habitats (with some migratory exceptions)
	•
B	**Migration pathways**
	• 90% of fish species are migratory both lateral and longitudinal migration • 97% of fish are less than 1 year old => 3-5% survive fishing activities • Fish operate on both a daily and seasonal cycle • Main migratory pathways:  • Difference between long and short migration • ~10 species of small fish migrate Tonle Sap to Sambor, make up 70% of total catch
C	**Tonle Sap connectivity**
	• 60% of total catch come from Tonle Sap Lake and fish resource are interdependent with Mekong River upstream in Kratie and Stung Treng. • Not just flooded forest but also flooded grassland and flood plains • Soil and vegetation composition is important for fish livelihoods • Sand is deposited at Sambor, sediment (more productive and nutrient rich) is deposited at Tonle Sap.
D	**Food security & nutrition**
	• Fish is an important staple of diet and nutrition and closely linked to livelihoods • Starting to support small-scale fisheries • 92% of protein come from fish in the Kratie and Stung Treng • There are major risks to fisheries coming from communities and illegal fishing techniques: i. Electro-fishing ii. Mosquito nets iii. Explosive fishing •
3	**CHALLENGES**
	• 1980s big fish were more plentiful, size and composition reduced with population increase and increases in illegal fishing.

	• Severe reduction in big fish, however biomass is increasing as there are fewer predatory species. => the challenge is that there will be a crash in biomass in the next 10 years – a continued diversity in fisheries is the best safeguard to mitigate the impacts of the biomass crash and help the government to maintain the catch of 400,000 tonnes/year remain big challenge • By 2010-2015 will need 100,000-200,000 tonnes of fish for consumption to support fisheries potential sources include: aquaculture, coastal fisheries? • Fish migration route and impact on flooded forest both in the Mekong river • Mainstream dam pose serious impact on fish stock and livelihood, but dams on tributaries pose a less severe risk even thought there are impact on fish stock and migration • Dolphin from Kratie and Stung Treng will be disturbed or disappeared as they need clear and clean water quality to live. • Proposed dams both on tributaries and on Mekong mainstream will either stop all fish migration and stock or serve as traffic light for fish migration. • Learn from international experience, especially Canada and Brazil
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• Fisheries Law (17 chapters, 109 articles): Closed (wet season) and open season (dry season), mesh size control > 1.5 cm; gear control (length, illegal); species control (giant fish, wild crocodile) • Rules and regulations • National Fisheries Policy • Fishing for the Future: A Strategic Planning Framework for Fisheries: 2009-2018: Draft • Fisheries Development Plans (2009-2011): Draft • Fisheries Annual Priority Action Plan (2008, 2009, 2010 ...)_ Fisheries Program = 10 sub-programs • Sub-degree on fishery community development • Agricultural development planning of which fishery is one of the sector
5	**POINTS TO FOLLOW UP**
	• Annual report of Fishery Administration (FiA) • GIS maps showing the current deep pools along Mekong River from Kratie to Stung Treng province • Fishing for the Future: A Strategic Planning Framework for Fisheries: 2009-2018: Draft • Draft sub-degree on deep pools conservations • Draft sub-decree on endangered fish species

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Department of Environmental Impact Assessment (EIA), Ministry of Environment (MOE)	*MINISTRY*	MOE
# 48, Samdech Preah Sihanouk lvd., Tonle Bassac, Phnom Penh	*DATE*	14/07/2009
ITEM	DISCUSSION SUMMARY	
1	**CURRENT & FUTURE PLANS**	
	• Current status of EIA implementation is under the Council for the Development of Cambodia (CDC): (Reference: Sub-decree No 147 ANK/BK on the Organization and Functioning of the Council for the Development of Cambodia, 2005) • The CDC is the sole and One-Stop Service organization responsible for the rehabilitation, development and the oversight of investment activities. The CDC is the Royal Government's "Etat –Major" responsible for the evaluation and the decision making on all rehabilitation, development and investment project activities.	

	• To guide the preparation of development conception and strategies for Cambodia in cooperation with the relevant institutions. • The CDC comprises the following two operational Boards: The Cambodian Rehabilitation and Development Board, and the Cambodian Investment Board. • Environmental Impact Assessment report approval is done through the inter-ministerial level meeting chaired by the senior Minster of Environment with inter-ministries as the members. While Feasibility study on hydropower is the responsibility of MIME. • An EIA shall be done on every project and activity, private or public, and shall be reviewed by the Ministry of Environment before being submitted to the Royal Government for decision, • Four EIAs on hydropower projects have been approved to date (7 have been reviewed): i. Kirioum I (retro-fitting of existing dam built in the 1960s) ii. Kom Chay (under construction) iii. Trat Chay iv. Kirioum III • Sesan II has not been approved • The nature and size of the proposed projects both private and public, shall be subject to environmental impact assessment, and • Foster public participation in the EIA process in recognition that their concerns should be considered in the project decision-making process.
2	**KEY ISSUES**
	Identified Key Issues: A. Public Consultation & decision making processes B. Community livelihoods C. Aquatic Habitats
A	**Public consultation & decision making processes**
	• Every EIA required public consultation from local community to provincial level and then national level. • EIA reports also sent to related civil society for comments, but sometimes don't get many inputs as was the case for lower Sesan 2 dam.
	• EIA approval process is strongly influenced by political rather than technical considerations
B	**Community livelihoods**
	• Resettlement and fish species migration are the key issues for EIA in Lower Sesan 2
	• Flooded logging concession areas and the promised price for electricity
	• Impact on local community incomes (Fishermen, non-forest product, resettlement etc.);
	• Impact on water use (Water quality in downstream), Stung Treng water supply
C	**Aquatic habitats**
	• 66% of 99 migratory fish species will be affected by dam construction on Lower Sesan 2. The company refused to construct fish path.
	• RAMSAR wetland site near Lao border
3	**CHALLENGES**
	• Human resource and capacity among the EIA department is still growing • The harmony among inter-ministerial decision making process on EIA approval • No formal EIA guideline for Hydropower development and construction
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• EIA Guideline introduced by ADB and WB • No specific guidelines for hydropower • Sub-decree No.57 ANK-BK dated 25 Sept. 1997 on the Organization and Functioning of the MoE. • PRAKAS No. 346 Pr.K.SSR.BSt. dated 30 Dec. 2005 on the Organization and Functioning of the EIA Dept. • Law on Environmental Protection and Natural Resource Management (24 Dec. 1996) • Sub-decree on Environmental Impact Assessment (EIA) Process(11 August 1999) • Sub-decree on Water Pollution Control (06 April 1999) • Sub-decree on Solid Waste Management (27 April 1999)

	• Sub-decree on Air and Noise Pollution Control(10 July 2000) •
5	**POINTS TO FOLLOW UP**
	• Draft guideline for EIA to construct hydropower development • Master plan for environmental sector

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Ministry of Planning	*MINISTRY*	MOP
Ministry of Planning, Phnom Penh, Cambodia	*DATE*	14/07/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	• The ministry has no role in hydropower development, but involved with various national strategic development plans • MOP involved developing the CMDG (Cambodia Millennium Development Goals)with 9 goals (8 goals universal) • Ministry involved with development of *Decentralisation and Deconcentration* strategy. Deconcentration focuses on the planning process at provincial and district level, while decentralisation focuses on commune level.
2	**KEY ISSUES**
	Identified Key Issues: A. Cooperation: Regional and national B. Domestic energy demand C. Planning and benefits time scales D. Community livelihoods
A	**Cooperation: regional and national**
	• The core ministries are MoE, MOWRAM, MIME & MAFF • Effective planning relies on good inter-ministry cooperation between line agencies • Documents often arrive late to MoP for comments and sometimes went to the wrong person as well. • Nations are stalling on regional cooperation because of concerns it may restrict national interests • Ministry level is not the major decision making. It is the country leader who decided to have road, electricity, water and human development.
B	**Domestic energy demand**
	• Road, water and electricity are key development areas for national government • The electricity demand needs to be met somehow. • Currently import electricity from Vietnam and Thailand and will buy more from Lao in the short term future => raises issues of energy independence
C	**Planning and benefits timescales**
	• Sustainability must include the environment and a long term perspective for benefits • Compensation is only a short term solution • Learn from the Mississippi experience • Hydropower energy is cheap, but not cheap in terms of natural resource degradation and environmental issues.
D	**Community livelihoods**
	• Water regime controls Tonle Sap Lake hydrology, fishery resources and local livelihood along the rivers and Tonle Sap • Dams on mainstream will impact on local livelihoods, resettlements, compensation, job, lives and cultural values

3	CHALLENGES
	• Four ministries: MAFF, MOE, MINES and MOWRAM are strongly involved with water resource management and they need to work together in hydropower development and management. • Other ministries (beside the four) do not understand fish migration and fish stock • Cambodia is the member of ASEAN, GMS and MRC which involves various regional commitments. • Agenda to use national resources for regional integration, but need to balance between economic option and environmental impact and depletion of natural resources
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• Government Rectangular Strategy (now in Phase 2) • Organic Law • National Socio-Economic Development Plan 2006-2010 • National Strategic Development Plan 2008-2013 • Sub-National Development Plan: province, district, and commune level • Decentralzation and Deconcentration Framework • MoP has not yet finalised its blueprint for Cambodia • MDGs : 8 goals + 1 Cambodian one (demining and transfer of mine land to agriculture)
5	**POINTS TO FOLLOW UP**
	• Check website of Ministry of Planning to seek for more policies and documents

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Planning Development Department, Environmental and Eco-tourism office, Ministry of Tourism (MOT)	*MINISTRY*	MOT
# 63, Toul Svay Prey II, Chamkarmorn, Phnom Penh, Cambodia. Website: www.mot.gov.kh	*DATE*	13/07/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	• Tourism is 20-30% of GDP (no 2 sector after garment and textiles) • Tourism sector received 2.1 million foreign visitors in 2007 with income of US$ 1,400 billion. In 2008, increased to 2.2 million with total revenues of US$ 1.5 billion. • Tourists currently spend ~100USD/day • 2008: 300,000 Koreans, 2009 lots of Vietnamese • This sector also attracts 7 million domestic tourists throughout the country. • The ministry developed four areas of tourism in the country: i. Phnom Penh and surrounding areas which include farming in Kampong Speu and Kandal, Mekong river downstream and Bassac river (tourism increased after GFC), ii. Siem Reap and surrounding area include Tonle Sap Lake, (number 1 tourist region, 1.1million per year, 75% of tourists want to visit. Decreased after GFC) iii. K4 coastal area such as Kep, Kampot, Koh Kong and Kampong some (domestic tourists preferred zone, but road no 4 now has a toll which saw a reduction in domestic tourists) and iv. Northeast region included Kratie, Stung Treng, Ratanakiri and Mondulkiri (receives 3-5% of tourists, increased to 7% after the completion of Road No12) • Among these, the country also designated four major regions of ecotourism development: o Northeast Region, o Tonle Sap Multiple Use Area, o Coastal zones or K 4: Kep, Kampot, Koh Kong and Kampong Som (Sihanouk Ville) and o Cardamom mountain region. • Tourism Plans for Northeast Cambodia (kwon as upper Mekong in Cambodia). This consists of Kratie, Mondulkiri, Rattanakiri and Stung Treng province which cover areas of 11,094 km^2,

	14,288km^2, 10,782 km^2, and 11,092 km^2 respectively. • This areas is under-developed although it does have tourism and hydropower potential. • Tourist visit Kratie for dolphin areas a cultural sites: i. 2005: 75,000 domestic visitors and increase to 82,000 in 2006. ii. International tourists 2005-2006: in 2005 7,612 tourists and 10,844 in 2006. • The provincial department of Tourism in Kratie proposed 16 developments activities to improve tourism in the province. • Tourists visiting Stung Treng: mostly visiting RAMSAR SITE where the one of the proposed dams are. Domestic tourists in 2005/2006 showed 29,968 tourists. International arrivals show 50,910 in 2005. Most tourists visit Ramsar Site which provides potential value for both conservation and ecotourism purposes. • From Kratie to Stung Treng include the current dolphin conversation and tourism authority areas.
2	**KEY ISSUES**
	Identified Key Issues: A. Loss of forests B. Sites of national significance/attraction C. Water Supply
A	**Loss of forests**
	• Logging proposals extend over much of Ratanakiri and Stung Treng as well as southern Kratie provinces. From tourism development point of view, these logging concession post a major threat to some of the region's key natural assets. • Lack of management capacity among the government official within the proposed provinces
B	**Sites of national significance/attraction**
	• Attractions of the Northeast Region: i. Dolphins ii. Walk trails iii. Natural features (water dalls_ iv. Minority hill tribes (20 ethnic groups) v. Ramsar Wetlands site at Stung Treng • Upstream and downstream dams will impact on dolphin and ecotourism in Kratie and Stung Treng province
C	**Water Supply**
	• Water supply and hygiene for those living along the river bank including restaurants and hotels. • Groundwaters of particular importance as 60% of restaurants use ground water. • Hydropower will affected water quality, skin cancer and impact on women and children. This is not properly reported
3	**CHALLENGES**
	• Hydropower development and eco-tourism should be compatible with each other • Lack of capacity among provincial department of tourism officials
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• The ministry project to received 3 million foreign tourists a year by 2013 • National Strategic Economic Development Plan 2006-2010 • Final draft Action Plan for Ministry of Tourism in implementation the national rectangular strategy 2016-2020 • National Strategic Tourism Development Plan 2009-2020 • Draft National Ecotourism Policy and Strategic Plan (2009) • Triangle Development master plan Cambodia, Lao and Vietnam (CLV) • Emerald Triangle Development Plan (Cambodia, Lao and Thailand). This will cover the current conflict area of Preah Vihear province. • MoE + MoT SEA on Tourism • Mekong Discovery project (UN, SNV, MoT) (Phase 1: Master Plan completed)

	• National eco-tourism policy to balance the conservation and development: (i) minimizing negative impacts, (ii) optimizing their conservation by appreciating the natural and socio-cultural carrying capacities, (iii) respecting environmental laws and regulations, (iv) providing socio-economic benefits to all stakeholders. • National law on tourism published on 10 June 2009 in Khmer version.
5	**POINTS TO FOLLOW UP**
	• Ministry has conducted Strategic Environmental Assessment into Tourism sector in Cambodia. The proposed document has been provided by the department. • The department of planning will welcome the SEA team for further documents if required.

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Department of Planning and Public Relation, Ministry of Rural Development	*MINISTRY*	MRD
Corner of Federal Russia Blvd and Street No. 169, Ministry of Rural Development, Phnom Penh, Cambodia	*DATE*	1507/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	• Rural road construction: one road from Stung Treng to Preah Rumkel commune along the Mekong River up to Lao boarder. It is part of the Triangle Development: Cambodia, Lao and Vietnam • In 2005, 41.6% or rural households have access to water sources • In 2007, 55.4% of rural household have access to water sources while sanitation cover 19.6% for rural areas. National averages: WS = 60.5%, Sanitation = 75.6% • Cambodia-Lao-Vietnam (CLV) development triangle
2	**KEY ISSUES**
	Identified Key Issues: A. Water supply and sanitation B. Rural infrastructure C. Agricultural land use D. Migration pathways & resettlement
A	**Water supply and sanitation**
	• Rural development very concerned with water supply and sanitation • Rural sector is below the national average for water supply and sanitation • The change of Mekong water includes the change to ground water where the majority of users depend on drilled wells as water sources • Ground water is sourced from deeper wells (20-100m below the surface) • Arsenic contamination is a concern for groundwater especially in the superficial lens (15-20m below surface). Including those along the Mekong River. Study is underway at Kratie • At Kratie wells 8-10m deep
B	**Rural infrastructure**
	• A lot of rural development relies on the private sector • Rural Road are vulnerable to flood and destruction • Difficult & costly to maintain
C	**Agricultural land use**
	• Impact on agricultural land
D	**Migration pathways & resettlement**
	• Ethnic minorities are concentrated in rural constituency
	• resettlement
3	**CHALLENGES**
	• Benefit from dams should outweigh losses
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**

	• CMDG: increase access to sanitation to 30% and WS to 50% by 2015 • National Policy on ethnic minority development 2009 • Sub-decree on communal land registration for ethnic minority 2009 • Rectangular strategy stage two o Poverty reduction target of 1%/year • D&D: decentralization and deconcentration • MIME responsible for rural electrification
5	**POINTS TO FOLLOW UP**
	• Check website of Ministry of Rural Development at www.mrd.govt.kh for rectangular strategy • Follow up the current plan of Triangle Development Cambodia, Lao and Vietnam where the MRD is part of the working group. • Should try to obtain master plan of the 5 year development planning from the ministry • Ministry of Planning produces a yearbook

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Department of Planning and Statistic, Ministry of Agriculture Forestry & Fisheries	*MINISTRY*	MAFF
Ministry of Planning, Phnom Penh, Cambodia	*DATE*	15/07/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**

	Seven major program of MAFF:
	1. Improving of Agricultural Productivity and Diversification
	2. Improving and Strengthening Agricultural management
	3. Research and Extension Services
	4. Market Access for Agricultural Products
	5. Institutional and Legislative Development
	6. Management of Fisheries Resources in sustainable manner
	7. Management of Forestry Resources in sustainable manner
	• MAFF work together with MOWRAM to develop strategy on agriculture and water resource 2008-2013.
	• Over last 10 years in Stung Treng/Kratie area:
	  o Rapid infrastructure development
	  o Rapid population growth (migration from Kampong Cham and Phnom Penh)
	  o 3-6minority groups with different languages
	  o Move from small-scale/livelihood fisheries to commercial fisheries
	  o Move from mobile fishers to settled migrants
	  o Increased agriculture
	  o Forest degradation caused by fuel wood demand
	• National rice production increasing and starting to produce surplus
	• Watershed management
	• Economic land concession granted to private company in Kratie and Stung Treng, but need to maintain 500 to 1000m of forest from river bank, streams and tributaries. Government support the rubber plantation as it is to replace the forest lost in the provinces.

2	**KEY ISSUES**

	Identified Key Issues: A. Agriculture & landuse B. Aquatic habitats C. Soil erosion
A	**Agriculture and land use**
	• protected flooded forest and ecology along the Mekong river • Increase agro-industry in the two province (about 12 companies in Stung Treng from Korea, China and Japan) • Current economic land concession for agro-industries will be flooded by the hydropower development • Economic Land Concessions (ELCs) primary mechanism to introduce agriculture and development into rural areas. • Max size 10,000ha per ELC • Driven by private sector project investment planning (no govt coordination) only evergreen/semi-evergreen forest is protected. • In Stung Treng 12 companies provide proposals, with companies drafting the Master Plans
B	**Aquatic habitats**
	• Deep pools and habitat for fish spawning and migration in Kratie and Stung Treng • Fishery conservation, • The ministry also concern about the change of water regime, flow, ecological impact, change species and create the new species in the areas. • Dams will impact on fishery; will need more assessment on EIA and SEIA.
C	**Soil erosion**
	• Soil erosion and fertility
3	**CHALLENGES**
	• Rice production, research and extension and transfer technologies to farmers are still limited • Lack of vaccines, no animal husbandry association, and no price policy; • Flooded forest continues to be cleared, and illegal fishing activities, • Forest remains clearing for land ownership, and forestry violations still exist. • Lack of budget for support services • Action plan use national budget to implement which is not enough
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• Strategy for agriculture, forestry and fishery development • Sustainability strategy for Fisheries & Forestry • Strategic Agriculture and Water Resource Plan • Agriculture sector development strategy • Sub-decree on endangered species & sub-decree on fish sanctuaries and deep-pools • Sub-decree 146 has a set of criteria on ELCs • Target to increase economic land concessions (ELCs) based on the ELC & Foreign investment policy • Implement buffer zone 0.5-1.0km from Preak or river • MAFF 5 year plan consistent with National Strategy
5	**POINTS TO FOLLOW UP**
	• List of economic land concessions in both in Kratie and Stung Treng province • Annual report of MAFF and sectoral action plan for Agricultural, Forestry and Fisheries • GIS maps for all economic land concession in the two provinces

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Department of waterways, Ministry of Public Work and Transportation (MPWT)	*MINISTRY*	MPWT
Ministry of Public Work and Transportation, Phnom Penh Phnom Penh, Cambodia	*DATE*	13/07/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	• The ministry deals mostly with national road construction, bridge construction, and national port construction both at sea port and fresh water in the Mekong River. Traffic law and inland and navigation transportation. • Ferry transportation has been reduced in most urban area, but still in remote areas such as in Kratie and Stung Treng. • The Cambodian inland waterway network-The Mekong river and its tributaries, the Tonle Sap system, an the Bassac River-has total navigation length of 1,750 km. The Mekong River account for about 30%, Tonle Sap account 15%, Bassac 5% and the remaining waterways-restrict to shallow drought vessels of 100-150 tonne capacity-50%. At low water level, the presence of rock between Kratie and Stung Treng restricts passage to small vessels of up to 20 tonnes. • Draft research work on waterways in Cambodia by department of waterway for 2009-2013 (in Khmer version). The draft identified all waterways in Cambodia including Mekong River.
2	**KEY ISSUES**
	• Road construction from Kratie to Stung Treng and Lao border are measured based on sea level which is higher than normal flood.
	• Will flood existing roads parallel along the Mekong river and rural roads to main villages
	• River bank erosion (this is under the jurisdiction of MOWRAM)
	• Water release from dam will inevitably impact on downstream flows, sedimentation
	• Impact on dredging in certain areas along the Mekong River
3	**CHALLENGES**
	• Unpredictable challenge for Kratie in the next 10 year • Many laws and regulation regarding to water way are in the process of developments • Upstream development will impact on deep pools, rapids, floodplains and associated wetlands where thousands of peoples depending on for livelihoods and cultural practices. •
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• Environmental guidelines and criteria for the Master Plan on navigation. The guideline focus on the navigation development on the Mekong River main channel, the potential impact on navigation on Tonle Sap ecosystem, fish migration, deep pools, and biodiversity. • Master plan for waterborne transport on the Mekong River System in Cambodia, Final draft 2009.
5	**POINTS TO FOLLOW UP**
	• Draft law on transportation • Master plan for development and navigation • Many laws and policies are still in drafting stages

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Forestry Administration (FA), Ministry of Agriculture, Forestry and Fisheries (MAFF)	*MINISTRY*	MAFF
Forestry Administration, Phnom Penh, Cambodia	*DATE*	13/07/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	• FA has the role of implementating and managing forest within the country. It also include water sector under the forest zone, the forestry community and protected forest. • About 90% of rural household depends on firewood for cooking • Forest cover: in 2002 forest covers was 61% of country territory and this reduced to 59% in 2006. • According to CDMG 2005, the government commit to have forest cover up to 60% by 2015 • The current rectangle strategy also put more emphasised on forest resource management in contributing to poverty alleviation. Most people are living in forest and they form as forestry communities where the resource can be exploited for cash income and household needed. • Formation of forestry community is the key element in forestry policy management where local people are encourage to participate. • We try to integrate forest conservation which link to climate change mitigation in the form of piloting forestry community and carbon trading and credit (piloting site in Udormeanchey province). • Some studies conducted by Japanese University and South Korea to established observation areas on meteorology in Kampong Thom and Kratie province. • Government objective toward forestry sector is “no cutting timber for exporting commercial purposed, but only domestic use and local livelihood”. • Promote tree plantation activities to reduce pressure on current forest resources (10 million seedlings). 6 million trees were distributed to people to plant. • 360 Forestry communities with total areas of 324,130 ha.
2	**KEY ISSUES**
	• Current dams plan among Mekong mainstream in Kratie and Stung Treng province both pro and con regarding to economic, social and environmental condition. Power generated from hydropower is considered as clean energy.
	• Wood energy are still dominant the rural household consumption with 90%. In this regard, dam may be the positive in developing.
	• Negative impact: dam might affect the flooded forest in Tonle Sap Lake where fish
	• Dam in Sambor will flood 620km^2 and this will also flood the current logging areas in southern Kratie
3	**CHALLENGES**
	• Should we go ahead with construction in the mainstream, or is there still room to seek alternatives if there is good alternative • Riparian forest in the provinces and the potential forest flooded by reservoir
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• National forestry law in 2002 • Su-degree on forest community 2006 • Technical working groups on forestry which involves various ministries and donor agencies. see website: www.twgfa.org.kh • UNEP is assisting the FA to formulate the national program on sustainable forestry management which is to be finalized be the end of the year 2009.
5	**POINTS TO FOLLOW UP**
	• GIS map and economic land concession and logging concession in both Stung Treng and Kratie province • Strategic development plan for FA

	• Annual report of FA • GIS maps showing the current forest cover in the country

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Dolphin Conservation and Tourism Authority, Council of Minister	*MINISTRY*	Dolphin conservation and Tourism authority
Dolphin Conservation and Tourism Authority, Council of Minister, Phnom Penh, Cambodia	*DATE*	15/07/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	• The dolphin conservation and tourism authorities cover areas around 200 km from Kratie to Stung Treng up to Lao border. There are • Villagers close to dolphin area are not allowed to use gillnets and replaced by fish traps. Gillnet is the major source of destruction for dolphin • Life span around 25-30 years of dolphin. History of hundred years of migration. During Pol Pot regime, around 1,000 dolphins found in Tonle Sap, but were killed for machine oil.
2	**KEY ISSUES**
	• Poor human and financial resource for Cambodia.
	• Suggested that China will build more dams on mainstream around 28 dams, 8 dams will be finished construction by 2015
	• Environmental issues: impact on volume of water, flashing flood during monsoon 2-3 times/day. About 15-20 days, water volume go up
	• The risk associated with mainstream projects is very high because of importance to fishery resource, wetland
	• Most villagers could survey even though economic crisis because they depend on fishery and natural resource which is underestimated in economic values.
	• Dolphin livelihood is inextricably linked with fish. The introduced breeding species will not work at all.
	• Cambodia still imports power from Vietnam and Thailand
	• Villager participation in conservation measures requires massive effort and time. Now 60% villages and 40% management by commission
	• Income from tourism is still low compared with money spent on conservation and river guard for protection
	• Currently regional power trade involves inequities between partners
	• Insufficient budget for dolphin habitats and conservation
3	**CHALLENGES**
	• There is no official sub-decree to established the Dolphin Conservation and Tourism authority • MRC agreement in 1995 maintain not allow to have dams on mainstreams, but now seem to change • The rich people don't care about dolphin and environment, landscape and nature like the poor. • Need common sense and budget for mainstream development
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• Less financial support for dolphin conservation???
5	**POINTS TO FOLLOW UP**

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Preventive Medicine Department, Ministry of Health (MOH)	*MINISTRY*	MOH
Ministry of Health, Phnom Penh, Cambodia	*DATE*	15/07/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	• Provide health centre, health post and package of medicine and facility to every centre. • Developed mobile team to assist areas where health post are not available • The ministry is now developing Health Impact Assessment which needs to be integrated into the EIA study on proposed dam development. • One health centre cover 8000 to 13,000 people. It is mostly built at the district level. Health post mostly built at village or commune level with people around 3,000 to 6,000 (two primary nurses). • The ministry also have national program on Nutrition for children and mother
2	**KEY ISSUES**
	• Dams will create flash flood which exacerbates poverty, and loss of paddies
	• Lack of proper notification among riparian countries on the dam operation
	• Skin irritation, typhoid, diarrhoea and fever are common with reduced water quality from dam operation
	• So far, there is no health impact assessment for hydropower development
	• Anticipate new disease, water born disease, transmission disease
3	**CHALLENGES**
	• Rice production, research, extension and transfer technologies to farmers is still limited • Lack of vaccines, no animal husbandry association, and no price policy; • Flooded forest continues to clear and illegal fishing activities, • Forest remains clearing for land ownership, and forest offense still exist. • Lack of budget for support services • Action plan use national budget to implement which is not enough
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• National strategic health development program
5	**POINTS TO FOLLOW UP**
	• Check for the current program and action plan for the ministry of health • Contact Dr. Ouk Vanna for further information

ANNEX B – WORKSHOP AGENDA & PARTICIPANTS

B1 NATIONAL WORKSHOP- AGENDA

MRC SEA OF HYDROPOWER ON THE MEKONG MAINSTREAM

CAMBODIA NATIONAL SCOPING WORKSHOP

16 – 17 JULY 2009

SUNWAY HOTEL

AGENDA

DRAFT AGENDA

MRC SEA HYDROPOWER ON THE MEKONG MAINSTREAM		
MRC SEA CAMBODIA NATIONAL SCOPING WORKSHOP		
Date: 08 - 09 July 2009		
Location: Phnom Penh		
DAY ONE: 16 JULY 8:00 – 17:00		
8:00 – 8:20	*Registration*	
8:20 – 8: 35	***Welcome Address***	Chairman CNMC
8:35 – 9:15	***Introduction to the MRC SEA*** (i) What is the SEA? (ii) Definition of "the Mainstream Hydropower Plan" (iii) SEA timeline	SEA Team
SEA REGIONAL ENERGY CONTEXT		
9:15 – 10:00	***Key Framing issues: energy demand and power trade in the LMB & the GMS*** (i) Overview of the region (ii) Energy Demand/Supply and the contribution of power trade to national economic growth	SEA Team
10:00 – 10:30	***Plenary discussions: questions and clarification***	All participants
10:30 – 10:45	*Coffee break*	
SEA NATIONAL CONTEXT		
10:45 – 11:05	***National Power and Hydropower Development Plans*** (i) Current and future plans (ii) Overview of the 11 mainstream projects	Director General Ministry of Industry
11:05 – 11:25	***The EIA Review and Approval Process*** (i) How the process works (ii) History of ESIA application to hydropower (iii) Lessons learned (iv) Timeline for the 11 mainstream hydropower projects	Director General MoE
11:25 – 12:00	***Plenary discussions: questions and clarification***	All participants
12:00 – 13:00	*Lunch break*	
13:00 – 13:15	***Fisheries: planning & challenges for Cambodia*** (i) Overview of the current and future directions for	Director General MAFF

	Mekong Fisheries (ii) Critical issues	
13:15 – 13:30	***Water Resources: planning & challenges for Cambodia*** (i) Overview of the current and future directions for Mekong mainstream water resources (ii) Critical issues	Director General MoWRAM
13:30 – 13:45	***Agriculture: planning & challenges for Cambodia*** (i) Overview of the current and future directions for Agriculture on the Mekong mainstream (ii) Critical issues	Director General MAFF
SEA – A TOOL FOR DEVELOPMENT PLANNING		
13:45 – 14:10	***SEA as a tool*** (i) What can an SEA achieve? (ii) SEA – the situation in the region (iii) SEA – the situation in Viet Nam (iv) Steps for the MRC SEA	SEA Team
14:10 – 14:45	***Plenary discussions***	All participants
14:45 – 15:00	*Coffee break*	
15:00 – 15:15	***Working Session: Cambodia's development priorities for the Mekong*** (i) sustainability objectives guiding the SEA	SEA Team
15:15 – 16:30	***Plenary Working Session*** (i) Working groups report back to plenary (ii) Facilitated discussion	All participants
16:30 – 17:00	***Day One: Wrap up session*** (i) Program for tomorrow	All participants
	Close of Day One	
DAY TWO: 02 JULY 8:00 – 12:00		
SEA – KEY STRATEGIC ISSUES FOR THE MEKONG RIVER		
8:00 – 8:15	***Overview of Day One*** (i) Synthesized presentation of Development priorities working session	SEA Team
8:15 – 8:30	***Tonle Sap: Planning & challenges*** (i) Overview of the basin's development & future directions (ii) Hydrological connectivity of Tonle Sap and Mekong River (iii) Critical issues	
8:30 – 9:00	***MRC ISH: Initial Review of the issues & challenges*** (i) Regional issues (ii) National concerns	MRC ISH (Initiative for Sustainable Hydropower)
9:00 – 10:00	***Working Session: Critical development concerns for the Mekong River – Setting the scope of the SEA*** (i) Critical development concerns facing the Mekong River (ii) Findings of SEA preliminary consultations (iii) Working session	All participants

10:00 – 10:15	*Coffee break*	
10:15 – 11:45	***Working Session: Critical development concerns for the Mekong River – Setting the scope of the SEA (continued)*** (i) Working groups report back to plenary	All participants
11:45 – 12:00	***The Next Steps for the SEA***	SEA Team
	Closing remark	Director of Operation Department MRCS Dr. Do Manh Hung
	Closing Remark	CNMC Chairman
	Close of Workshop	

B2 NATIONAL WORKSHOP - LIST OF PARTICIPANTS

	NAME	ORGANISATION	MINISTRY
1	H.E. Mr Kol Vathana	CNMC	
2	Mr So Sophort	CNMC	
3	Mr Watt Botkosal	CNMC	
4	Mr Hak Socheat	CNMC	
5	Mr Ou Sophanna	CNMC	
6	Mr Bul Deli	CNMC	
7	Mr Kim Seiha	CNMC	
8	Mr Ku Khemlin	CNMC	
9	Mr Sok Khom	CNMC	
10	Mr Pouv Vuthirak	CNMC	
11	R Cheang Hong	CNMC	
12	Mr Keo Sambath	CNMC	
13	Mr So Sokha	CNMC	
14	Mr Chheng Sopheak	CNMC	
15	Mr Sin Sokhom	CNMC	
16	Mr Chiv Hour	General Department of Energy, HydroElectricity Department	MIME
17	Mr Chy Chanrasmey	General Department of Energy, HydroElectricity Department	MIME
18	Mr Chea Piseth	General Department of Energy, HydroElectricity Department	MIME
19	Mr Soum Sam Aum	Department of Hydrology and River Works	MoWRAM
20	Dr So Nam	Inland Fisheries Development & Research Centre	MAFF
21	Mr Cheng Rhen	Inland Fisheries Development & Research Centre	MAFF
22	Mr Lieng Sopha	Fisheries Administration	MAFF
23	Mr Moch Chantha	Department of Planning & Statistics	MAFF
24	Mr Ngoun Kong	Department of Environmental Impact Assessment (EIA)	MoE
25	Mr Duon Samkeat	Department of Environmental Impact Assessment (EIA)	MoE
26	Mr Hang Choem	Department of Waterways	MPWT

27	Mr Chreang Phallak	Department of Waterways	MPWT
28	Mr Pheng Chantithya	Planning and Development department, Environmental & eco-tourism office	MoT
29	Mr Nget Sovann	DoH	MoH
30	Mr Ma Sovanna	Department of Planning and public relations	MRD
31	Mr Srun Pithou	Department of Planning and public relations	MRD
32	H.E. Mr Touch Seang Tana	Dolphin Conservation & Tourism Authority	
33	Mr Mao Chansamin	Dolphin Conservation & Tourism Authority	
34	Mr Leng Chivin	Forestry Administration	MAFF
35	Mr Nouth Sokha	Planning and Development department, Environmental & eco-tourism office	MoT
36	Mr Kairn Saret	Forestry Administration	MAFF
37	Do Manh Hung	ISH/OPS	MRCS
38	Voradeth Phonekeo	ISH	MRCS
39	Larry Haas	ISH	MRCS
40	Phoumin Han	BDP	MRCS
41	Jeremy Carew-Reid	Team Leader	SEA Team
42	Peter-John Meynell	EIA Specialist	SEA Team
43	Eric Baran	Fisheries Specialist	SEA Team
44	Try Thoun	Cambodia Team Leader/social systems specialist	SEA Team
45	Meng monyrak	Natural systems specialist	SEA Team
46	Tarek Ketelsen	Program Coordinator	SEA Team

ANNEX C– WORKSHOP PRESENTATIONS

C1 THE WORKING SESSION TEMPLATE

THEME:	THEME RANKING:
KEY ISSUES	
List the 5-6 key issues for the theme which are most relevant for the Mekong River	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ List the specific development objectives and targets relevant to the theme	▪ List the policies or plans relevant for the theme
SUSTAINABILITY PRINCIPLES	
▪ Define the sustainability principles relevant to this theme	

C2 GROUP 1

THEME: FISHERY	THEME RANKING: 1
KEY ISSUES	
▪ Migration route ▪ Overfishing ▪ Habitat destruction ▪ Use illegal and destruction fishing gears ▪ Wetland conversion ▪ Exotic species	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ Sustainable development of fishery resource development and management ▪ Food security ▪ Species and diversity conservation ▪ Community development ▪ Sustain and maintain productivity and yields	▪ Fishery law 2005 ▪ rules and regulations ▪ national fishery policy ▪ strategic planning framework for fishery 2009-2018 ▪ fishery development plan (draft) ▪ fishery annual priority action plan (draft)
SUSTAINABILITY PRINCIPLES	
▪ Sustain and maintain migration route and habitats for spawning and stocking ground ▪ Effective law enforcement ▪ Public awareness and participatory ▪ Apply IWRM principles	

THEME: ENERGY	THEME RANKING: 1
KEY ISSUES	
▪ High demand than supply ▪ High price per unit ▪ Dependence on external supply sources ▪ Lack of experiences and capacity in hydropower sector ▪ Use old equipment and existing old infrastructure ▪ Lack of demand management ▪ High use of fuel woods for energy	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ Sustainable hydropower development ▪ Alternative power supply (for transition) ▪ Transmission development line ▪ Speed up ongoing planned projects in place ▪ Support Cambodia Millennium Development Goal and RGC Rectangular strategic development plan ▪ Fulfil energy demand	• Cambodia Power Sector Strategic 1999-2016 • Strategic Power Development Plan 2010-2020 • National Forest Programme (under development) • Electricity Law 2001 • Guideline for: (v) Power Purchase Agreement, (vi) Implementation, (vii) Lease agreement, (viii)Trade agreement.
SUSTAINABILITY PRINCIPLES	
▪ Apply trade off principles ▪ Promote long-life operation principles (ie. Still be function after handover to government) ▪ Apply mutual and equitable benefit sharing among upstream and downstream and stakeholders in affected areas ▪ Minimize negative impact ▪ Apply integrated basin flow management ▪ Promote and apply public participation and involvement in decision-making process ▪ Implement MRC's agreement, guideline and procedures	

THEME: AGRICULTURE & WATER SUPPLY	THEME RANKING: 3
KEY ISSUES	
▪ Sustained water supply ▪ Depend on rain fed for agriculture ▪ Change behaviour ▪ Low productivity yield ▪ Resources (credit, money, capital investment)	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ Maintain back bone of economic development ▪ Food security insurance ▪ Extend irrigation system across country ▪ Extension + intensive agriculture practices ▪ Diversification agriculture practices ▪ Multi-inter-crops practices	• Law on water resources management • Law on forest • Agriculture-water strategy • Rectangular Strategic Development Phase II • Strategy for Agriculture, Forestry and Fishery Development • Strategic Agriculture and Water

	Resource Plan • Agriculture sectoral development planning
SUSTAINABILITY PRINCIPLES	
▪ Maintain forest cover ▪ Land use management ▪ Soil conservation, sustainable use ▪ Sustained rural road and infrastructure	

C3 GROUP 2

THEME:POWER AND ENERGY	THEME RANKING: 1
KEY ISSUES	
▪ Lack of power and energy supply ▪ High electricity tariff per unit ▪ National energy security concerns ▪ High dependency of imported fuel for power and electricity ▪ Create and led to water pollution ▪ Affect to tourism/eco-tourism ▪ Barriers to navigation ways consequence of hydropower construction ▪ Over 80% energy based on fuel wood	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ Promote renewable energy and power sources. ▪ Reduce dependency on woods for energy and fuel, ▪ Increase rural living standard, ▪ Back born support to economic development ▪ Mitigate negative impact of hydropower development ▪ Poverty reduction through maximizing benefit of energy and power development	• Electricity Law 2001 • Cambodia Power Sector Strategic 1999-2016 • Strategic Power Development Plan 2010-2020 • Guideline for: (ix) Power Purchase Agreement, (x) Implementation, (xi) Lease agreement, (xii) Trade agreement.
SUSTAINABILITY PRINCIPLES	
• Implementation of adaptive climate change approach and principles • Self supply of energy and power resource principles • Minimize negative impact to other sectors (fisheries, agriculture and tourism)	

THEME: HYDROLOGY	THEME RANKING: 2
KEY ISSUES	
• Global warming (emission of CO2) • Dry season hydrology and minimum flow	

- flooding and maximum flows

DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ *unidentified during the workshop due to time constraints*	▪ 1995 MRC agreement • Law on Water Resource Management in 2007 • Sub-decree on Formation of Farmer Water User Community • Water Resource Road Map • National Strategic Water Resource Development Planning 2006-2010 • National Strategy for Agriculture and Water Resource Development 2008-2013 (joint MOWRAM and MAFF). ▪ Master Plan on Water Resource Development (supported by ADB) • Master plan for Vaico irrigation scheme proposal • Proposal on Stung Sen Irrigation Scheme and hydropower development plan ▪ Climate change in water (MOWRAM) 2020
SUSTAINABILITY PRINCIPLES	

- Clear forest in reservoirs to reduce CO2 emission into the atmosphere
- Guideline

THEME: AQUATIC DIVERSITY, ECOSYSTEMS AND FISHERIES	THEME RANKING: 3

KEY ISSUES

- Loss and degradation of aquatic diversity and ecosystems and fishes led to negative effect on tourism and eco-tourism (eg. dolphins),
- Barrier or loss of fish migration pathways,
- Habitat modification and loss for fisheries,
- Uncertain nutrient supply insurance affect to aquatic resources and fisheries,
- Concern of dam impact to downstream water quality and hydrology, particularly Tonle Sap Lake.

DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ Increase rural employment opportunities ▪ Capacity development in aquatic resources ▪ Conserve and sustain utilization of aquatic resources ▪ Rural infrastructure development, ▪ Reduce flood risk disaster (flood controlling)	▪ Fisheries Law ▪ Sub-decree on Community Fishery ▪ Sustain maximum fish harvesting yield by promoting and balance aquaculture program ▪ National Fisheries Policy ▪ Draft Strategic Planning Framework for Fisheries 2009-2018 ▪ Draft Fisheries Development Plans 2009-2011 ▪ Fisheries Annual Priority Action Plan (2008, 2009, 2010 ...)_ Fisheries Program = 10 sub-programs ▪ Agricultural development planning of which fishery is one of the sector
SUSTAINABILITY PRINCIPLES	

- Applying principles of community based management in fishery,
- Ensuring less impact from hydropower development on fisheries and eco-tourism,
- Ensuring less impact from hydropower on aquatic resources
- Introduce eco-agriculture approach and principle focusing on fisheries

THEME: NAVIGATION & TRANSPORTATION	THEME RANKING: 8
KEY ISSUES	
• Community road networks • Commercial road pathways • River transport and shipping routes	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ To increase potential of navigation system ▪ Cheaper transportation ▪ Reduce traffic problems ▪ Facilitate heavy transportation on waterway	▪ Policies to construct additional port and navigation poles along the Mekong River ▪ Draft Law on Inland and Water Transportation ▪ Master Plan for Navigation Development ▪ Many laws and policies are still in drafting stages
SUSTAINABILITY PRINCIPLES	
• Reduce poverty to good access of transportation (reduce timing and expense) • Water storage in reservoir might effect on waterway transportation on tributaries/streams	

A summary of Lao PDR government meetings and national scoping workshop

An input to the SEA scoping process

ICEM – International Centre for Environmental Management

7/24/2009

Disclaimer

This document was prepared for the Mekong River Commission Secretariat (MRCS) by a consultant team engaged to facilitate preparation of a Strategic Environment Assessment (SEA) of proposals for mainstream dams in the Lower Mekong Basin in the 2009-2010 timeframe.

This document was prepared to assist the Secretariat as part of the information gathering activity. The views, conclusions, and recommendations contained in the document are not to be taken to represent the views of the MRC. Any and all of the MRC views, conclusions, and recommendations will be set forth solely in the MRC reports.

This document is a record of a meeting. All stakeholders whether at the meeting or not are invited to submit written contributions via the MRC website.

For further information on the MRC initiative on Sustainable Hydropower (ISH) and the implementation of the SEA of proposed mainstream developments can be found on the MRC website: http://www.mrcmekong.org/ish/ish.htm and http://www.mrcmekong.org/ish/SEA.htm

The following position on mainstream dams is provided on the MRC website in 2009.

MRC position on the proposed mainstream hydropower dams in the Lower Mekong Basin

More than eleven hydropower dams are currently being studied by private sector developers for the mainstream of the Mekong. The 1995 Mekong Agreement requires that such projects are discussed extensively among all four countries prior to any decision being taken. That discussion, facilitated by MRC, will consider the full range of social, environmental and cross-sector development impacts within the Lower Mekong Basin. So far, none of the prospective developers have reached the stage of notification and prior consultation required under the Mekong Agreement. MRC has already carried out extensive studies on the consequences for fisheries and peoples livelihoods and this information is widely available, see for example report of an expert group meeting on dams and fisheries. MRC is undertaking a Strategic Environmental Assessment (SEA) of the proposed mainstream dams to provide a broader understanding of the opportunities and risks of such development. Dialogue on these planned projects with governments, civil society and the private sector is being facilitated by MRC and all comments received will be considered.

Mekong River Commission Secretariat
P.O. Box 6101, Vientiane, 01000, Lao PDR
Email: mrcs@mrcmekong.org

About the MRC SEA of Hydropower on the Mekong mainstream

The Mekong River Commission (MRC) is an international, country-driven river basin organisation that provides the institutional framework to promote regional cooperation in order to implement the 1995 Agreement. The MRC serves its member states by supporting decisions and promoting action on sustainable development and poverty alleviation as a contribution to the UN Millennium Development Goals.

In a region undergoing rapid change and economic growth, the MRC considers the development of hydropower on the Mekong mainstream as one of the most important strategic issues facing the Lower Mekong region. Through the knowledge embedded in all MRC programs and coordinated through the new MRC Initiative for Sustainable Hydropower (ISH), the MRC seeks to assist Member states to work together and make the best decisions for the basin.

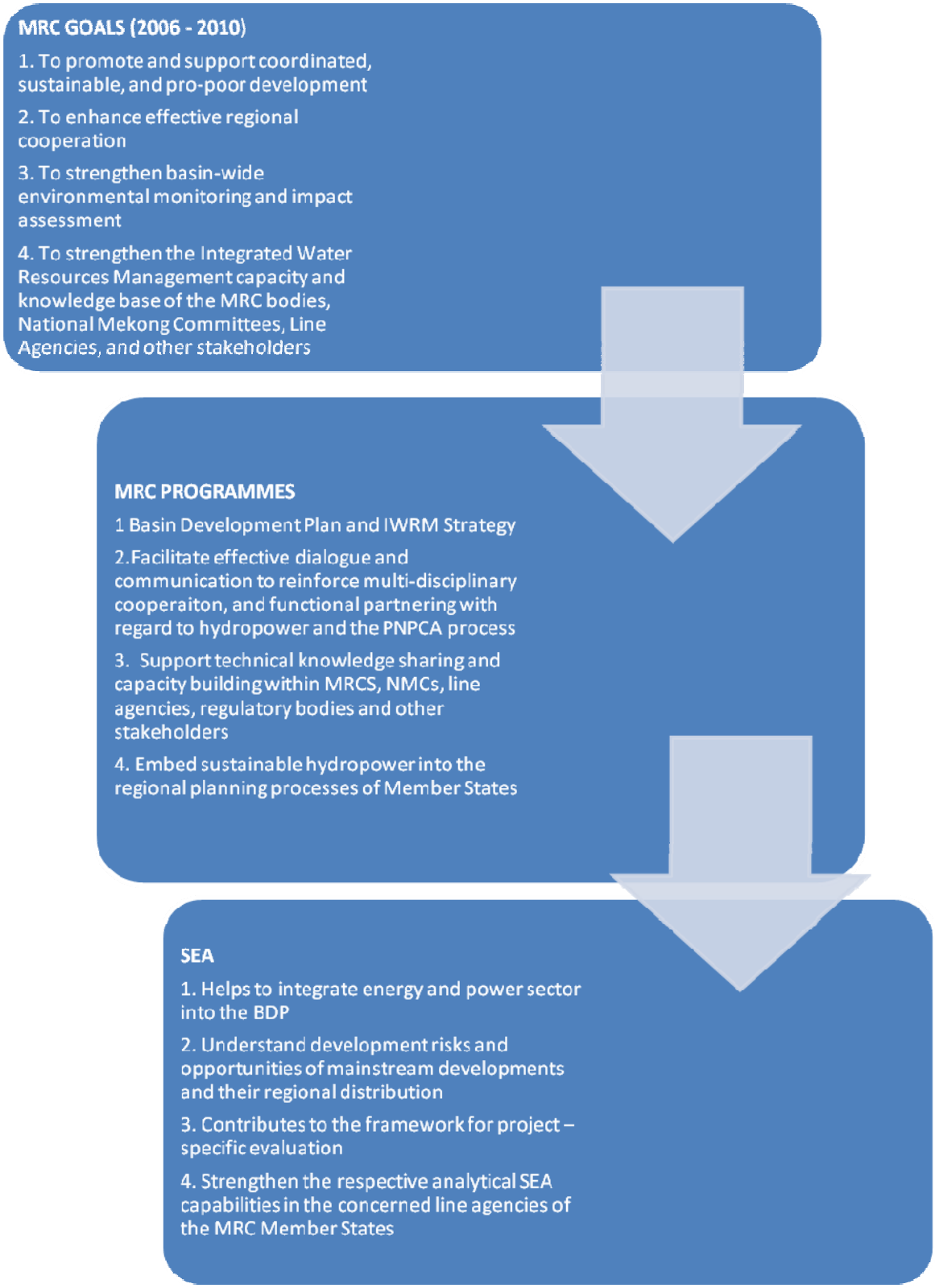
Eleven hydropower schemes have been proposed for the Lao, Lao-Thai and Cambodian reaches of the Mekong mainstream. Implementation of any or all of the proposed mainstream projects in the Lower Mekong Basin (LMB) could have profound and wide-ranging socio-economic and environmental impacts in all four riparian countries (Cambodia, Thailand, Vietnam, Lao PDR). The LMB governments decided that MRC ISH should conduct a Strategic Environmental Assessment (SEA) of all the proposed projects to fully assess their potential cumulative and multiplier effects.

The Initiative for Sustainable Hydropower (ISH) is a cross-cutting program working with all MRC programmes, focussing on balancing social, environmental and economic considerations of potential energy futures for the Lower Mekong Basin. The MRC recognises that there are two main decision-making spheres in the LMB; the IWRM sphere (where integrated basin planning is undertaken) and the Power sector and industry sphere (where decisions on hydropower are taken). The ISH, through its projects and activities, aims to bring these two decision-making worlds together.

This MRC ISH SEA seeks to identify the potential opportunities and risks, as well as contribution of hydropower to regional development, by assessing alternative mainstream Mekong hydropower development strategies. In particular the SEA focuses on regional distribution of costs and benefits with respect to economic development, social equity and environmental protection. The SEA began in May 2009 and is scheduled to complete the final report and recommendations by mid-2010.

This document is one of a series of documents arising from an intensive program of consultations in the Lower Mekong Basin and detailed expert analysis of the issues associated with developing hydropower on the Mekong mainstream. The intention is to consolidate SEA activities and progressively make conclusions and outputs available for public and critical review, so that stakeholder engagement can contribute to the SEA in a meaningful way. A full list of documents is available on the MRC SEA website.

The context and aims of the MRC SEA of Proposed Hydropower Schemes on the lower Mekong mainstream



CONTENTS

1. NATIONAL SCOPING ACTIVITIES

This report summarises the results of Lao government line agency meetings and a national workshop on the scope of the SEA of hydropower on the mainstream Mekong River.

BACKGROUND

The national consultations showed Lao PDR government officials to be concerned about many of the same strategic development issues facing the Mekong River as in other LMB nations – especially fisheries, agriculture, water supply and quality and rural poverty and development. However, more than the other countries, Lao PDR officials were also concerned about the institutional strengthening of government agencies that is required to manage the integrated planning, environmental assessment and hydropower approval and operations processes in a sustainable way.

Lao PDR is in a special position as promoter of mainstream hydropower development with nine proposed projects in the pipeline – six within a cascade system which would require complex coordinated planning, design and operations. Like other countries, Laos finds it has diverse and not always compatible interests at stake – requiring difficult trade-offs and compromises. The Lao national consultations reflected those complex and sometimes conflicting sets of interests which various sectors and communities bring to the debate over mainstream projects. The following range of interests was identified by Lao participants in considering the appropriate scope for the SEA:

(i) ***Directly impacted communities:*** Nine projects within Lao territory will involve relocations and a wide range of direct effects on local communities.
(ii) ***Local livelihoods:*** Local economies and livelihoods will change due to the large project investments and modified resource uses.
(iii) ***Power exporter:*** All nine projects are mainly for power export as a key element in overall national development.
(iv) ***Promoter and investor:*** Inevitably, the government would need to become involved in various mainstream projects as a direct investor and promoter through subsidies and other incentives.
(v) ***Downstream user:*** Laos is downstream of the Yunnan Province mainstream projects and its uses of Mekong River waters and resources (eg irrigation, transport, fisheries) has potential to be affected.
(vi) ***Mainstream project planner:*** The Lao government is becoming intimately involved in the design, planning and review of the mainstream projects individually and collectively (in seeking optimisation).

LAO NATIONAL SCOPING MISSION

The Lao national scoping mission was conducted over six days (06 July – 12 July 2009), with the Civil Society Organisations meeting on the 09 July. Activities included:

i. An intensive program of individual meetings with key government line agencies;
ii. A National Scoping Workshop to define the spatial, temporal and thematic coverage of

the SEA;

iii. A Civil-Society Roundtable meeting to define the development context and opportunities for cooperation between the SEA and civil-society;

iv. A field mission to the Luang Prabang and Xayabouly mainstream project sites.

The national scoping mission was conducted to build a network of institutional partners and experts within government for the assessment. Its primary aim was to receive guidance from this network on the scope of the SEA and on its methodology. Similar scoping consultations were conducted in each of the LMB countries (Vietnam, Lao PDR, Cambodia and Thailand).

The scoping mission consultations were an important start in integrating the concerns and views of Lao government experts in the SEA process, as well as improving initial awareness and understanding of the SEA process to build a strong participatory platform for future SEA activities.

The national consultations in each country are supported by civil society and donor round tables. In Lao, the first civil society roundtable took place 09 July 2009 including some participation from the donor community. A special donor round table will be convened in 2010. The results of the CSO consultations are covered in a separate summary report. Together these reports provide a summary of the Lao perspective on the scope and approach for the SEA as part of the Inception Report. This volume of national scoping consultation reports opens with a summary comparison of national perspectives, aiming to sketch out the complementary and conflicting issues of national interest in the LMB nations.

2. NATIONAL GOVERNMENT LINE AGENCY MEETINGS

OVERVIEW

The purpose of the individual meetings with government agencies was to:

(i) introduce the SEA team, objectives, methodology and timing to key line agencies and

(ii) receive their initial views on key strategic issues of concern to development in Mekong River.

The scoping meetings opened discussion on river wide development challenges and priorities relating to, for example, power, fisheries, agriculture, transport and development in other economic sectors. They also covered the environmental and social pressures facing the Mekong River such as flooding, salinity and pollution.

Over a period of 2 days the SEA Team met with six line agencies as identified in Table 1. Typically the meetings were 1.5-2 hours of facilitated discussion.

Table 6: Line agencies consulted during the Scoping Mission

No	Meeting with	Meeting location	Theme discussed
1	Department of Electricity	MIME	Power development, trade & Energy security, rural electrification
2	Department of Environment and	WREA	Institutional strengthening, improving

	Social Impact Assessment		management processes
3	Department of Irrigation	MAFF	Community management capacity, maintenance of irrigation infrastructure, agricultural yields and national food security
4	Department of Water Resources	WREA	Institutional strengthening
5	Department of Forestry	MAFF	Forest encroachment and landuse conflicts
6	Department of Livestock and Fishery	MAFF	Aquatic Biodiversity & Fisheries productivity, sediment dynamics and deep pools, fish migration and spawning grounds

A short summary report for each meeting is provided in Appendix A, and organized according to the key strategic issues which the line agency identified.

Some days before the meetings, the government officials were provided with background materials such as guiding questions and explanation of the SEA objectives and process. Consequently, meetings were generally able to remain on target. Agencies also chose to discuss some of the institutional challenges facing their agencies from implementing new decrees to establishing newly created departments. Some discussion moved towards an assessment of the opportunities and risks of mainstream hydropower before the issues of concern were consolidated. In this regard, the line agency meetings served an ancillary purpose of building understanding of the entire SEA process and its stages and better preparing stakeholders for the subsequent National Scoping Workshop.

SUMMARY OF FINDINGS

Based on the government meetings, the following issues were identified as being of current strategic and national significance for the Mekong River. The number in brackets denotes the number of line agencies which identified the particular issue. Comprehensive notes appear in Appendix A:

- Institutional Strengthening (x2[3])
- Improved management processes (governmental and community) (x2)
- Sectoral & landuse conflicts (x2)
- Hydropower & socio-economic development
- Energy demand & rural electrification
- Foreign investment
- Fish migration
- Spawning grounds & aquatic habitats
- Sediment transport and deep pools
- Fish trade
- Improving ESIA process
- Maintenance of irrigation infrastructure & agricultural yields

3. NATIONAL SCOPING WORKSHOP

OVERVIEW

The purpose of the national scoping workshop was to continue discussion begun in the line agency orientation meetings, with the aim of systematically honing in on the key strategic themes and

[3] " "x3" indicates that three line agencies raised this issue, "x2" indicates that 2 agencies raised an issue and so on

issues to be addressed by the SEA and their different geographical and sectoral levels of focus. Specifically, the national scoping workshop aimed to:

i. Define the key strategic issues to be addressed by the SEA.
ii. Review and refine the SEA approach

The workshop was organised and chaired by the Lao National Mekong Committee (LNMC). There were 32 participants: 21 from Government line agencies, 4 from MRCS and 7 from the SEA Team. 15 government ministries were represented. A full list of participants together with the workshop agenda appears as Appendix B.

There were three main components to the workshop. Their function and time allocation is set out in Table 2.

Table 7 Main components of the Lao National Scoping Workshop

ITEM	WORKSHOP COMPONENT	FUNCTION	PROPORTION OF THE WORKSHOP
1	Presentations	▪ Stimulate discussion ▪ Share understanding of the sectoral focus and priorities of the Government of Lao ▪ Build understanding of the SEA	25%
2	Plenary Discussions & Question time	▪ Orientate presented materials towards the strategic issues ▪ Record and consolidate points of agreement	25%
3	Working Group Sessions	▪ Build consensus on the: (v) 3-5 key themes which the SEA will need to address (vi) The development objectives and targets of the GoL* in relation to each theme (vii) sustainability principles+ used by the government to direct planning in each theme or associated sector (viii) 10-20 strategic issues which the SEA will need to address	50%

* GoL = Government of Lao PDR

+ Sustainability principles are the guiding principles of the GoL which will ensure that government objectives are met without jeopardizing the ability of future generations to meet their objectives

3.1 PRESENTATIONS

Following a number of presentations by the SEA team on the SEA objectives, the mainstream hydropower projects under assessment and the SEA approach, seven presentations were made by government agency representatives during the workshop. The four presentations and their respective focus are outlined in Figure 2. Presentations by government line agencies and the SEA Team are available in full from the MRC website.[4]

3.2 PLENARY DISCUSSIONS

[4] http://www.mrcmekong.org/ish/SEA.htm

The two plenary discussions focussed on identifying the strategic issues, by orienting discussion around two broad subjects: current issues facing the Mekong River provinces, and Lao's position as a partner for trade, power and regional cooperation.

The discussion has been summarized in Table 3, with comments and questions divided by theme. It should be noted that the themes used in organising the plenary comments were developed by the SEA team before the workshop on the basis of the initial discussions with government agencies. Although they resemble the themes identified by the workshop participants there are some differences – the themes should be considered as an evolving framework to be shaped and prioritized by national interests as well as the SEA process itself.

Figure 2 Workshop Presentations

Table 8 Summary of plenary discussions

No.	Government of Lao Consultation Workshop, Scoping Phase, SEA Key Themes
	1. Metrology, Climate Change, Hydrology, Water Quality & Sediment
1	Chinese dams have increased the importance of regional cooperation as an issue for water sharing and collaborative management. The plenary recommended the SEA to collaborate with China
2	Changes in water levels creating adverse impacts (e.g. Pak Beng berthing areas inundated)
3	Uncertainty as to whether water levels are increasing or decreasing, and timing of changes
4	Consequences of flooding on tourism
5	National and provincial coordination of water resource management needs to improve
6	Changes in water quality, particularly downstream of a dam
7	Some dams may increase flooding, others may reduce it. Flooding along the Mekong is a natural phenomenon - unknown to what extent dams will exacerbate or relieve this
8	Unknown whether Chinese dams contributed to 2008 Vientiane flooding, accusations & denials
9	To what extent will Chinese dams with large reservoirs affect Lao dam construction which are run-of-river with quite long but relatively small reservoirs (mostly contained within the river channel). Reservoirs become very long downstream as topography flattens out (e.g. Cambodia Sambor will have an 18km reservoir
10	~ 72deep pools sustained by complex sediment dynamics
	2. Aquatic Biodiversity & Fisheries
1	Decrease/loss of indigenous fish species
2	Livelihood dependence on fisheries
3	Loss of aquatic ecosystem
4	Loss of spawning areas & deep pools
5	Fish migration routes blocked (especially of concern for Don Sahong)
6	Annual fishing quotas for both Lao & Thai sides need monitoring in 2-party agreement. There are some difficulties in cooperation
	3. Terrestrial Ecology, Forestry and land use/change
1	Watershed protection necessary to improve dam performance & increase power generation. If no forests, then no water resources. Most provinces have commercial planting in mind when talking of reforestation, not of indigenous species. This is not genuine reforestation and cannot protect the environment.
2	Environmental protection is blocking development, poor understanding of environmental issues & concerns, some think it means garbage disposal
3	PES – Payment for Ecological services is one method of shifting financial responsibility of environmental management from the GoL to developer
4	Erosion problems created by other activities, e.g. removing soil from wetlands for biofertiliser, removing gravel and sand from river banks and deltas
	4. Agriculture, Irrigation & Water Supply
1	Can the SEA provide advice on the feasibility of multi-use mainstream dams, especially irrigation use.
2	Water collection fees covering water services for many sectors
	5. Transport & Navigation
1	Decreased revenues from transport and related income-generation activities
2	Loss of transport-related livelihoods for those with small boats unable to cope with changed water levels and water flows
3	Water flow/level changes impeding navigation (e.g. Pak Beng berthing areas inundated)
	6. Power Development
1	Generating national income through hydropower revenue & export to neighbouring countries
2	Energy vulnerability high and rising
3	Contribution to poverty reduction, but only if revenues negotiated to be spent in poverty alleviation sectors (e.g. as in Nam Theun 2)

4	Supports & encourages foreign investors for investment opportunities (e.g. mining)
5	Development of hydropower sector ability to cooperate with other sectors
6	Overall sustainability of power development, how to manage it, where the money comes from to finance social and environmental performance indicators
7	Electricity sector responsibility to mitigate adverse impacts of power development
8	Tariffs to bear costs of sustainable hydropower, particularly electricity tariff.
9	Major LMB regional and national differences in per capita electricity use, and in fuel wood share as contribution to total energy sources (e.g. 88% fuel wood Cambodia, 16% Thailand)
10	Different power sector policies in different countries presents challenges to synchronised processes and agreements
11	Concern can and how the SEA will influence the approval process (some projects already have full technical designs)
12	Govt technical optimization study was the first step – the next phase will see optimization of economic and environmental benefits
13	GoL has renewable energy plan for small and micro-scale projects, but are not sufficiently considered
14	
	7. Tourism
1	Destruction of habitat (e.g. rapids, islands) leading to tourism decrease
2	Increased flooding impacts on tourism
3	There is a protected area (temple) near Pak Lay
4	Tourism higher priority in some provinces affected by dams (e.g. Champassack/Luang Prabang) than others, and therefore higher provincial concerns for impacts
	8. Poverty, ethnic groups & livelihoods
1	Loss of livelihoods depending on agriculture, fisheries, water transport, sand and gravel extraction, with no direct replacement options. Existing biodiversity the base for majority of people's livelihoods
2	Provincial targets of reducing adverse impacts on the land (e.g. Vientiane 50% stabilisation of slash & burn, reforestation up to 130,700has) contradicting potential impacts of fertile rivereine land loss
3	Mekong has more meaning than just water, with long-associated livelihoods dependence, cultural associations (e.g. river "nagas"), transportation and resources for economic development, social and political boundaries
	9. Health & Nutrition
1	There is a very heavy national dependence on fish and aquatic products from the Mekong and tributaries for basic nutrition.
	10. Resettlement, migration, population growth, human trafficking & urban dvt.
1	Lack of replacement land for resettlement and livelihood
2	Riverine/riparian areas already highly populated and among the best agricultural land, exacerbating impacts on livelihoods.
3	Provincial difficulties deciding what resettlement action to take following impact notification
	Other Issues Raised (mainly Governance)
1	Mekong mainstream dams contrary to national interests because of transboundary impacts
2	Transboundary negotiation difficulties for national hydropower projects (e.g. Lat Sua)
3	Difficulty of deciding dam locations due to transboundary & flooding impacts. Often failure to identify correct area for potential investments (problem already in Champassack re. plantations)
4	Objectives of different agencies/sectors within the same country are at odds with each other (e.g. hydropower/tourism/forestry)
5	GoL targets on electrification do not identify financial sources to enable targets to be reached (e.g. 70%hhs electrified by 2010). Will electricity reach the people, or will people be transferred to locations where electricity is available?
6	Provincial expected targets and outcomes problematic, and growth slow compared with potential.
7	Provincial objectives of changing the economic structure, moving away from high agricultural dependence

8	Increasing provincial decision-making independence from central govt., not always asking central GoL for finances to develop. Individual developers negotiate separately with provinces. Lack of transparency and clarity over process
9	Existing transboundary accusations, e.g. Cambodia accusing Laos of waste disposal and plastic bags problems, Laos counters with accusations of Cambodian boats illegally crossing boundaries and causing the problem
10	Financial consequences/burden of transboundary impact mitigation - joint protection sought (e.g. watersheds)
11	Difficulty of clarifying/accepting what is a national issue and what is a transboundary issue, and related financial consequences
12	General principle of developer pays costs for adverse impact mitigation, environmental protection, dam maintenance, community livelihood restoration. Single/unified chart of payments needed with % from royalties. However, developer refusing to pay or to allocate royalties towards such higher costs.
13	GoL human & budgetary capacity very limited (particularly at provincial and district levels) to deal with hydropower planning, tariff discussions, social & environmental mitigation measures, monitoring
14	Production costs the same, but capacity costs very different and much higher than they should be because human capacity is very limited.
15	Tendency to approve projects without anticipating or allocating finances to address problems
16	Timing and extent of public disclosure of project-specific EIAs, who can have access and who will publicise to be included in new decree
17	Time consuming process to obtain required feedback, comments, document approvals & safeguard frameworks. Delays in review & approval process, limited English language skills to review documents from many different nationality developers
18	Pace and intensity of economic investment and provincial development increasing faster than GoL capacity to deal with it on a number of fronts
19	Legal and institutional framework form social and environmental safeguards and monitoring poorly understood (particularly at provincial and district levels) and legislation inadequately linked to process
20	Clarify of review process needed, including of who is responsible for what, to reduce unnecessary delays and to clarify what happens if required steps are not followed
21	Familiarity with preparation of S/EIAs and CIAs (since 2004), but less familiarity with how to implement. No frameworks in place to link in various factors re. private development.
22	Difficulty of obtaining accurate overall information for ministries to report to central Gov.
23	How to support prior notification process of MRC to facilitate different nations decision-making
24	Weight given to different sectoral issues - does tourism "count" as much as fisheries? Each sector thinks their concerns are the most important. What is the desirable balance?
25	Difficulty of defining risks accurately
27	SEA to recommend management methodology – especially for transboundary projects
26	Public disclosure policy is under review in the new ESIA decree
27	Environmental Assessment ownership: ESAI is undertaken by the developer, SEA undertaken through government. Recommended that SEA outputs should help GoL develop a set of principles which can be used to assess developer ESIAs
28	Plenary noted that there are advantages and disadvantages associated with increasing the scope of issues. Suggested that the SEA remains flexible and allow issues to evolve over time

3.3 WORKING GROUP SESSIONS

The working group sessions were a key activity of the workshop for government participants to define and rank the key themes and issues for the SEA. The working group sessions aimed to define and build consensus on the:

(i) The strategic themes and their ranking,
(ii) Key strategic issues within each theme
(iii) government objectives and targets for each theme and

(iv) sustainability principles for the themes (Table 2).

The plenary was split into two working groups, with facilitation from the SEA Team.

STEPS IN THE WORKING SESSION

The methodology guidelines for the working session were as follows:

1. Define 5-6 key themes
2. Rank the themes according to their importance

Then for each theme, starting with the most important:

3. Define the key strategic issues
4. Define Lao's development objectives
5. Define the targets and principles to achieving sustainability
6. Summarize the group's findings in a short (5-10min) presentation
7. Deliver presentation back to the plenary
8. Synthesize group outcomes into one set of templates for the workshop

Outputs from group discussion were recorded using a simple template (Appendix D), once consensus was reached within each group.

COMBINED RESULTS OF THE WORKING GROUP SESSION

Based on plenary and group discussions, five themes and their issues have been recommended by the workshop as the framework for the baseline assessment and other SEA stages. The themes were ranked as follows (Table 4):

Table 9 Lao National Scoping consolidated themes

THEME	RANK	ISSUES
Agriculture, Fishery	1	▪ Decrease in Indigenous fish species ▪ Degradation of community diet (About 80% protein comes from fish consumption) ▪ Loss of ecological water resources ▪ Disruption to fish lice cycle and subsequent impacts on livelihoods dependent on fish for nutrition uptake ▪ High diversity of fish species ▪ More than 70% of Lao people rely on agriculture, the major types of agriculture include (wet and dry season) rice paddy, shifting (Swidden) cultivation, maize and river bank vegetable gardens.
Hydropower	1	▪ Two aspects were discussed: (i) the future hydropower potential and (ii) the downstream effects of existing China dams
Navigation	2	▪ Restricted Navigation (if no ship locks)

		▪ Changes to local life style (eg fishing habits, river passage) ▪ Communication between villages
Tourism	3	▪ Loss of natural view ▪ Reduction in tourism ▪ Implications for socio-economic growth
Processing Industry	3	▪ There are presently few large-to-medium scale industries in Lao, PDR. Projected to grow throughout the Project provinces, with more industries (related to the agricultural sector, mining, hydropower) and many small-scale "cottage" industries- such as producing textiles (cotton, silk) and other handicrafts, processing agricultural goods and non-timber forest products. There are opportunities and risk to industrial development presented by mainstream project. The issue is how to integrate the two sectors.
Sedimentation, Erosion, Water quality	4	▪ Changes to water levels ▪ Loss of agricultural land ▪ Water quality degradation
Resettlement/ Cultural/Heritage	5	▪ Loss of agricultural land ▪ Loss of cultural heritage ▪ Changes to community life-style ▪ Psycho-social impacts
Navigation	4	▪ River transport on Mekong river is very important for the international ferry services, cargo transportation and to promote and facilitate trade and tourism in GMS countries.
Tourism	5	▪ The Lao PDR's tourism industry is expanding rapidly and offers a key opportunity to earn significant foreign exchange. ▪ The Lao authorities recognize the importance of its abundant natural and cultural assets, and actively promote them in an effort to draw international visitors to areas of natural beauty.
Water flow	6	▪ Water level fluctuations

The detailed results of working group discussions have been combined in Table 5 which sets out for each theme, the key issues, the government's development objectives and linked policies, and the sustainability principles for management.

Table 10 Summary scoping conclusions of the workshop

THEME: FISHERIES & AGRICULTURE	THEME RANKING: 1
KEY ISSUES	
Fisheries ▪ Fish migration ▪ Maintenance of spawning areas ▪ Loss of endangered species (e.g. Pla Beuk) Total species and families of fish living in Mekong River in Lao, PDR are 54 families, 525 species, based on the report of 1974 and 2003	

- Fisheries as a critical food resource for about 80% of the pop

Agriculture

- Maintenance of river bank gardens

DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
1. Meeting food security (especially the fish protein intake of the population currently averaging 8 kg/capita/year and targeted to rise by the year 2020 to about 20-23 kg/capita/year; 2. Ensuring the provision of fishery products as commercial commodities for the local market and for future export; 3. Supporting rural development for poverty alleviation and creating new opportunities for income generation; 4. Contributing to the gradual reduction of slash & burn shifting cultivation by integrating fish culture into the upland farming systems; 5. Contributing to the sustainable use, appropriate management and protection of aquatic resources including aquatic bio-diversity; 6. Upgrading and establishing appropriate basic infrastructure required for further aquatic resources research, management and development for the country; 7. Strengthening upgrading and performing the technical support services in research, extension, management and development of the sub-sector, including the LARReC, the Inland Fisheries Development Center and the Aquatic Animal Health Diagnostic Network through improving their capacity and capability to collaborate and participate in the sub-regional, regional and international aquatic resources research and development ventures. 8. Conserve threatened fish species 9. Aquatic habitat protection systems (eg establishment of protection zones) 10. Maintaining food production	▪ Fishery Law (under Draft) ▪ National Policy on Fishery and Living aquatic resources;
SUSTAINABILITY PRINCIPLES	
▪ Set-up fish conservation zones ▪ Establish aquatic protection zones ▪ Awareness outreach ▪ Fish raising development including wetland conservation ▪ aquaculture and wetlands management, ▪ reservoir fisheries management, ▪ aquatic resources identification and research, and ▪ post-harvest technology and regulations. ▪ Prohibition on exploitation of endangered species of fishes (especially the Mekong Giant Catfish) ▪ Preservation of traditional culture and methods of catching the fish and restricting other dangerous technologies	

THEME: HYDROPOWER DEVELOPMENT	THEME RANKING: 1
KEY ISSUES	

Development potential (mainstream dams)

- Generate national income
- Power trade for export to neighbouring countries
- Poverty reduction
- Support foreign developers and industry sector to promote investment

China dams (baseline)

- Impact the lower Mekong flow regime
- Mekong river sediment flow
- Downstream water supply during the dry season

DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ To contribute and develop the national economy ▪ Support domestic production ▪ Support and develop the hydropower in different investment schemes (e.g. BOT. BOOT etc)	▪ National power development plan; ▪ National Policy on Environmental and Social Sustainability of Hydro Power Sector in Lao, PDR; ▪ The electricity Law; ▪ Environment Management Standard for Electricity Project in Lao, PDR; • Regulation on Implementing Environmental Assessment for Electricity Projects in Lao, PDR; ▪ Environmental Impact Assessment for Electricity Projects.
SUSTAINABILITY PRINCIPLES	

Future hydropower:

- Designed for multipurpose use
- Ensuring resettled communities are adequately supported in the long term
- Effective coordination and integration of operations of cascade system

China dams

- Adequate notification of water releases
- Management to ensure consistent downstream flow regime

THEME: NAVIGATION	THEME RANKING: 2
KEY ISSUES	
▪ Adequate loading facilities ▪ Communications between local communities ▪ Access to health and education facilities	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN

▪ Increased boat loading facilities ▪ Promote goods distribution ▪ Reduce cost for loading goods transportation	
SUSTAINABILITY PRINCIPLES	
o Awareness outreach and capacity building on navigation and development o Improved demarcation of the Mekong channel o Support boat facilities for (families) local communities	
THEME: TOURISM	**THEME RANKING: 3**
KEY ISSUES	
▪ Loss of natural view ▪ Tourist reduction ▪ Changes to population income	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ Increasing of tourist attraction ▪ National income	▪ Promote ecotourism ▪ Promote the quality tourist activities ▪ Tourist zoning and rehabilitation ▪ Tourist Law
SUSTAINABILITY PRINCIPLES	
o 7 programmes for sustainability in the Tourist Regulation o Follow ecotourism principles	

3.4 CLOSING REMARKS – DIRECTOR MRCS ISH

The following is a summary of the closing remarks by Do Manh Hung, Director Operations Division, MRC Secretariat.

DIRECTOR DO MANH HUNG | MRCS OPERATIONS DIVISION
SHORT BULLET POINT VERSION

Distinguished Guests, Ladies and Gentlemen;

Dear Colleagues

- *As we discussed, the development of mainstream dams in the Mekong Basin is perhaps the most important decision the four member Countries of the MRC have faced since the 1995*

Mekong Agreement to cooperation on sustainable development of the basin.

- *Based on this mandate, the MRC is introducing a more holistic approach to the assessment of risks and opportunities of hydropower development through a number of mechanisms.*

As we discussed, the SEA of the mainstream dam proposals is an important, timely and focused input to help:

- *Firstly, to understand the issues to balance on these 11 mainstream dams - from national and stakeholder perspectives;*
- *Secondly, to propose a consistent and systematic framework for the appraisal of individual projects under the MRC Procedures for Notification, Prior Consultation and Agreement (PNPCA);*
- *Thirdly, to give input ongoing basin development planning process, especially the BDP and the priorities in the work of MRC Programmes to address issues identified in the SEA.*

A few words on the MRC PNPCA – in relation to Mainstream Dams

- *The Procedures for Notification, Prior Consultation and Agreement (PNPCA) state that any mainstream development proposals, are subject to rigorous prior consultation among the Member States.*
- *The PNPCA consultation aims at arriving at an agreement by the Joint Committee of the MRC on the project.*
- *The PNPCA is triggered when preparation of a mainstream dam advances to the stage where the Member Country makes as submission to the MRC. In considering proposals for mainstream hydropower developments, the Joint Committee must seek to avoid inter-state disputes by resolving several key factors related to mutually beneficial and sustainable development of the basin.*[5]
- *The ultimate decision to proceed with a project is left with the individual Member States: the seller and the buyer.*

The workshop is a further step:

- *The workshop is a further step towards dialogue around the issues and objectives in relation to the 11 mainstream proposals.*
- *But mostly - we wanted to listen to you, and to better understand how these proposed dams fit in relation to your plans in all sectors*
- *Of course we recognize there are different views – given it is a complex and highly controversial issue.*

Common challenge

5

- Optimises water use;
- Provides better benefits than can be derived through cooperation and trade-offs;
- Has an established right of claim against further proposed uses;
- Assesses the potential impacts on multi-stakeholder's rights and interests; and
- Provides for planning security.

- *Our common challenge is to maximize the opportunities and minimize the risks that hydropower offers to sustainable development of the Mekong Basin - for people today and future generations.*
- *Considering the importance of dialogue on these issues, I am most grateful that the respective line agencies and institutes have participated in the workshop.*

MRC Follow-up:

- *From the MRC side, we will also ensure that feedback from this workshop is provided on the new MRC website for the Initiative on Sustainable Hydropower (ISH).*
- *You can also see the discussions on the SEA over the next two months. I encourage you to follow progress on our website as the SEA progress and also make submissions.*

Thanks

- *Finally, I wish to thank the LNMC for bringing us all together for this work and thank the LNMC Chairman for the leadership provided to make the workshop a success.*
- *I would also like to thank the MRC team of national and riparian consultants for their diligence, hard work and impartial advice.*

With these words, I declare this national workshop closed.

4. NEXT STEPS

Similar scoping missions were undertaken in Vietnam, Cambodia and Thailand during July to October 2009. The results of these missions form the backbone of the SEA Inception Report, of which this volume of national scoping consultation reports is a part. This volume opens with a section comparing the substantive outputs of each of the four National Scoping workshops. The aim of this section is to consolidate an LMB regional list of themes and associated issues.

The Inception report determines the SEA scope and methodology based on the outcomes of the scoping missions. Timing for the subsequent steps in the SEA is outlined in Table 6.

Regional consultations will begin with a regional workshop in Phnom Penh (scheduled for January 2010) which marks the end of the baseline assessment phase. The baseline assessment phase will gather information on past trends and current status of the themes and associated key issues together with national development objectives and targets, as defined in government policy or plans. The impacts assessment phase will then overlay futures with and without dams to assess the opportunities and risks of mainstream hydropower on the issues of key concern for each LMB country. The final step is to explore avoidance, enhancement and mitigation measures to increase opportunities and minimise the risks for each nation.

The scoping mission was of particular importance, because subsequent reporting will use the consolidated list of key strategic themes to define and present the assessment. Future consultation events are presented in Table 6.

Table 11 Schedule of the major consultation events

DATE		MEETING	LOCATION	SEA STAGE
		NATIONAL CONSULTATIONS		
	Viet Nam	***Scoping Phase JUNE – SEPT***		SCOPING – What are the key development issues for the Mekong River?
JUNE	29-30	VN Government line agency meetings	Ha Noi	
JULY	02	VN National Workshop		
	03	VN Civil Society meeting		
	Lao PDR			
JULY	06-07	LAO Government line agency meetings	Vientiane	
	08-09	LAO National Workshop		
	09	LAO Civil Society meeting		
	10-11	LAO Field Mission: Xayaburi, Luang Prabang	Luang Prabang	
	Cambodia			
JULY	14-15	KH Government line agency meetings	Phnom Penh	
	16-17	KH National Workshop		
	17	KH Civil Society meeting		
AUG	03	VN Civil Society meeting	Ha Noi	
	Thailand			
AUG	14	THAI National Workshop	Bangkok	
SEP/OCT	29-01	THAI Government line agency meetings	Bangkok	
NOV	03	THAI Civil Society meeting	Bangkok	
		REGIONAL CONSULTATIONS		
	Cambodia	***Baseline Assessment Phase OCT - DEC***		BASELINE ASSESSMENT – What are the past & current trends for these issues?
JAN	21,25	Follow Up: KH Government line agency meetings	Phnom Penh	
	22-23	Cambodian Field Mission: Stung Treng, Sambor	Sambor	
	27-28	Regional Baseline Assessment Workshop	Phnom Penh	
	Thailand	***Impacts Assessment Phase JAN - APR***		IMPACTS ASSESSMENT – What are the future trends for these issues, with & without mainstream hydropower?
APR	19-20	Follow up: THAI Govt. Line agency meetings		
	22-23	Regional Impacts Assessment Workshop	Bangkok	
	24-25	Thai Field Mission: Ban Koum	Ban Koum	
	Lao PDR			
APR	27-28	Follow up: LAO Govt line agency meetings	Vientiane	
	30	Regional Multistakeholder Workshop	TBD	
MAY	01-02	Lao Field Mission: TBD	TBD	
	Viet Nam	***Avoidance, Enhancement & Mitigation Assessment Phase MAR - JUN***		MITIGATION – What measures will be useful in enhancing the benefits and avoiding or mitigating the negative effects of mainstream hydropower?
JUN	18, 21-22	Follow up: Vietnam Government line agency meetings	Hanoi/Ho Chi Minh	
	24-25	Regional Mitigation Workshop	Can Tho	

APPENDIX A: LINE AGENCY MEETING SUMMARIES

AIM: to explore the key strategic issues for the Mekong River provinces

i. *What are the strategic concerns for the development of the Mekong provinces?*
ii. *What are the strategic concerns for the sustainable use and conservation of Mekong River resources?*
iii. *What methods should the SEA adopt to effectively involve stakeholders and to conduct the assessment?*

General topics covered:

- SEA mandate & rationale
- Introduction to SEA activities completed to date and overall approach
- Lao involvement in the SEA, as implications of:
  i. National power development and rural electrification,
  ii. Regional power trade and foreign exchange earnings, and
  iii. Poverty alleviation and socioeconomic development of Mekong provinces

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Department of Electricity	*MINISTRY*	MIME
	DATE	06/7/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	• 2020: GoL aims to produce 7,000MW • Policy statement, seeks to: i. Develop hydropower for export earnings ii. Expand rural electrification by making electricity affordable iii. 2020: 90% of population will have access to electricity *Identified Key Issues:* D. Hydropower & socio-economic development E. Energy demand & rural electrification F. Foreign investment
2	**KEY ISSUES**
A	**Hydropower & socio-economic development**
	• Hydropower presents a valuable opportunity for national foreign exchange earnings and economic growth. It is both an issue of electrification and one of broader national development • Construction costs are a significant economic consideration in project feasibility • Source of financing • CNR are undertaking an optimization study of the northern cascade aims to assess operating water levels of cascade and define optimum for Lao PDR and to facilitate a coordinated approach to the proposals. • Optimization study does not account for transmission lines • Uncertainty in the regional economy is affecting governmental and private sector plans for mainstream hydropower – the effects are different for each project • Proportion of hydropower for export: • 50% of current installed capacity is exported • At the end of 2009, Nam Theun II will increase export proportion • 2020: GoL aims to realistically produce 7,000MW (ambitious plan was 10,000MW) • 90% of this is expected to be hydropower

	• 1,500MW from mainstream hydropower • Thailand has tourism and manufacturing, Lao PDR does not have many other alternatives for economic development
B	**Energy demand & rural electrification**
	• Difficult to predict local energy demand, because industrial load – a growing and volatile sector in Lao PDR – is a significant proportion of the total, with smaller domestic demand. • Current domestic demand ~450MW, one new big mining project might increase demand by 50MW and decision on these large mining projects depends on global demands for materials making it difficult for GoL to predict. • Currently Lao PDR is generating ~700MW, so some domestic demand is being met by power imports. This relates to large mining projects with direct supply arrangements with neighbouring countries. • Expand rural electrification by making electricity affordable • 2020: 90% of population will have access to electricity
C	**Foreign investment**
	• Private sector to secure PPA • Propose projects to banks for financing • Developer builds and operates the facility for 25-30years, and then transfers ownership to Government of Lao PDR • The project is expected to repay any debt to bank or financial institution • Before transfer GoL receives: • Royalites – typically 5-7% of total sale, subject to government review • Government tax – (a) income tax (5-15%); (b) corporate (10%); (c) profit (<30%) • Development banks (ADB & WB) often play a role in large infrastructure project development, often putting conditions on loans. The SEA is a useful tool to build compliance with bank requirements
D	
	•
3	**CHALLENGES**
	• SEA should be fair and objective • SEA will be valuable if it provides realistic assessment of trade-offs, but the departments anticipates this will be difficult
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	•

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Department of Livestock & Fisheries (DLF) & LARReC	*MINISTRY*	MAF
	DATE	07/7/2009
ITEM	DISCUSSION SUMMARY	
1	**CURRENT & FUTURE PLANS**	
	• Dept of Fisheries has 5 divisions and 4 centres • 3 fisheries staff per province • The fisheries law is drafted and on the process for the approval of the national assembly. • The department has clear policy about fisheries and its strategic plan. The plan is in Lao language and will be given to SEA team • Community fishery is also included in the proposed law. • Dept policies available on: i. Fisheries strategy ii. Food supply and security policy	

	iii. Reservoir management iv. Promotion of new technologies v. Promotion of aquaculture (LARReC) • Dept stressed the link between environment and community livelihoods in Lao PDR, with fisheries a one of the major conduits. • ~200,00tonnes caught per year *Fisheries Strategy* • Action Plan 2011 – 2015 completed • • The major impact of hydropower to the fisheries is the change of spawning area. Fishes could not lay egg in upstream. Dry season, big fishes could not move to upstream, only the small ones could move. Sediment and deep pool are the key issues especially for big fish like dolphin. *Identified Key Issues:* A. Fish migration B. Spawning grounds & aquatic habitats C. Sediment transport and deep pools D. Fish trade
2	**KEY ISSUES**
A	**Fish migration**
	• Single biggest potential impact on fisheries is through the blocking of migration routes • During rainy season most fish species migrate • During dry season small fish migrate (incapable of swimming against rainy season currents)
B	**Spawning grounds & aquatic habitats**
	• Impact on fisheries should study the impact on habitats as well
C	**Sediment transport and deep pools**
	• LARReC and MRC undertaking assessment of deep pools
D	**Fish trade**
	• Unofficial transboundary trade of fish • LARReC has some data for fingerlings trade to Cambodia and Thailand
E	
3	**CHALLENGES**
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• There are several studies related to fisheries esp. in the south (Sanakham, Champasack province). The study was conducted by Sydney University. The SEA team will get the copy later from LARREC.

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Department of Environmental and Social Impact Assessments (ESIA)	*MINISTRY*	WREA
	DATE	06/7/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	• Dept ESIA has 6 divisions: o Two admin divisions o Energy Technical Centre

	o Mining Technical Centre o Agriculture and forestry Technical Centre o Infrastructure & public investment projects Technical Centre • There is no strategic plan on water resources. It will be finished late this year. • Water national plan will be available next year. • Director and his team do not have much information about studies related to water resources, dam, its impact to the environment and people livelihood and fisheries. • However, the team are active and willing to cooperate with SEA team to learn, to understand and to do their tasks. • SEM – Strengthening Environmental Management project: second phase is nearing completion (4th out of 5 years) has some integrated spatial planning and SEA component as well as two pilots in Udong Xa and Champassack provinces. *Status of mainstream project environmental assessments:* • Pak Beng: IEE + TOR for EIA received mid-June and comments distributed for report review • Pak Lay: IEE + TOR for EIA received and comments distributed for report review • Don Sahong: ESIA received and requested Don Sahong to undertake a CIA *Identified Key Issues:* A. Institutional Strengthening B. Improved management processes (ESIA)
2	**KEY ISSUES**
A	**Institutional strengthening**
	• Only 10 people to cover all projects in all sectors • October 2008 –recognised the need to improve ESIA operations and new department was established by Prime Minister's decree • New department, new team with 6 division and 77 staff (half of which are recent graduates) • Pm requesting assistance from ADB and World Bank • 2005 Decree on compensation and resettlement – all projects are required to submit EIA and SIA for separate review and separate issue of certificates • No formal commitment for CIA. They are often undertaken through ADB and WB requirements. Final draft of upgrade of the decree expected to pass through the Prime Minister's office ths month [July]. New requirements include: i. Make procedures clearer ii. Projects with complex environmental and social implications will have to do a CIA iii. Potential to also request TBEIA – Transboundary Environmental Impact Assessments iv. Given limited capacity of the government, the developer's will be required to pay and engage an expert review committee. v. Developers must present 1st draft of ESIA to directly affected local communities and comments generated are required to be integrated • New decrees includes provincial level assessment • EIA approval time likely to be affected by this new decree
B	**Improved management processes (ESIA)**
	• Typical Lao PDR ESIA cycle: (i) MoU signed, (ii) 18months to complete feasibility study and EIA, but on obligation to inform Dept ESIA; (ii) inter-ministerial review of ESIA within 60days as mandated in legislation, (iii) send comments to developers, (iv) resubmit • Public consultation is mainly limited to directly affected communities (developer's are required to bear all costs associated with this) • ESIAs need processing from the Ministry of Foreign Affairs before distribution to INGOs, and initiative for INGO meetings typically comes from ADB and WB • Considering the possibility of open public disclosure • Lao Front for National Construction is responsible for ethnic minorities • After decree has been past, Dept of ESIA looking to develop guidelines. Identified as a potential SEA input into ESIA process
C	

	•
3	CHALLENGES
	• Main challenges envisaged by the Dept of ESIA are mainly institutional, since the department less than 1 year old, small and comprised of a large number of staff with little experience
4	GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS
	• Investment Law • ESIA Decree (2005), updated 2009

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Department of Irrigation	*MINISTRY*	
	DATE	06/7/2009

ITEM	DISCUSSION SUMMARY
1	CURRENT & FUTURE PLANS
	• Three scales of irrigation: o Large scale >500ha: co managed by provincial government and farmer o Medium scale 100-500ha: policy to move towards user management o Small scale <100ha: • ~2,000 irrigation schemes in total • Mekong River irrigation is mostly medium scale with an order of 100 med. Schemes along the Mekong *Irrigation policy sets priorities as:* o Environmental protection o Commercial development (rice and high yield cash crops) o Li velihoods • Champassack province has seen large scale agricultural investment – especially Savannahkhet • 1990 – set goal for rice self-sufficiency • 2000 – GoL achieved rice self-sufficiency largely based on mainstream Mekong agriculture *Identified Key Issues:* A. Farmer management skills B. Maintenance of irrigation infrastructure & agricultural yields
2	KEY ISSUES
A	Farmer management skills
	• Government intends to transfer med irrigation schemes to farmer management • Currently, farmers lack the management expertise for this to be achieved. For example, pumps installed by the government can not be maintained by farmes (lack financial and technical capacity)
B	Maintenance of irrigation infrastructure & agricultural yields
	• Rice self-sufficiency was largely achieved because of an intensification of government spending and commitment 1997 – 2000. • 2005: there was a major drop in productivity as infrastructure required maintenance but GoL did not invest sufficiently in irrigation services
C	
3	CHALLENGES
	•
4	GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS
	• Irrigation policy to promote irrigated agriculture

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Department of Forestry	*MINISTRY*	
	DATE	07/7/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**

	Forestry Strategy 2020
	• Target – increase forest cover area to 16.5million ha (70%). This includes:
	  o Protected forest (8.2million ha) – focus on steep and hilly slopes
	  o Conservation forest (3.5million ha)
	  o Production forest (3.5million ha)
	• To be achieved by:
	  o Rehabilitate degraded forest area ~ 3.5 million ha (mainly through natural regeneration with enrichment planning). I
	  o Plantation (0.5million ha) includes rubber, eucalyptus, acacia amongst others
	
	2+3 Strategy
	• Policy describing the community-investor partnership for forestry
	• Communities contribute: (i) labour, (ii) land
	• Investors contribute: (i) technical assistance, (ii) resources, (iii) marketing
	
	Identified Key Issues:
	A. Sectoral & landuse conflicts
	B. Improved management processes

2	**KEY ISSUES**
A	**Sectoral & landuse conflicts**
	• Forestry has a history of conflicting with other sectors. The most obvious is agriculture but conflict with hydropower is increasing • Reduction in forest area due to hydropower is ~150,000ha based on incomplete records • Accessibility affects forest encroachment and is linked to infrastructure development
B	**Improved management processes**
	• Affirmed the importance of EIA process • Considering the integration of PES – Payment for Environmental Services integrated into the planning process
C	
	•
3	**CHALLENGES**
	•
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• Forestry strategy • 2 + 3 strategy

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Department of Water Resources	*MINISTRY*	WREA
	DATE	07/7/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	• New department, new team, just start 3 months ago. • There is no strategic plan on water resources. It will be finished late this year. Water national

	plan will be available next year. • Director and his team do not have much information about studies related to water resources, dam, its impact to the environment and people livelihood and fisheries. • However, the team are active and willing to cooperate with SEA team to learn, to understand and to do their tasks. *Identified Key Issues:* A. Institutional strengthening B.
2	**KEY ISSUES**
A	**Institutional strengthening**
	• New department with a new strategic plan being released 2009-10-11 • Building capacity to implement the strategy is a long term commitment of DWR
B	
3	**CHALLENGES**
	•
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	•

APPENDIX B – WORKSHOP AGENDA & PARTICIPANTS

AGENDA

MRC SEA OF HYDROPOWER ON THE MEKONG MAINSTREAM

LAO NATIONAL SCOPING WORKSHOP

08 – 09 JULY 2009
NOVOTEL VIENTIANE

AGENDA

MRC SEA HYDROPOWER ON THE MEKONG MAINSTREAM		
MRC SEA LAO PDR SCOPING WORKSHOP		
Date: 08 - 09 July 2009		
Location: Vientiane		
DAY ONE: 01 JULY 8:00 – 17:00		
8:00 – 8:20	*Registration*	
8:20 – 8:25	***Welcome Address***	Mr. Phonchaleun Director General of Department of Water Resources
8:25 – 8: 35	***Introductory Address***	Mr. Phonchaleun Chairman LNMC
8:35 – 9:15	***Introduction to the MRC SEA*** (i) What is the SEA? (ii) Definition of "the Mainstream Hydropower Plan" (iii) SEA timeline	SEA Team
SEA REGIONAL ENERGY CONTEXT		
9:15 – 10:00	***The Regional context for the SEA*** (i) Overview of the region (ii) Energy Demand/Supply and the contribution of power trade	SEA Team
10:00 – 10:30	***Plenary discussions: questions and clarification***	All participants
10:30 – 10:45	*Coffee break*	
SEA NATIONAL CONTEXT		
10:45 – 11:05	***National Power and Hydropower Development Plans*** (i) Current and future plans (ii) Overview of the 11 mainstream projects	Director-General General Dept of Electricity / Ministry of Energy & Mines
11:05 – 11:25	***The ESIA Review and Approval Process*** (i) How the process works (ii) History of ESIA application to hydropower (iii) Lessons learned (iv) Timeline for the 11 mainstream hydropower projects	Director-General ESIA Department WREA

11:25 – 12:00	***Plenary discussions: questions and clarification***	All participants
12:00 – 13:00	*Lunch break*	
13:00 – 13:15	***Fisheries: planning & challenges for Lao PDR*** (i) Overview of the current and future directions for Mekong Fisheries (ii) Critical issues	Department of Livestock & Fisheries
13:15 – 13:30	***Water Resources & Agriculture: planning & challenges for Lao PDR*** (i) Overview of the current and future directions for Agriculture along the Mekong mainstream (ii) Critical issues	Department of Irrigation, MAF
SEA – A TOOL FOR DEVELOPMENT PLANNING		
13:30 – 14:10	***SEA as a tool*** (i) What can an SEA achieve? (ii) SEA – the situation in the region (iii) SEA – the situation in Viet Nam (iv) Steps for the MRC SEA	SEA Team
14:10 – 14:45	***Plenary discussions***	All participants
14:45 – 15:00	*Coffee break*	
15:00 – 15:15	***Working Session: Lao PDR's development priorities for the Mekong*** (i) sustainability objectives guiding the SEA	SEA Team
15:15 – 16:30	***Plenary Working Session*** (i) Working groups report back to plenary (ii) Facilitated discussion	All participants
16:30 – 17:00	***Day One: Wrap up session*** (i) Program for tomorrow	All participants
	Close of Day One	
DAY TWO: 02 JULY 8:00 – 12:00		
SEA – KEY STRATEGIC ISSUES FOR THE MEKONG RIVER		
8:00 – 8:15	***Overview of Day One*** (i) Synthesized presentation of Development priorities working session	SEA Team
8:15 – 8:25	***Provincial Development Concerns & Challenges: Luang Prabang*** (i) History of development (ii) Future directions	WREO LPB Provincial Government
08:25 – -8:35	***Provincial Development Concerns & Challenges: Vientiane*** (i) History of development (ii) Future directions	WREO Vientiane Provincial Government
08:35 – -8:45	***Provincial Development Concerns & Challenges: Champassack*** (i) History of development (ii) Future directions	WREO Champassack Provincial Government
08:45 – 9:45	***Working Session: Critical development concerns for the Mekong River – Setting the scope of the SEA*** (i) Critical development concerns facing the Mekong	All participants

	River (ii) Findings of SEA preliminary consultations (iii) Working session	
9:45-10:00	*Coffee break*	
10:00 – 11:30	***Working Session: Critical development concerns for the Mekong River – Setting the scope of the SEA (continued)*** (ii) Working groups report back to plenary	All participants
11:30 – 12:00	***The Next Steps for the SEA***	SEA Team
	Close of Workshop	

LIST OF PARTICIPANTS

	NAME	ORGANISATION	MINISTRY
1	Ms Thamma Phetvixay	WREO Vientiane Province	WREA
2	Mr Khamphua	WREAO Luang Prabang	WREA
3	Mr Soulaphone	DWR	DWR
4	Phonechaleun Nonthaxay	DWR	DWR
5	Mr Bounkham	WREO Champassak	WREA
6	Mr Phouthone	DOI	MAF
7	Mr Bouema	DLF	MAF
8	Mr Bouphanh	DOF	
9	Mr Khanmauy	DMH	
10	Mr Bounpeckone Phongphichit	WERI	WREA
11	Mr Eravanh	DOM	
12	Mr Khamsone Philavong	DWR	
13	Mr Pouvong Luangxayama	ESIA	WREA
14	Mr Douamgkom	LARREC	MAF
15	Ms Bouakham	Hygiene& Preventative medicine	
16	Mr Sounh Meanivong	LNTA	
17	Hatsidy Syoulath	MEM	MEM
18	Souphanh Gnalashdith	Dept. Waterways	MPWT
19	Mr Khamphet Roger	LARREC	MAF
20	Boualeum	DOE	MEM
21	Mr Vansath Sisaketh	DWR	WREA
22	Do Manh Hung	ISH/OPS	MRCS
23	Voradeth Phonekeo	ISH	MRCS
24	Larry Haas	ISH	MRCS
25	Phoumin Han	ISH	MRCS
26	Jeremy Carew-Reid	Team Leader	SEA Team
27	Peter-John Meynell	EIA specialist	SEA Team
28	Liz Man	Social systems specialist	SEA Team
29	Phaknakhone Rattana	Lao Team Leader/ Environmental Engineer	SEA Team
30	Bounheuang Phantasith	Natural Systems specialist	SEA Team
31	Nguyen Thi Nga	Finance & operations	SEA Team
32	Tarek Ketelsen	Project Coordinator	SEA Team

APPENDIX C– WORKSHOP PRESENTATIONS

APPENDIX D – WORKING SESSIONS: MATERIALS & OUTPUTS

D1 THE WORKING SESSION TEMPLATE

THEME:	THEME RANKING:
KEY ISSUES	
List the 5-6 key issues for the theme which are most relevant for the Mekong River	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ List the specific development objectives and targets relevant to the theme	▪ List the policies or plans relevant for the theme
SUSTAINABILITY PRINCIPLES	
▪ Define the sustainability principles relevant to this theme	

D2 GROUP 1

Group 1 ranked and discussed the top 5 themes (see the table below). However, due to time constraints the working group filled out templates for the top 3 rankings.

THEME	RANK	ISSUES
Fishery	1	▪ Decrease in Indigenous fish species ▪ Degradation of community diet (About 80% protein comes from fish consumption) ▪ Lost of ecological water resources ▪ Disruption to fish lice cycle and subsequent impacts on livelihoods
Navigation	2	▪ Restricted Navigation (if no ship lock) ▪ Changes to local life style (eg fishing habits, river passage) ▪ Communication between villages
Tourism	3	▪ Loss of natural view ▪ Reduction in tourism ▪ Implications for socio-economic growth
Sedimentation, Erosion, Water quality	4	▪ Changes to water levels ▪ Loss of agricultural land ▪ Water quality degradation
Resettlement/Cultural/Heritage	5	▪ Loss of agricultural land ▪ Loss of cultural heritage ▪ Changes to community life-style ▪ Psycho-social impacts

Water flow	6	▪ Water level fluctuations

THEME: FISHERY	THEME RANKING: 1
KEY ISSUES	
▪ Fisheries as a critical food resource for about 80% of the pop	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ Meeting food security (especially the fish protein intake of the population currently averaging 8 kg/capita/year and targeted to rise by the year 2020 to about 20-23 kg/capita/year; ▪ Ensuring the provision of fishery products as commercial commodities for the local market and for future export; ▪ Supporting rural development in the perspective of poverty alleviation and income generating opportunities; ▪ Contributing to the gradual reduction of slash & burn shifting cultivation by integrating fish culture into the upland farming systems; ▪ Contributing to the sustainable use, appropriate management and protection of aquatic resources including aquatic bio-diversity; ▪ Upgrading and establishing appropriate basic infrastructure required for further aquatic resources research, management and development for the country; ▪ Strengthening upgrading and performing the technical support services in research, extension, management and development of the sub-sector, including the LARReC, the Inland Fisheries Development Center and the Aquatic Animal Health Diagnostic Network through improving their capacity and capability to collaborate and participate in the sub-regional, regional and international aquatic resources research and development ventures.	o Fishery Law (under Draft)
SUSTAINABILITY PRINCIPLES	
o Set-up fish conservation zone o Awareness outreach o Fish raising development including wetland conservation o aquaculture and wetlands management, o reservoir fisheries management, o aquatic resources identification and research, and o post-harvest technology and regulations.	

<table>
<tr><th>THEME: NAVIGATION</th><th>THEME RANKING: 2</th></tr>
<tr><td colspan="2">KEY ISSUES</td></tr>
<tr><td colspan="2">▪ Adequate loading facilities
▪ Communications between local communities
▪ Access to health and education facilities</td></tr>
<tr><td>DEVELOPMENT OBJECTIVES</td><td>RELEVANT POLICY OR PLAN</td></tr>
<tr><td>▪ Increased boat loading facilities
▪ Promote goods distribution
▪ Reduce cost for loading goods transportation</td><td>▪</td></tr>
<tr><td>SUSTAINABILITY PRINCIPLES</td><td></td></tr>
<tr><td colspan="2">o Awareness outreach and capacity building on navigation and development
o Improved demarcation of the Mekong channel
o Support boat facilities for (families) local communities</td></tr>
<tr><th>THEME: TOURISM</th><th>THEME RANKING: 3</th></tr>
<tr><td colspan="2">KEY ISSUES</td></tr>
<tr><td colspan="2">▪ Loss of natural view
▪ Tourist reduction
▪ Changes to population income</td></tr>
<tr><td>DEVELOPMENT OBJECTIVES</td><td>RELEVANT POLICY OR PLAN</td></tr>
<tr><td>▪ Increasing of tourist attraction
▪ National income</td><td>▪ Promote ecotourism
▪ Promote the quality tourist activities
▪ Tourist zoning and rehabilitation
▪ Tourist Law</td></tr>
<tr><td>SUSTAINABILITY PRINCIPLES</td><td></td></tr>
<tr><td colspan="2">o 7 programmes in the Tourist Regulation</td></tr>
</table>

D3 GROUP 2:

Group 2 ranked and discussed the top 5 themes (see the table below). However, due to time constraints the working group filled out templates for the top 2 rankings.

THEME	RANK	ISSUES
Hydropower	1	• Two aspects were discussed: (i) the future hydropower potential and (ii) the downstream effects of existing China dams
Agriculture, Fishery	2	• Fishes are recognized as main food for the local Lao people. Total species and families of fish living in Mekong River in Lao, PDR are 54 families, 525 species, which is based on the report of 1974 and 2003. • More than 70 percentage of Lao people rely on agriculture, the major types of agriculture include (wet and dry season) rice paddy, shifting (Swidden) cultivation, maize and river bank vegetable gardens.
Processing Industry	3	• There are presently few large-to-medium scale industries in Lao, PDR. Projected to grow,with more industries (related to the agricultural sector, mining, hydropower) and many small-scale "cottage" industries- such as producing cotton and silk textiles and other handicrafts, processing agricultural goods and non-timber forest products, making furniture and other household goods-exist throughout the Project provinces.
Navigation	4	• River transport on Mekong river is very important for the international passenger and cargo transportation and to promote and facilitate trade and tourism in GMS countries.
Tourism	5	• The Lao PDR's tourism industry is expanding rapidly and offers a key opportunity to earn significant foreign exchange. • The Lao authorities recognize the importance of its abundant natural and cultural assets, and actively promote them in an effort to draw international visitors to areas of natural beauty.

THEME: HYDROPOWER DEVELOPMENT	THEME RANKING: 1
KEY ISSUES	
Development potential (mainstream dams) • Generate national income • Power trade for export to neighbouring countries • Poverty reduction • South-East Asian battery • Support foreign developers and industry sector to promote investment China dams (baseline) ▪ Impact the lower Mekong flow regime ▪ Mekong river sediment flow ▪ Downstream water supply during the dry season	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ To contribute and develop economic of the country ▪ Support domestic production ▪ Support and develop the hydropower in different mode investment (e.g. BOT. BOOT etc)	▪ National power development plan; ▪ National Policy on Environmental and Social Sustainability of Hydro Power Sector in Lao, PDR; ▪ The electricity Law; ▪ Environment Management Standard for Electricity Project in Lao, PDR; • Regulation on Implementing Environmental

	Assessment for Electricity Projects in Lao, PDR; ▪ Environmental Impact Assessment for Electricity Projects.
SUSTAINABILITY PRINCIPLES	

Future hydropower:

- Designed for multipurpose use
- Ensuring resettled communities are adequately supported in the long term
- Effective coordination and integration of operations of cascade system

China dams

- Adequate notification of water releases
- Management to ensure consistent downstream flow regime

THEME: AGRICULTURE AND FISHERY	THEME RANKING:
KEY ISSUES	

Fisheries

- Fish migration
- Maintenance of spawning areas
- Loss of endangered species (e.g. Pla Beuk)

Agriculture

- Maintenance of river bank gardens
- Increasing agricultural productivity to limit need for imported produce

DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ Conserve the threatened species ▪ Aquatic habitat protection systems (eg establishment of protection zones) ▪ Maintaining food production	▪ Fish law (under draft) ▪ National Policy on Fishery and Living aquatic resources;
SUSTAINABILITY PRINCIPLES	

- Prohibition on exploitation of endangered species of fishes (especially the Mekong Giant Catfish)
- Preservation of traditional culture and methods of catching the fish

A summary of Thailand government meetings and national scoping workshop

An input to the SEA scoping process

ICEM – International Centre for Environmental Management

7/24/2009

Disclaimer

This document was prepared for the Mekong River Commission Secretariat (MRCS) by a consultant team engaged to facilitate preparation of a Strategic Environment Assessment (SEA) of proposals for mainstream dams in the Lower Mekong Basin in the 2009-2010 timeframe.

This document was prepared to assist the Secretariat as part of the information gathering activity. The views, conclusions, and recommendations contained in the document are not to be taken to represent the views of the MRC. Any and all of the MRC views, conclusions, and recommendations will be set forth solely in the MRC reports.

This document is a record of a meeting. All stakeholders whether at the meeting or not are invited to submit written contributions via the MRC website.

For further information on the MRC initiative on Sustainable Hydropower (ISH) and the implementation of the SEA of proposed mainstream developments can be found on the MRC website: http://www.mrcmekong.org/ish/ish.htm and http://www.mrcmekong.org/ish/SEA.htm

The following position on mainstream dams is provided on the MRC website in 2009.

MRC position on the proposed mainstream hydropower dams in the Lower Mekong Basin

More than eleven hydropower dams are currently being studied by private sector developers for the mainstream of the Mekong. The 1995 Mekong Agreement requires that such projects are discussed extensively among all four countries prior to any decision being taken. That discussion, facilitated by MRC, will consider the full range of social, environmental and cross-sector development impacts within the Lower Mekong Basin. So far, none of the prospective developers have reached the stage of notification and prior consultation required under the Mekong Agreement. MRC has already carried out extensive studies on the consequences for fisheries and peoples livelihoods and this information is widely available, see for example report of an expert group meeting on dams and fisheries. MRC is undertaking a Strategic Environmental Assessment (SEA) of the proposed mainstream dams to provide a broader understanding of the opportunities and risks of such development. Dialogue on these planned projects with governments, civil society and the private sector is being facilitated by MRC and all comments received will be considered.

Mekong River Commission Secretariat
P.O. Box 6101, Vientiane, 01000, Thailand
Email: mrcs@mrcmekong.org

About the MRC SEA of Hydropower on the Mekong mainstream

The Mekong River Commission (MRC) is an international, country-driven river basin organisation that provides the institutional framework to promote regional cooperation in order to implement the 1995 Agreement. The MRC serves its member states by supporting decisions and promoting action on sustainable development and poverty alleviation as a contribution to the UN Millennium Development Goals.

In a region undergoing rapid change and economic growth, the MRC considers the development of hydropower on the Mekong mainstream as one of the most important strategic issues facing the Lower Mekong region. Through the knowledge embedded in all MRC programs and coordinated through the new MRC Initiative for Sustainable Hydropower (ISH), the MRC seeks to assist Member states to work together and make the best decisions for the basin.

Eleven hydropower schemes have been proposed for the Lao, Lao-Thai and Cambodian reaches of the Mekong mainstream. Implementation of any or all of the proposed mainstream projects in the Lower Mekong Basin (LMB) could have profound and wide-ranging socio-economic and environmental impacts in all four riparian countries (Cambodia, Thailand, Thailand, Vietnam). The LMB governments decided that MRC ISH should conduct a Strategic Environmental Assessment (SEA) of all the proposed projects to fully assess their potential cumulative and multiplier effects.

The Initiative for Sustainable Hydropower (ISH) is a cross-cutting program working with all MRC programmes, focussing on balancing social, environmental and economic considerations of potential energy futures for the Lower Mekong Basin. The MRC recognises that there are two main decision-making spheres in the LMB; the IWRM sphere (where integrated basin planning is undertaken) and the Power sector and industry sphere (where decisions on hydropower are taken). The ISH, through its projects and activities, aims to bring these two decision-making worlds together.

This MRC ISH SEA seeks to identify the potential opportunities and risks, as well as contribution of hydropower to regional development, by assessing alternative mainstream Mekong hydropower development strategies. In particular the SEA focuses on regional distribution of costs and benefits with respect to economic development, social equity and environmental protection. The SEA began in May 2009 and is scheduled to complete the final report and recommendations by mid-2010.

This document is one of a series of documents arising from an intensive program of consultations in the Lower Mekong Basin and detailed expert analysis of the issues associated with developing hydropower on the Mekong mainstream. The intention is to consolidate SEA activities and progressively make conclusions and outputs available for public and critical review, so that stakeholder engagement can contribute to the SEA in a meaningful way. A full list of documents is available on the MRC SEA website.

The context and aims of the MRC SEA of Proposed Hydropower Schemes on the lower Mekong mainstream

MRC GOALS (2006 - 2010)

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

MRC PROGRAMMES

1 Basin Development Plan and IWRM Strategy

2.Facilitate effective dialogue and communication to reinforce multi-disciplinary cooperaiton, and functional partnering with regard to hydropower and the PNPCA process

3. Support technical knowledge sharing and capacity building within MRCS, NMCs, line agencies, regulatory bodies and other stakeholders

4. Embed sustainable hydropower into the regional planning processes of Member States

SEA

1. Helps to integrate energy and power sector into the BDP
2. Understand development risks and opportunities of mainstream developments and their regional distribution
3. Contributes to the framework for project – specific evaluation
4. Strengthen the respective analytical SEA capabilities in the concerned line agencies of the MRC Member States

CONTENTS

NATIONAL SCOPING ACTIVITIES

This report summarises the results of Thai government line agency meetings and a national workshop on the scope of the SEA of hydropower on the mainstream Mekong River.

BACKGROUND

The Thai development concerns for the Mekong provinces are focused on the livelihoods and economic growth. Most issues discussed were framed within this context (livelihoods, poverty alleviation, health, migration, agricultural expansion, cultural heritage). More than any of the other countries the Thai concerns for the Mekong were expressed overwhelmingly at the provincial and local level not the national. More than the others LMB countries, Thailand was concerned about the institutional strengthening of government agencies that is required to manage both hydropower approval and operations processes in a sustainable way.

The Thai discussions reflected the complex and sometimes conflicting sets of interests which various sectors bring to the debate over mainstream projects. The following range of interests was identified for Thailand in considering the appropriate scope for the SEA:

(i) ***Communities impacted:*** Local concerns regarding flooding of Mekong districts by some project reservoirs
(ii) ***Private sector developers:*** Private Thai companies are involved as investors and developers in mainstream projects
(iii) ***Power importer:*** Thailand is a potential power importer and consumer
(iv) ***Competing resource users:*** Thailand is a downstream user of Mekong River waters and resources (eg irrigation and fisheries)
(v) ***Local livelihoods:*** Thailand's priority concern for poverty reduction in disadvantaged Mekong Provinces and the NE region of the country
(vi) ***Tributary developer:*** Thailand is a developer of Mekong tributaries and contributing to Mekong River conditions
(vii) ***Potential mainstream project planner:*** Some proposed mainstream projects are on the Thai-Lao PDR border – potential Thai Government involvement as project planner

THE THAI SCOPING ACTIVITIES

The Thai national government scoping activities were conducted over two missions to Bangkok (August – October 2009). A future mission is scheduled for early November to conduct the Civil Society Workshop. The Thai national consultations involve three components:

i. An intensive program of individual meetings with key government line agencies;
ii. A National Scoping Workshop to define the spatial, temporal and thematic coverage of the SEA;
iii. A Civil-Society Organisations (CSO) meeting to define the development context and opportunities for cooperation between the SEA and civil-society (to be held 3 November and reported separatly);

The national SEA scoping activities built a solid foundation of institutional partners and experts within government to be involved in each phase of the assessment. Its primary aim was to receive guidance from this network on the scope of the SEA and on its methodology. Similar scoping consultations were conducted in each of the LMB countries (Vietnam, Lao PDR and Cambodia).

The scoping consultations were an important start in integrating the concerns and views of Thai government experts in the SEA process, as well as improving initial awareness and understanding of the SEA process to establish a strong participatory platform for future SEA activities.

The national consultations in each country are supported by civil society and donor round tables. In Thailand, the first civil society roundtable will take place 3 November 2009 including some participation from the donor community, international development and conservation organisations and local community representatives from the Mekong provinces. The results of those consultations will be covered in a separate summary report. Together these reports provide a summary of the Thai perspective on the scope and approach for the SEA. A summary comparison of national perspectives appears as Part A of this volume of national reports, aiming to sketch out the complementary and conflicting issues of national interest in the LMB nations.

This report provides short briefs on each of the Thai line agency meetings and of discussions at the national workshop of government agency representatives.

NATIONAL GOVERNMENT LINE AGENCY MEETINGS

OVERVIEW

The purpose of the individual meetings with government line agencies was to:

(i) introduce the SEA team, objectives, methodology and timing to key line agencies and
(ii) to receive their initial views on key strategic issues of concern to development in Mekong River.

The scoping meetings opened discussion on River wide challenges and priorities relating to, for example, power, fisheries, irrigation and development in other economic sectors. They also covered the environmental and social pressures facing the Mekong provinces such as low agricultural yields, soil erosion, migration and water scarcity.

Over a period of 3 days the SEA Team met with six line agencies listed in Table 1. The meetings were typically 1.5-2 hours of facilitated discussion around a set of questions which had been circulated beforehand by email.

Table 12: Line agencies consulted during the Scoping Mission

No	Meeting with	Meeting location	Theme discussed
1	Royal Irrigation Department	RID	▪ Institutional strengthening, improving management processes, ▪ multi-use water storage infrastructure, ▪ Rural development & decentralization, ▪ agricultural sector

			▪ energy demand, ▪ domestic water use, ▪ fish migration
2	EGAT – Electricity Generation Authority of Thailand	EGAT	▪ Energy demand, ▪ energy independence, ▪ power trade
3	Navigation & Maritime Department	Navigation & Maritime Department	▪ Navigable passage, ▪ waterway-road-rail transport integration, ▪ integrated planning
4	Department of Renewable Energy Development & Energy Efficiency Department	DEDE	▪ Renewable energy potential in meeting demand, ▪ Government renewable energy plan ▪ Decentralisation the key policy thrust
5	National Economic & Social Development Board	NESDB	▪ Mekong river as a border, not a resource ▪ Large irrigation projects for the NE region, ▪ Soil erosion major development issue ▪ Use of SEA in transboundary planning
6	Department of Fisheries	MOF	▪ Aquatic biodiversity & fisheries productivity, ▪ spawning & rearing grounds, ▪ fish migration, ▪ fish passage requirements, ▪ reservoir fisheries, ▪ species extinction
7	Department of Public Health	DPH	▪ Water-borne diseases, ▪ access to health services, ▪ poverty, ▪ institutional strengthening
8	Department of EIA	ONEP	▪ Local livelihoods, ▪ wetlands and aquatic habitats, ▪ fisheries, ▪ River morphology and changes to national boundaries, ▪ Using SEA in decision making

A short summary report for each meeting is provided in Appendix A, each organized according to the key strategic issues which the line agency identified.

Some days before the meetings, the government officials were provided with background materials such as guiding questions and explanation of the SEA objectives and process, and a comparative summary of the National Scoping workshops. Consequently, meetings were generally able to remain on target. Agencies also chose to discuss some of the institutional challenges facing their departments. Some discussion moved towards an assessment of the opportunities and risks of mainstream hydropower before the issues of concern were consolidated. In this regard, the line agency meetings served an ancillary purpose of building understanding of the entire SEA process.

SUMMARY OF FINDINGS

Based on the government line agency meetings, the following issues were identified as being of current strategic significance for the Mekong River. The number in brackets denotes the number of line agencies which identified the particular issue, but no attempt is made to rank the issues here. More detailed meeting notes appear as Appendix A:

- Fisheries and fish migration (x3[6])
- Spawning and rearing habitats
- Species extinction
- Reservoir fisheries
- Wetlands and aquatic habitats
- Catchment hydrology & water scarcity (2)
- Large-scale Mekong water transfer and irrigation projects (2)
- Multi-use water storage infrastructure
- Rural Development & decentralization (2)
- Public health and water borne diseases
- Agricultural sector energy demand in the North-East (2)
- Domestic water use Energy demand
- Energy Independence
- Navigable passage
- Waterway-Road-Rail transport integration Integrated planning
- Local livelihoods
- River morphology and changes to national boundaries
- Using SEA in decision making

NATIONAL SCOPING WORKSHOP

OVERVIEW

The purpose of the national scoping workshop was to promote discussion and exchange amongst government line agencies to more systematically identify the key strategic issues to be addressed by the SEA and their different geographical and sectoral levels of focus. Specifically, the National Scoping Workshop aimed to:

(i) Define the key strategic issues to be addressed by the SEA.
(ii) Review and refine the SEA approach

The workshop was organised and chaired by the Thai National Mekong Committee (TNMC). There were 31 participants: 20 from Government line agencies, 6 from MRCS and 5 from the SEA Team. Nine government ministries were represented. A full list of participants together with the workshop agenda appears as Appendix B.

There were two main components to the workshop. Their function and time allocation is set out in Table 2.

Table 13 Main components of the Lao National Scoping Workshop

ITEM	WORKSHOP COMPONENT	FUNCTION	PROPORTION OF THE WORKSHOP
1	Presentations	▪ Stimulate discussion ▪ Share understanding of the sectoral focus and priorities of the Government of Lao ▪ Present the level of information available at the MRCS of the Thai context ▪ Build understanding of the SEA	40%
2	Plenary Discussions & Question time	▪ Orientate presented materials towards the strategic issues ▪ Record and consolidate points of agreement	60%

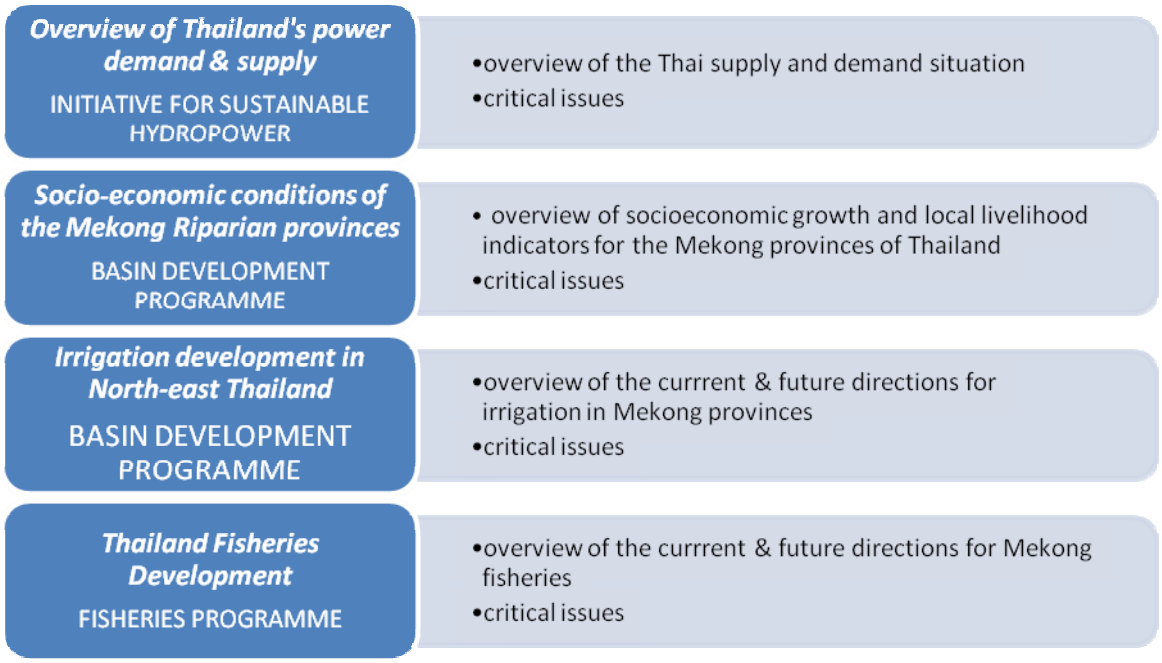
[6] " "x3" indicates that three line agencies raised this issue, "x2" indicates that 2 agencies raised an issue and so on

		▪ Build consensus on the SEA themes ▪ Identify and discuss the key strategic issues the SEA will need to address	

PRESENTATIONS

Following a number of presentations by the SEA team on the SEA objectives, the mainstream hydropower projects under assessment and the SEA approach, four presentations were made by MRC Programme representatives during the workshop. They are provided in full on the MRC SEA webpage. The four presentations and their respective focus are outlined in Figure 2. Presentations by the SEA Team are also available from the MRC website.[7]

Figure 3 Workshop Presentations



PLENARY DISCUSSIONS

The plenary discussions focussed on identifying the strategic issues, by orienting debate around two broad subjects: current development issues facing the Mekong River provinces, and Thailand's position as a partner for power trade, and regional cooperation.

The discussion is summarized in Table 3, with comments and questions divided by theme. The themes used in organising the plenary comments were developed by the SEA team before the workshop on the basis of the initial discussions with government agencies and the outputs from consultations in the other LMB countries. Although they resemble the themes identified by the workshop participants there are some differences – the themes should be considered as an evolving framework to be shaped and prioritized by national consultations as the SEA proceeds.

[7] http://www.mrcmekong.org/ish/SEA.htm

Table 14: Summary of plenary discussions

No.	Government of Thailand Scoping Workshop Key Themes
	1. Metrology, Climate Change, Hydrology, Water Quality & Sediment
1	Flows in the Mekong are often a point of contention between countries. An example was given of the recent floods in Nong Khai being attributed to Chinese management of mainstream flows. However it was reinforced that explanations, analysis and assessment should be firmly based on scientific understanding.
2	Sediment management influence of Chinese dams is of important for north east Thailand and Laos
3	Downstream implications of water management structures is a key issue for regional cooperation
4	potential for permanent year-round flooding
5	Bank erosion is an important issue for Thailand and Lao PDR
	2. Aquatic Biodiversity & Fisheries
1	Changing flows, causes fishing to decline, MRC will have to study closely to substantiate the link between changing hydrodynamics and fisheries. The discussion tends to focus on barrier effects, but SEA should consider other effects: • productivity • migration • spawning grounds • Loss of species
2	There are important lessons from reservoir fisheries experience in Thailand – but only a few native Mekong species have been successfully bred.
3	Natural barriers to fish passage (e.g. Hu Sahong channel over Khone Falls) should be used to inform design of fish passages – what are the key ingredients to successful passage in those natural rapid situations
4	Cultural value of signature species. Set the preservation of catfish as a national target for Thailand in the SEA
5	Take into account different species of fish, different migration patterns, different areas and periods
	There is a link between tributary fisheries and mainstream fisheries, which is important for Impacts on fish diversity and production capacity.
	3. Terrestrial Ecology, Forestry and land use/change
1	Songkhram is a significant area for forestry – and there is a clear ecosystem function link between the areas fisheries and forestry change of fish species
	4. Agriculture, Irrigation & Water Supply
1	Water utilization presents conflict between hydropower and irrigation – multi-use collaboration on the mainstream has not been adequately explored (Pak Mun may have been the last serious attempt)
2	All projects start from power generation perspective, not based upon multi-use criteria (agriculture and fisheries interests)
3	Application of IWRM would require a more collaborative planning approach between sectors and could affect site location
4	The north eastern province has high population, low rainfall and poor soils. These people's livelihoods will be greatly improved if the region can improve the area irrigated by Mekong mainstream waters. This means that hydropower projects should only be developed as multi-use so that all uses are optimized – not just power generation

	5. Transport & Navigation
1	Channel obstruction is a major barrier to navigation expansion
2	Free passage would be a great asset to the region.
	6. Power Development
1	Thai SEA guidelines are at the final stages of the approval process
2	Mainstream projects require more environmental assessments which should be shared with other LMB countries
3	Power demand figures are changing in response to the global and national economic climate – it is possible that Thailand will not need to import the power from Laos or Cambodia.
4	Fuel wood - There are forestry implications associated with energy security in Thailand
	9. Health & Nutrition
1	Malnutrition needs to be considered as an effect of food and livelihood security and ecosystem integrity
2	Social aspects refer to malnutrition, should broaden the mandate to include HIAs (Health Impact Assessments) as well
	10. Resettlement, migration, population growth, human trafficking & urban dvt.
1	High migration rate from northeast provinces to cities – the demographics of the Mekong Provinces are changing rapidly
	Other Issues Raised (mainly Governance)
1	Clearly define the scope of the SEA, if it is to be effective. Concerned about whether the scope can be made realistic – there are many issues, it can't cover them all.
2	Terminology for the projects is important in understanding how they perform in practice (dams, weirs or barrages)
3	Regional cooperation is limited by absence of Upper Mekong involvement – the Yunnan Province projects have an important influence that needs to be understood.
4	PNPCA process for tributaries remains unclear. Effects on tributaries – this is clearly within the jurisdiction of the LMB cooperation. How do we engage the PNPCA(Prior notification Prior Consultation Agreement) process into tributary decision making
5	Concern was expressed over the high volume of water flowing through the Mekong in June, and the need for MRC to provide some explanation – does it relate to operation of the Yunnan projects?
6	SEA should provide an overall picture on what is proposed and how it will benefit the whole region and Thailand.
7	Other countries at different stages of SEA development – to what extent is the SEA integrated in national systems?
8	Mutual benefit: we know we have an agreement in the LMB, but no agreement on the UMB (Upper Mekong Basin). This implies a different planning context
9	What follow up activities for regional decision making will be required based on SEA recommendations?
10	SEA needs to build strategies on what happens when regional cooperation (including China) falls below expectations. If this cannot be addressed then policy briefs would be useful
11	MRC should not infringe on Thai sovereignty

NEXT STEPS

Similar scoping missions were undertaken in Lao PDR, Cambodia and Vietnam during July and August 2009. The results of those missions – the national line agency discussions, national scoping workshops and civil society workshops form the backbone of the Inception Report which

summarises the SEA scope and methodology. Timing for the subsequent steps in the SEA is outlined in Table 4.

Regional consultations will begin with a regional workshop in Phnom Penh (scheduled for January 2010) which marks the end of the baseline assessment phase. The baseline assessment phase will gather information on past trends and current status of the themes and associated key issues together with national development objectives and targets, as defined in government policy or plans. The impacts assessment phase will then overlay futures with and without dams to assess the opportunities and risks of mainstream hydropower on the issues of key concern for each LMB country. The final step is to explore avoidance, enhancement and mitigation measures to increase opportunities and minimise the risks for each nation.

The scoping mission was of particular importance, because it has set the framework and boundaries for the subsequent SEA steps according to the key strategic themes. Future consultation events associated with each SEA step are listed in Table 4.

Table 15 Schedule of the major consultation events

DATE		MEETING	LOCATION	SEA STAGE
		NATIONAL CONSULTATIONS		
	Viet Nam	***Scoping Phase JUNE – SEPT***		**SCOPING** What are the key development issues for the Mekong River?
JUNE	29-30	VN Government line agency meetings	Ha Noi	
JULY	02	VN National Workshop		
	03	VN Civil Society meeting		
	Lao PDR			
JULY	06-07	LAO Government line agency meetings	Vientiane	
	08-09	LAO National Workshop		
	09	LAO Civil Society meeting		
	10-11	LAO Field Mission: Xayaburi, Luang Prabang	Luang Prabang	
	Cambodia			
JULY	14-15	KH Government line agency meetings	Phnom Penh	
	16-17	KH National Workshop		
	17	KH Civil Society meeting		
AUG	03	VN Civil Society meeting	Ha Noi	
	Thailand			
AUG	14	THAI National Workshop	Bangkok	
SEP/OCT	29-01	THAI Government line agency meetings	Bangkok	
NOV	03	THAI Civil Society meeting	Bangkok	
		REGIONAL CONSULTATIONS		
	Cambodia	***Baseline Assessment Phase OCT - DEC***		**BASELINE ASSESSMENT** What are the past & current trends for these issues?
JAN	21,25	Follow Up: KH Government line agency meetings	Phnom Penh	
	22-23	Cambodian Field Mission: Stung Treng, Sambor	Sambor	
	27-28	Regional Baseline Assessment Workshop	Phnom Penh	
	Thailand	***Impacts Assessment Phase JAN - APR***		**IMPACTS ASSESSMENT** What are the future trends for these issues, with & without mainstream hydropower?
APR	19-20	Follow up: THAI Govt. Line agency meetings		
	22-23	Regional Impacts Assessment Workshop	Bangkok	
	24-25	Thai Field Mission: Ban Koum	Ban Koum	
	Lao PDR			
APR	27-28	Follow up: LAO Govt line agency meetings	Vientiane	
	30	Regional Multistakeholder Workshop	TBD	
MAY	01-02	Lao Field Mission: TBD	TBD	
	Viet Nam	***Avoidance, Enhancement & Mitigation Assessment Phase MAR - JUN***		**MITIGATION** What measures will be useful in enhancing the benefits and avoiding or mitigating the negative effects of mainstream hydropower?
JUN	18, 21-22	Follow up: Vietnam Government line agency meetings	Hanoi/Ho Chi Minh	
	24-25	Regional Mitigation Workshop	Can Tho	

APPENDIX A: LINE AGENCY MEETING SUMMARIES

AIM: to explore the key strategic issues for the Mekong River provinces

i. *What are the strategic concerns for the development of the Mekong provinces?*
ii. *What are the strategic concerns for the sustainable use and conservation of Mekong River resources?*
iii. *What methods should the SEA adopt to effectively involve stakeholders and to conduct the assessment?*

General topics covered:

- Introduction to the team and recent activities
- SEA mandate & rationale
- Thai involvement in the SEA, and implications of:
  i. developments on the river and transboundary effects,
  ii. Thailand as a market for mainstream hydropower development and trade,
  iii. Thai investment in mainstream and tributary projects, and
  iv. Thai provincial and local use of the Mekong River

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Royal Irrigation Department	*MINISTRY*	Ministry of Agriculture &Cooperatives
	DATE	29/09/2009
ITEM	DISCUSSION SUMMARY	
1	**CURRENT & FUTURE PLANS**	
	DISCUSSION OF KEY ISSUES	
	Overview • Mekong provinces are divided into three areas: (i) North, (ii) North-east and (iii) upper Tonle-Sap, with most of the irrigation potential in the North-East. • RID identifies irrigation project based on topography not on district boundaries • RID does not prioritize big pumping schemes because of the ongoing costs to poor farmers *North-East Region* • A region of national importance with 1/3 of the population and area of Mekong provinces • Low GDP and slow economic growth compared to national averages • Migration to urban centres is high amongst working age population because of lack of employment opportunity • More than 50 years of irrigation in the area, but still only achieving 10% or less of the agricultural potential • Soil moisture content is important factor for NE agriculture and impacted by long dry spells • GW is not suitable for agriculture • Health conditions remain low • In general, self-sufficient for rice • Rice is high quality, and so there is a strong export potential if yields can improve *Large scale irrigation sites* • Large scale = greater than 100,000 million cubic meters or irrigated area greater than 12,000ha • There are some large scale storage sites in the upper catchments of the Chi River, however they could only support agriculture in the upper Chi, there is not many options for transfer		

throughout the N/E
- There is also considerable public and community resistance to developing large scale dams

2 KEY ISSUES

Identified Key Issues:

G. Catchment hydrology & water scarcity
H. Large-scale Mekong water transfer
I. multi-use water storage infrastructure
J. Rural Development & decentralization
K. Agricultural sector energy demand in the North-East
L. domestic water use
M. fish migration

A Catchment hydrology & Water scarcity

- N/E driest area of the Mekong catchment, with low rainfall and low runoff contribution to the Mekong
- Rainfall is concentrated in the plains and lower parts of the catchment, which means there is little opportunity for water storage before runoff enters the Mekong mainstream.
- Topography is mild resulting in an even distribution of population and agriculture, however, not suitable for water storage facilities
- Small scale water storage facilities are not attractive for agriculture
- Water storage is required because seasonal rainfall distribution cannot guarantee year round water availability
- Water scarcity can result in crop failure
- Flow patterns in the Mekong and Chi/Mun rivers are different, which enhance the reliability of the Mekong as water source (i.e. it can provide water when the Chi & Mun can not).
- May - August
  i. Mekong water levels rise (peaking in August)
  ii. Arrival only of the first rains. Which is enough top wet soil profile but not enough to sustain agriculture. Delay of the first rains or prolonged dry spells can result in seasonal crop failure
  iii. High water levels in Mekong are conducive to irrigation

B *Large scale Mekong Water Transfer*

- 1992: first initiative for Mekong water utilization for irrigation
  - Based on a large pumping station to lift Mekong waters into the N/E agricultural zone, with high pumping costs
  - Phase 1: development in the N/E of required transfer and storage infrastructure was approved by govt, but construction saw conflicts with communities living at the project sites.
  - Primary source of conflict was on dams and barrages along Chi and Mun rivers
  - Phase 2: develop headworks for source pumping stations at the mouth of the Huey Luang River, which is also the site of an important cultural festival (Naga fire)
  - Conveyance system is over mild topography
  - Emergence of a need for more environmental assessment and feasibility called into question
- More recently, two alternatives were proposed:
  i. Nam Ngum diversion:
    - Utilizes the head of the Nam Ngum (Lao PDR) channel to pipe water under the Mekong and minimise pumping costs
    - Water supply for ~5.5million rai
    - MONRE responsible for submitting proposal to cabinet
  ii. Kong-Loei-Chi-Mun water transfer
    - First considered in 1992, but discounted because of the difficulty of construction
    - Conveyance system must go through a mountainous topography

	(expensive) => ongoing discussion of the conveyance route and type of infrastructure ▪ Loei was the chosen intake site because of the advantageous head conditions ▪ Project returned to govt agenda after Government decentralisation policy and after farmers and local authorities formally lodged a request to RID ▪ Request was made during the energy crisis, because the scheme is largely gravity driven ▪ Jointly managed by RID, MONRE but experiencing similar difficulties in implementing integrated water resource management as other projects in Thailand. RID took up the project 7years ago
C	**Multiuse water storage infrastructure**
	• Large scale water transfer projects and mainstream dams are both sector approach and are not multi-use nor IWRM project • Mekong provinces planned on a project-by-project basis. Not yet utilizing a 'big picture' integrated approach • Pak Mong (1960s) was the original mainstream dam proposal, based on a huge multiple use dam including: (i) hydropower, (ii) agricultural water transfer for the NE and the Vientiane plain. However, dam height was iteratively reduced until it became a cascade of smaller dams and then the loss of head made gravity-feed irrigation impossible • Pak chom is a similar location to Pak Mong but there is no longer a gravity fed water transfer potential • Recommends the mainstream dams are designed for multiple-use • Recommends MONRE facilitate discussion between Ministries of Energy and Agriculture at least for Thai projects, while SEA Team and MRCS do likewise for the all the mainstream projects. • There is an existing National Water Committee but currently its main focus is on hydropower • From an irrigation point of view, would like a re-evaluation of some dam locations (e.g. moving Pak Chom upstream) to improve the irrigating head potential of the dam
D	**Rural development & decentralization**
	• Rural development focuses on poverty alleviation • Rural Development Program responsible for small-scale irrigation projects • GoT provides small project but farmers must develop management structures – Water User Groups (WUGs) • WUGs – limited success, mostly in domestic use, livestock and market garden management • Rice yields are typically low-yield, so farm holding and plot sizes are larger Royal concept for development • Start at the farm scale and scale up only if required • Farm Level: farmers need a form of pond storage because of rainfall variability, however topography means that ponds: (i) appropriate large proportions of farm holding, and (ii) are shallow with high evaporation losses, coupled with high infiltration losses due to soil conditions • Basin Level: additional waters should connect to the farm scale pond system • Decentralization new but growing practice amongst local authorities who have limited capacity
E	**Agricultural Energy demand of the North East provinces**
	• If irrigation is to be expanded over a larger area and water losses reduced then the energy demand of agriculture will increase. • NW agriculture is likely to become a larger energy user because: (i) expansion of irrigation will require pumping, and (ii) likely turn towards pipe (rather than channel) irrigation to reduce water losses through sandy soils

F	***Domestic water use***
	• First priority is meeting domestic use • Small scale projects are more suitable for this • Groundwater is mainly for domestic supply • Significant proportion of GW resource is saline due to soil composition
G	**Fish migration**
	• Design should be based on the specific behaviour and life cycle of Mekong fish species • Believes there is no current man-made structure that can allow fish passage. Recommends that the SEA team makes understanding of this point very clear • Infrastructure design should learn from successful natural passages (Khone Falls), and MRC should invest in monitoring fish migration through Khone Falls • Dams on the Chi and Mun rivers have not successfully maintained fish passage comparable to natural migration regime
3	**CHALLENGES**
	• Viable large-scale irrigation to drive poverty alleviation and improvement of local livelihoods • Designing and implementing multi-use water supply infrastructure • Improving reliability of water availability
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• Preliminary study on the use of Mekong Water for Irrigation • State of the Basin Report
5	**POINTS TO FOLLOW UP**
	•

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Electricity Generation Authority of Thailand (EGAT)	*MINISTRY*	??
	DATE	29/09/2009
ITEM	DISCUSSION SUMMARY	
1	**CURRENT & FUTURE PLANS**	
	DISCUSSION OF KEY ISSUES	
	• PDP is the governing document for EGAT • Power trade agreement process • Projected demand and power mix in meeting it – role of important power	
2	**KEY ISSUES**	
	Identified Key Issues: A. Energy demand B. Energy Independence	
A	**Energy demand**	
	• Demand in next 20years will be lower than forecast • Forecasts are made on a 15year cycle • Demand in next 15 years ~ 14,000MW. EGAT has 4 options to meet this: i. EGAT power plants (natural gas, coal, nuclear) ii. SPP – Small Power Producers iii. PPA – Power Purchase Agreements iv. IPP bidding	

	• Main criteria for decisions on PPA is the tariff agreement • Other criteria include Seasonal reliability • Thailand has PPA MoU with Lao PDR (~7,000MW), China (3,000MW), Cambodia (no defined capacity), Myanmar (1,500MW) • 4-5 successful tariff MoU with Lao projects. The tariff MoU defines the tariff structure for the agreement
B	**Energy independence**
	• Principle of energy independence, but no set figure • There is a general cap of 13% of total demand met through power imports but what % from each country not defined – study now being conducted EGAT to determine the import options – final decision on where the power will come from largely depends on tariff negotiations • Interest in a new guideline on GHGs • MoU with RID for micro-hydro (mostly retrofitting existing irrigation dams for hydropower generation) • EGAT view – the remaining opportunities on the Mekong tributaries cannot meet the additional Thai demand. The most economic project have been built – the most attractive remaining opportunities are on the mainstream. • The cost of transmission is considered in the tariff negotiations and agreements
3	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• Colenco study on feasibility of tributary projects conducted for Lao PDR • Thai PDP
4	**POINTS TO FOLLOW UP**
	• Obtain copy of PDP and Colenco study Recommendations from EGAT experts concerning the mainstream projects: • Minimum of 1day flow regulation – to be feasible, projects must have increased live storage capacity • Developers should be required to undertake a detailed study on sedimentation – EGAT believes sediment will be a serious difficulty in dam operations

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Navigation, Maritime Department	*MINISTRY*	Ministry of Transport
	DATE	29/09/2009
ITEM	DISCUSSION SUMMARY	
1	**CURRENT & FUTURE PLANS**	
	DISCUSSION OF KEY ISSUES • MRC guidelines on navigation and locks • Multi purpose use must be guiding principle for projects • Growing importance of river navigation to Thai economy • Importance of linkage with China to regional economy • Principles for promoting inland water transport capacity	
2	**KEY ISSUES**	
	Identified Key Issues: A. Navigable passage B. Waterway-Road-Rail transport integration	

	C. Integrated planning
A	**Navigable passage**
	• Navigation defined as Upper (north of Luang Prabang) and Lower Mekong • Lower Mekong: passage is limited due to rapids and reduced navigability • Ship locks not more than 30mins for each step (typically minimum of two steps in the ship lock) • Ship locks will hinder small boats, who are main users in Lower Mekong • Navigation south of Chiang Saen is not realistically being considered by China – at the moment
B	**Waterway-Road-Rail transport integration**
	• Important for Thai economy to invest in Mekong waterways as a gate way to China • Study of transport in Thailand and the movement of goods: o Waterways (sea + inland) account for 3-5% o Roads 95% o Road transport is 8 times more expensive than waterways o Thai logistic cost is high by regional standards ~20% of GDP, while Japan is ~8% o Navigation budget (30,000million Baht) is 10 times less than the road transport budget • Chao praya river is the main inland waterway • Upper Mekong: Channel Waterway Agreement (2000) o China – Chiang Saen o 1st phase: 150t ships, eventually up to 500t o Recommends ship locks to be consistent with the agreement o Port 1 built and operating at capacity o Port 2 being planned to meet China trade o Chiang Saen is a critical node in the ADB EOC NSEC •
C	**Integrated planning**
	• Navigation is currently not commenting on the mainstream dam projects through the national government, but only through the MRC. • Welcome the SEA process as a forum to facilitate their involvement in the design process
3	**CHALLENGES**
	• Improve navigability of mainstream channel, including: physical alterations (clearing of rapids), improved communications system (navigation system) • Improved infrastructure (ports and loading equipment) • Integration of shipping to land and rail transport • Standardized design from all mainstream dams • Water/flow regulations and release agreements - Operation would require agreement with China on prior notification for releases and downstream water levels • Marine department doubts capacity of many projects in cascade to cope with large volumes of transport a many scales
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• Upper Mekong Channel Waterway Agreement, 2000 • Thailand transport study
5	**POINTS TO FOLLOW UP**
	• Mr Pitak to present stats on the type and quantities of good transported by inland waterways

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: DEDE – DEPARTMENT OF ALTERNATIVE ENERGY AND EFFICIENCY	*MINISTRY*	Ministry of Energy
	DATE	30/09/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	DISCUSSION OF KEY ISSUES
	• Master Plan for Alternative Energy is being prepared (15 year plan to 2022) • Phase 2 of the Ministry's plan does not factor in the Mekong mainstream projects • PDP EGAT is also a 15year plan, and also does not factor mainstream Mekong projects – there is no integration of the EGAT PDP and the Alternative Energy Plan • Target of 324MW from micr-hydro (200kw-10MW each). Need to establish more than one hundred projects over the next 15 years
2	**KEY ISSUES**
	Identified Key Issues: A. Energy diversification and decentralisation
A	**Energy diversification**
	• GoT seeks to increase the use of alternative energy in meeting national demand • Covered in a specific Alternate Energy Master Plan • Decentralisation and diversification are key priorities for the Ministry • Covers all energy demand not just electricity • Covers: (i) biomass, (ii) wind, (iii) solar, (iv) biogas, (v) micro-hydro • Micro-hydro = less than 10MW • Currently, renewable 6.4% of total energy demand (including petroleum) • Plans seeks to increase renewable share to 20% over next 15 years
3	**CHALLENGES**
	• Little integration between alternative energy planning and EGAT – DEDE considers that full implementations of alternative energy plan would reduce need for imports of power • Department experts take the view that with (i) increased use of micro-hydro and (ii) recovery of power potential from existing projects (potential for 324MW recovery) would reduce need for imports
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• National Energy Master Plan 2007 – 2022 • Alternate Energy Master Plan

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: NESDB – National Economic and Social Development Board	*MINISTRY*	
	DATE	30/09/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	DISCUSSION OF KEY ISSUES
	• The role of SEA in transboundary decision making • SEA guidelines approved August 2009 • Thai national socio-economic plan does not consider development of Mekong resources –

	including the mainstream projects
2	**KEY ISSUES**
	Identified Key Issues: A. Transboundary cooperation B. Livelihoods C. Use of SEA in regional development planning
A	**Transboundary cooperation**
	• Transboundary nature of mainstream projects has historically limited national interest in mainstream projects – the Mekong has not been regarded as a resource but more as the international border. • Potential uses have been too difficult to realise due to difficulties in reaching agreement among LMB countries • Regional cooperation on the Mekong is limited by the disengagement of China in the MRC • Recommended that the SEA is integrated into the GMS structure as much as possible
B	**Livelihoods**
	• Agriculture is seen as the major sector to drive socio-economic growth in the NE region • 10-15million rai increase in irrigated area suggested as sufficient to make a significant difference • NESDB see little promise in the large scale irrigation projects long promoted by the Department of Irrigation • Soil erosion is a major problem effecting productivity
C	**SEA status and use**
	• Thai SEA Guidelines approved by Environment Board and NESDB in August 2009
	• Department of Irrigation now conducting an SEA of one basin water development as a pilot. • Two major irrigation and water supply projects proposed for the NE region – NESDB given consideration to conducting an SEA • NESDB believes there is a need to work through the GMS Environment Working Group and ensure that the SEA is considered at the GMS level. They recommended the MRC SEA should target the next GMS Environment Ministers Meeting and get on the agenda for discussion of key findings and recommendations. Then aim to have Environment Minister's endorsements/resolutions passed to the next GMS heads of state meeting.
3	**CHALLENGES**
	• Need to consult with local administrative organisations in the Mekong Provinces • How will the SEA "value" or give relative weighting to the various sector uses of the Mekong, for example, what weighting should be given to fisheries uses compared to power development • From the Thai NESDB perspective, the key issue is "does the Mekong River have excess water for Thailand to use for irrigation – with and without the mainstream power projects"? Can the SEA answer that question? • Historical definition of the international boundaries along the Mekong mainstream has meant that navigation, fisheries and other uses by Thailand have not been feasible. Other countries have long reaches of the River within their national borders so resource use more straight forward.
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• Thai National SEA guidelines • RID study of SEA in Thailand in the Yom Basin • National Socio-economic plan • Mekong tributary basin plans – progressively being prepared for all 23 river basins in Thailand

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Department of Fisheries	*MINISTRY*	DOF
	DATE	30/09/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	DISCUSSION OF KEY ISSUES
	• MRC study on larvae and nurseries important as input to the SEA • Little is known of life cycle and ecology of key species • Many area along the entire Mekong are critical as nurseries and rearing areas • As yet there is no evidence in Thailand or elsewhere in the region of fish ladders working. Fish passages may be possible. • Uncertainties are extreme in the case of the mainstream projects – but certain to have major impacts on diversity of species • Very high dependence of NE regional communities on Mekong and Chi and Mun tributary fisheries
2	**KEY ISSUES**
	Identified Key Issues: A. Spawning and rearing habitats B. Fish migration C. Species extinction D. Reservoir fisheries
A	**Spawning and rearing habitats**
	• Undertaking a fish larvae study (through the MRC) o Species identification o Spawning ground characterization o Milling ground o Long sampling time (2months) o 11 sampling sites along the Mekong mainstream • Rearing ground characteristics for scale fish & larvae: o <20cm deep o Sandy soils o Generally in outbends of river meanders o Still to slow moving water • Spawning ground characteristics: o Rocky areas and in-channel island are likely spawning grounds for catfish and common carp o Need substrate for spawning o Luang Prabang area of mainstream o Current carries larvae downstream to confluences of tributaries • Songkham is a very important spawning ground • Larvae generall mill near the surface but they can descend into the water profile depending on the time of day and phytotaxis • Catfish are bottom dwellers. • Catfish breeding is feasible, but rearing is difficult because they are strongly carnivorous • Giant catfish maturation period 17years before they can breed in aquaculture (hormone-induced spawning). 14-15years in the wild. Average age 30-40years • Hypothalmus ~3years • Main conclusions: (i) there are many areas along the Mekong mainstream and tributaries which are important as rearing and nursery areas – both upstream and downstream (ii) Migratory species cannot adjust to reservoir conditions (DOF study of Ubanrat Dam on the

	Chi River showed poor survival rates)
B	**Fish migration**
	• Some species are longitudinal migrants and require the flood plain to breed • Others move along the mainstream and up tributaries • Mekong migrants do not jump • Difference in Tonle Sap and Thai Catfish, detected through the effects of different diets • Two main natural fish passages across Khone Falls: *Hu sahong & Hu Saddam* • Hu Saddam migration monitoring study: 200-300t caught in a week Characteristics of natural fish passages: • Long length • Gentle slope • Year round flow • Gentle water velocity • Sufficient resting areas along passage (currently not well understood) • Provision of diverse habitats to cater for the specific requirement of different migrants Those natural conditions on the Mekong have not been replicated artificially – but may be feasible if expensive to construct and maintain. Even if feasible, poaching would be a problem.
C	**Species extinction**
	• The experience in the region has been that hydro dams lead to massive lost in species diversity in the affected river reaches • It is not known what species may be able to survive 19 mainstream dams and more than 100 tributary dams – inevitably many will not be able to adapt due to effects on breeding requirements, water quality, chemistry and hydrodynamics, food chain changes, and temperature.
D	**Reservoir fisheries**

	• *Hypothalamus* is successful in aquaculture
	• Tilapia also successful
	• Ubon Rat Dam:
	  - Some species have survived but migratory species all extinct within 5years
	• Pak Mun Dam:
	  - Larvae study on species compostion
	  - Seeking funding for continued sampling/monitoring program, EGAT funding was only for 2 years
	  - Return of migratory species, once the dam gates were kept opened
	• Payao Reservoir (Ng River):
	  - Fish ladder is only for small species or species that can 'junp'
	  - Has experience with catfish breeding (also in Chiang Rai)
	• Downstream migration factors affecting survival:
	  - DO (dissolved oxygen) in water flowing through turbines
	  - Consider whether H2S is generated in the reservoir
	• Change from flowing to reservoir fisheries disrupts the system's food chain dynamics and the balance between herbivore and carnivore species. Likely to require continued human input (induced-spawning, stocking, feeding)

3	**CHALLENGES**
	• Fisheries is still source driven, not much top-down planning • Extreme uncertainty concerning Mekong fish breeding requirements, food chain and water quality conditions and critical habitat needs. • Critical factors in dam development: (i) spawning and rearing grounds must be conserved and (ii) migrants must have effective fish passages which provide a diversity of habitats
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**

	• MRC Fish Larvae study (under progress) • DOF has several papers on reservoir fisheries
5	**POINTS TO FOLLOW UP**
	• Obtain preliminary findings, draft information from the Larvae study • DOF reservoir studies

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Department of Public Health	*MINISTRY*	MOH
	DATE	01/10/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	DISCUSSION OF KEY ISSUES • Migration away from or to the project areas • Malnutrition due to loss of fisheries and aquatic products • Lack of health impact assessment
2	**KEY ISSUES**
	Identified Key Issues: A. Direct and indirect health impacts of mainstream projects (i) Water borne diseases (ii) Communicable diseases associated with large influx of workers (iii) Malnutrition in poor communities B. Migration and relocation
A	**Direct and indirect health impacts**
	• Institutional capacity of health personnel in the SE region, especially in poor Mekong districts is very limited • Water-related diseases: vector-borne, water borne, water contact • Malnutrition in Mekong districts already serious – 10-13% suffer first degree malnutrition • Malnutrition due to loss of aquatic resources and agricultural productivity if natural flooding regime reduced. • Psychological and social well being – depression due to relocation and other changes • Water availability/scarcity – reduced supply and conflicts between users. Saline intrusion has been a problem with other dams in Thailand. • Already increase dengue, malaria and potential for liver fluke – due to irrigation and rubber plantations • Increase in exotic species – eg molluscs, algae and aquatic plants – which spread disease
B	**Migration and relocation**
	• Already very high seasonal and permanent migration from the Mekong districts due to poor economic conditions. Migration effects would need to be carefully assessed • The experience with relocation has not been positive in the Mekong region. Affected communities have tended to become much worse off and support has not been adequate.
3	**CHALLENGES**
	• Migration and relocation would require major coordination effort and long term commitment of resources – who would provide those inputs? • Major additional investment in health facilities require were the projects to proceed • Need to include recommendations in the SEA for health studies required and on the content of detailed EIAs of projects

4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• Disease Survey 2008 • Pak Mun study on the Fluke • Pak Mun studies on the impacts on resettled people

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: ONEPP – Office of Natural Resources, Environment & Policy Planning	*MINISTRY*	MONRE
	DATE	01/10/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	DISCUSSION OF KEY ISSUES
	Priorities of ONEPP with respect to the mainstream projects • Social effects in the SEA region and changes of livelihood and well being • Loss of wetlands and aquatic system benefits • Loss of fisheries
2	**KEY ISSUES**
	Identified Key Issues: A. social livelihoods B. wetlands and aquatic habitats C. Fisheries D. River morphology/sedimentation and changes to national boundaries E. Using SEA in decision making
A	**Social livelihoods**
	• NE has significant proportion of national population • Low levels of socio-economic development means that the NE communities are particularly reliant on natural resources (fisheries, water availability) making them vulnerable to change • Resettlement would require very significant resources and long term government supports – potential serious social issues – would developers cover the long term costs? Rai Si Selai on Chi River & Hua Na Reservoir projects: • Both smaller dams closer to run-of-river model • High levels of community protest due to loss of wetlands, water quality and fishing livelihoods • Now weir is kept fully open for most of the year
B	**Wetlands& aquatic habitats**
	• Significant loss of benefits and loss in diversity of local livelihoods
C	**Fisheries**
	• Impact of fisheries on Rai Si Selai on Chi River & Hua Na reservoirs resulted in gates being open 8months of the year – compromise between fishers and farmers • Currently monitoring the effectiveness of migration
D	**River morphology & changes to national boundaries**
	• River bank erosion is an issue in the NE • Navigation of large ships can affect bank erosion • Scour capacity of water is increased in cleaner 'hungry water' • Sedimentation – the "big unknown" with potential serious implications for the projects and river • In NE region big problem with sedimentation behind dams and weirs. Dredging not feasible

	resulting in permanent steps in the river. Erosion experience • Chiang Rai: sediment build up even in small weirs • Exploring options for a study of small weirs in northern Thailand • Chiang Saen & Non Khai: serious bank erosion & significant government investment on bank protection
E	**Using SEA in decision making**
	• New SEA guidelines approved in August 2009 • Pilot SEA conducted to consider five potential sites for the Mae Wong Dam in Northern Thailand – submitted to cabinet but no decision yet. Undertaken by Kasesart University consortium • National Environment Board (NEB) recommended an SEA to the cabinet after the RID EIA could not resolve issues • Major trade-offs are between the dam, forestry and local livelihoods • SEA of PDP (more than 5 years old) • NED recommended to PM that SEA is needed for all mega projects (>1billion baht), especially joint-venture
3	**CHALLENGES**
	• Getting LMB countries to adopt the SEA and seriously consider and respond to its recommendations – when it is being conducted as pilot • Trade-offs between development sectors are all about the kind of development individual LMB countries are seeking – Thailand is shifting more towards a decentralised self-sufficiency model in which large mega projects do not fit comfortably.
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• BDP status of natural resources • SEA of Mae Wong Dam in Northern Thailand • Chiang Rai provincial plan completed • SEA of PDP (more than 5years old)

APPENDIX B – WORKSHOP AGENDA & PARTICIPANTS

AGENDA

MRC SEA OF HYDROPOWER ON THE MEKONG MAINSTREAM

THAILAND NATIONAL SCOPING WORKSHOP

14 AUGUST 2009
LANDMARK HOTEL | BANGKOK

AGENDA

14 August: 8:00 – 17:30		
8:00 – 8:20	*Registration*	
8:30 – 8: 40	***Introductory Address***	Secretary General TNMC
INTRODUCTORY SESSSION		
8:40 – 9:00	***The planning and decision context for the SEA***	Voradeth Phonekeo ISH, MRCS
9:00 – 9:40	***The aims of the MRC SEA*** (iv) Aims (v) The proposed Mekong mainstream hydropower projects (vi) The approach in this SEA (vii) SEA timeline & milestones	Dr Jeremy Carew-Reid, & Peter-John Meynell SEA Team
9:40 – 10:00	***Key Framing issues: energy demand and power trade in the LMB & the GMS*** (i) Overview of the region (ii) Energy Demand/Supply and the contribution of power trade to national economic growth	Dr Larry Haas ISH, MRCS
10:00 – 10:30	***Plenary discussions on the SEA and critical upstream/downstream development issues for the Mekong River***	All participants
10:30 – 10:45	*Coffee break*	
THE DEVELOPMENT CONTEXT		
10:45 – 10:55	***Overview of Thailand's power demand and supply*** (i) Overview of Thailand current power consumption and projected demand (ii) The sources of power supply in Thailand (iii) Challenges in meeting demand (iv) Contribution of hydropower trade in meeting Thailand's power demand - existing agreements and prospects (v) Hydropower development on the Mekong Tributaries and mainstream involvement Thai companies	Dr Larry Haas ISH, MRCS
10:55 – 11:05	***Socio-economic conditions of the Mekong riparian***	Dr Suparerk Janprasart

	provinces (i) Overall development objectives for these provinces, (ii) What is there development status and trends (iii) How do the provinces use and benefits from the Mekong and its resources.	MRCS BDP
11:05 – 11:25	***Response & Comments*** (i) Thai power demand and supply, (ii) Socio-economic conditions	EGAT & Ministry of Planning
11:25 – 11:35	***Irrigation requirements of the north east of Thailand*** (i) Current status and challenges (ii) Planned developments	Dr Thanpon Piman MRCS BDP
11:35 – 11:45	***Fisheries developments –*** (i) Thailand's experience with reservoir fisheries, captive breeding and fish passages (ii) Thailand's use of the Mekong for fisheries	MRCS Fisheries Program
11:45 – 12:05	***Response & Comments*** (iii) Thai power demand and supply, (iv) Socio-economic conditions	Royal Irrigation Department Royal Fisheries Program
12:05 – 13:00	*Lunch break*	
WHAT IS THE SCOPE OF THE MRC SEA ON MAINSTREAM HYDROPOWER?		
IDENTIFYING THE KEY ISSUES OF CONCERN FOR THE MEKONG RIVER		
13:00 – 13:30	***Plenary discussions : line agency perspectives***	All participants
13:30 – 13:40	***Objectives of the working session***	SEA Team
13:40 – 15:40	***Working session*** (i) Defining the main development concerns for the Mekong River districts in Thailand (ii) Ranking those concerns (iii) Defining the government objectives and targets for the main development concerns (iv) Defining the Thai SEA consultative process	All participants
15:40 – 15:50	*Coffee break*	
15:50 – 16:10	***Working groups report back to plenary***	All participants
THE NEXT STEPS FOR THE SEA		
16:10 - 16:30	***Plenary discussion –*** *next steps in the Thai consultative process*	SEA Team
16:30 – 16:40	***Remarks from the MRC***	MRCS
16:40 – 16:50	***Closing remarks from the TNMC***	Secretary General TNMC
17:00	*Close of workshop*	

LIST OF PARTICIPANTS

	NAME	ORGANISATION	MINISTRY
1	Mr Somlit Vilaipornrattana	Director - Bureau of International Cooperation (BIC)– Department of Water Resources	BIC
2	Ms Pakawan Chufamanee	Director- Mekong Affairs Division - Bureau of International Cooperation (BIC)	BIC
3	Mr Suwit Thanopanuwat	Civil Engineering Expert - Royal Irrigation Department (RIG)	RIG
4	Mr Nirat Phuriphanphinyo	Senior Civil Engineer – National HDP Coordinator – Bureau of International Cooperation (BIC)	BIC
5	Mr Burachat Buasuwan	Policy and Planning Analyst - Bureau of International Cooperation (BIC)	BIC
6	Ms Nuanlaor Wongpinitwarodom	Policy and Planning Analyst - Bureau of International Cooperation (BIC)	BIC
7	Mr Satit Sueprasertsuk	Senior Civil Engineer - Bureau of International Cooperation (BIC)	BIC
8	Mrs Indhira Euamonlachat	Director of Water Resources and Agriculture – Office of Natural Resources and Environmental Policy and Planning (ONREPP)	ONREPP
9	Dr Thana Boonyasirikul	Electricity Generating Authority of Thailand (EGAT)	EGAT
10	Ms Kamla Suphan	Professional Environmentalist – Department of Alternative Energy Development and Efficiency (DAEDE)	DAEDE
11	Mr Phisanu Woranard	Chief of Water Planning Section – NESDB	NESDB
12	Dr Suwan Tangmitchareon	Forestry Technical Officer – Department of Forestry (DoF)	DoF
13	Ms Tanompan Suejakdee	Acting Chief of Irrigated Agriculture and Accelerated Area Group – Department of Agriculture (DoA)	DoA
14	Ms Siriwan Chandana Ciulaka	Department of Health	DoH
15	Ms Piyarat Pitiwatanakul	Professional Environmentalist – Marine Department	MD
16	Ms Areerat Kittisomboonsuk	Professional Statistician – Statistical Forecasting Bureau	SFB
17	Mr Suchart Sirijungsakul	Senior Civil Engineer – National IKMP Coordinator - Bureau of International Cooperation (BIC) -	BIC
18	Mrs Khanittha Poothong	Policy Planning Analyst, Department of Water Resources	DWR
19	Mr Paramin Sansongsak	Engineer and Operational Modeller - Bureau of International Cooperation (BIC)	BIC
20	Mr Do Manh Hung	Director – Operation Division – Mekong River Commission Secretariat (MRCS)	MRCS
21	Dr Lawrence Haas	International Hydropower Consultant - Mekong River Commission Secretariat (MRCS)	MRCS
22	Mr Voradeth Phonekeo	Project Manager – Hydropower Programme – Mekong River Commission Secretariat (MRCS)	MRCS
23	Dr Thanapon Piman	Modelling Specialist – Basin Development Programme - Mekong River Commission Secretariat (MRCS)	MRCS
24	Mr Jeremy Bird	CEO - Mekong River Commission Secretariat (MRCS)	MRCS
25	Suchat Lanqlthaiti	Project Officer - Mekong River Commission Secretariat (MRCS)	MRCS
26	Wilasinee Poonuchaphai	Logistics Officer – SEA Team	SEA
27	Khompat Pattanakul	Thai National Mekong Committee (TNMC)	TNMC
28	Ms Piyathip Eawpanich	Natural systems Specialist – SEA Team	SEA
29	Mr Tarek Ketelsen	Project Coordinator – SEA Team	SEA
30	Dr Jeremy Carew Reid	Team Leader – SEA Team	SEA
31	Mr Peter John Meynell	EIA Specialist – SEA Team	SEA

A summary of Vietnam government line agency meetings and national scoping workshop

An input to the SEA scoping process

ICEM – International Centre for Environmental Management

7/22/2009

Disclaimer

This document was prepared for the Mekong River Commission Secretariat (MRCS) by a consultant team engaged to facilitate preparation of a Strategic Environment Assessment (SEA) of proposals for mainstream dams in the Lower Mekong Basin in the 2009-2010 timeframe.

This document was prepared to assist the Secretariat as part of the information gathering activity. The views, conclusions, and recommendations contained in the document are not to be taken to represent the views of the MRC. Any and all of the MRC views, conclusions, and recommendations will be set forth solely in the MRC reports.

This document is a record of a meeting. All stakeholders whether at the meeting or not are invited to submit written contributions via the MRC website.

For further information on the MRC initiative on Sustainable Hydropower (ISH) and the implementation of the SEA of proposed mainstream developments can be found on the MRC website: http://www.mrcmekong.org/ish/ish.htm and http://www.mrcmekong.org/ish/SEA.htm

The following position on mainstream dams is provided on the MRC website in 2009.

MRC position on the proposed mainstream hydropower dams in the Lower Mekong Basin

More than eleven hydropower dams are currently being studied by private sector developers for the mainstream of the Mekong. The 1995 Mekong Agreement requires that such projects are discussed extensively among all four countries prior to any decision being taken. That discussion, facilitated by MRC, will consider the full range of social, environmental and cross-sector development impacts within the Lower Mekong Basin. So far, none of the prospective developers have reached the stage of notification and prior consultation required under the Mekong Agreement. MRC has already carried out extensive studies on the consequences for fisheries and peoples livelihoods and this information is widely available, see for example report of an expert group meeting on dams and fisheries. MRC is undertaking a Strategic Environmental Assessment (SEA) of the proposed mainstream dams to provide a broader understanding of the opportunities and risks of such development. Dialogue on these planned projects with governments, civil society and the private sector is being facilitated by MRC and all comments received will be considered.

Mekong River Commission Secretariat
P.O. Box 6101, Vientiane, 01000, Lao PDR
Email: mrcs@mrcmekong.org

About the MRC SEA of Hydropower on the Mekong mainstream

The Mekong River Commission (MRC) is an international, country-driven river basin organisation that provides the institutional framework to promote regional cooperation in order to implement the 1995 Agreement. The MRC serves its member states by supporting decisions and promoting action on sustainable development and poverty alleviation as a contribution to the UN Millennium Development Goals.

In a region undergoing rapid change and economic growth, the MRC considers the development of hydropower on the Mekong mainstream as one of the most important strategic issues facing the Lower Mekong region. Through the knowledge embedded in all MRC programs and coordinated through the new MRC Initiative for Sustainable Hydropower (ISH), the MRC seeks to assist Member states to work together and make the best decisions for the basin.

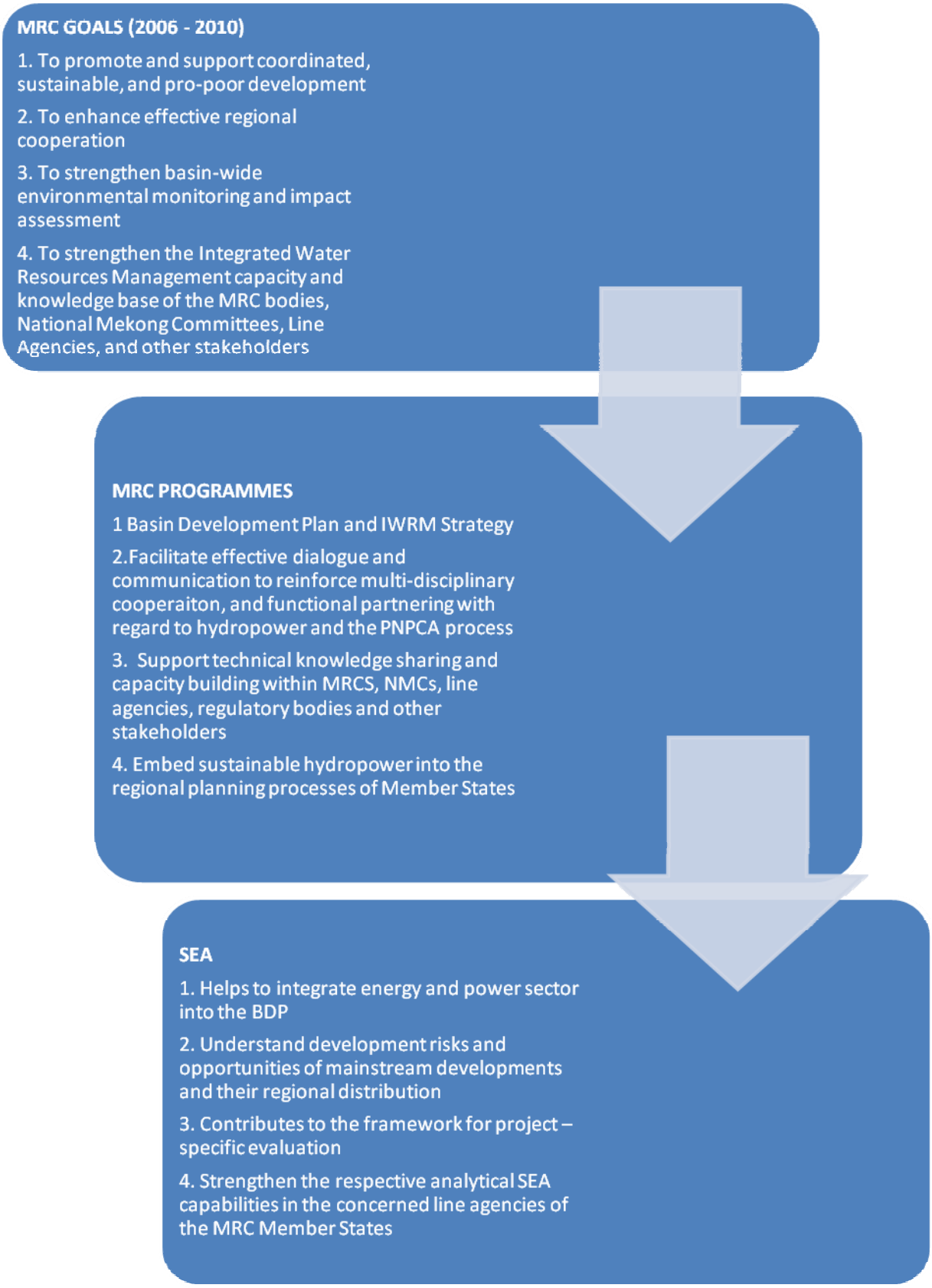
Eleven hydropower schemes have been proposed for the Lao, Lao-Thai and Cambodian reaches of the Mekong mainstream. Implementation of any or all of the proposed mainstream projects in the Lower Mekong Basin (LMB) could have profound and wide-ranging socio-economic and environmental impacts in all four riparian countries (Cambodia, Lao PDR, Thailand, Vietnam). The LMB governments decided that MRC ISH should conduct a Strategic Environmental Assessment (SEA) of all the proposed projects to fully assess their potential cumulative and multiplier effects.

The Initiative for Sustainable Hydropower (ISH) is a cross-cutting program working with all MRC programmes, focussing on balancing social, environmental and economic considerations of potential energy futures for the Lower Mekong Basin. The MRC recognises that there are two main decision-making spheres in the LMB; the IWRM sphere (where integrated basin planning is undertaken) and the Power sector and industry sphere (where decisions on hydropower are taken). The ISH, through its projects and activities, aims to bring these two decision-making worlds together.

This MRC ISH SEA seeks to identify the potential opportunities and risks, as well as contribution of hydropower to regional development, by assessing alternative mainstream Mekong hydropower development strategies. In particular the SEA focuses on regional distribution of costs and benefits with respect to economic development, social equity and environmental protection. The SEA began in May 2009 and is scheduled to complete the final report and recommendations by mid-2010.

This document is one of a series of documents arising from an intensive program of consultations in the Lower Mekong Basin and detailed expert analysis of the issues associated with developing hydropower on the Mekong mainstream. The intention is to consolidate SEA activities and progressively make conclusions and outputs available for public and critical review, so that stakeholder engagement can contribute to the SEA in a meaningful way. A full list of documents is available on the MRC SEA website.

The context and aims of the MRC SEA of Proposed Hydropower Schemes on the lower Mekong mainstream



CONTENTS

1. NATIONAL SCOPING ACTIVITIES

This report summarises the results of Vietnamese government line agency meetings and a national workshop on the scope of the SEA of hydropower on the mainstream Mekong River.

BACKGROUND

Though no mainstream dams are proposed in Vietnam, the country has a complex involvement with hydropower development on the Mekong mainstream. National per capita power demand is second only to Thailand for the LMB region, with projected grid power demand expected to double by 2020 (ADB, 2008). In the regional context, this means that Vietnam is one of the key strategic markets for potential power produced by mainstream dams, with two dams being tailored explicitly for the Vietnamese market. The country is also one of the leading regional proponents of hydropower and the National Electricity Law (2004) provides the mandate to maximize the use of hydropower for power generation. Further, Vietnam-based developers are some of the most active proponents for development of hydropower throughout the region, with the planning for one mainstream dam involving a Vietnamese developer. Also, the Mekong Delta, home to 18million people, the most important agricultural region in Vietnam contributing 60% of the national rice yield and 50% of Vietnamese agricultural exports, is susceptible to the risks and opportunities presented by mainstream hydropower development.

The complex of interests which Vietnam has with the mainstream hydropower can be summarized as follows:

- **Downstream communities:** Concerns regarding the downstream effects on the Mekong Delta including the flooding regime, saline intrusion and the aggravation of climate change impacts
- **Developer interests:** Vietnam companies are involved in the promotion and planning of a mainstream project – Luong Prabang
- **Tributary developer**: Vietnam government is promoting intensive hydro development of Central Highland tributary development effective downstream areas and potentially the mainstream
- **Power importer**: Vietnam has agreements with Laos and Cambodia to import electricity and is identified as the main consumer for at least one of the projects – Sambor in Cambodia.

Cognizant of the multiple and conflicting national interests, participants at the National Scoping workshop elected to focus discussion on the Mekong Delta in order to identify development and management issues and priorities – their past trends and current status – as a basis for later assessment of the effects of the mainstream projects on meeting Delta socio-economic and environmental quality targets.

NATIONAL SCOOPING MISSIONS

The Vietnam national scoping missions were conducted over five days - 29 June – 02 July 2009 - and then during 3-4 August. Activities of the missions included:

i. An intensive program of individual meetings with key government line agencies
ii. A National Scoping Workshop to define the spatial, temporal and thematic coverage of the SEA
iii. A Vietnamese Civil-Society Roundtable to define the development context and opportunities for cooperation with between the SEA and civil-society

A donor roundtable to define opportunities for value-adding the activities and outcomes of the SEA is to be conducted later this year.

The national scoping activities were conducted to build a solid foundation for the assessment of institutional partners and experts within government. Its primary aim was to receive guidance from this network on the scope of the SEA and on its methodology. Similar scoping consultations were conducted in each of the LMB countries (Lao PDR, Cambodia and Thailand). When the national discussions are completed, the countries will come together to share their views at a series of regional workshop, the first early next year to report on the baseline assessment.

The Scoping mission consultations were an important start in integrating the concerns and views of Vietnamese government experts in the SEA process, as well as improving initial awareness and understanding of the SEA process to build a strong participatory platform for future SEA activities.

The National consultations in each country are supported by civil society and donor round tables. In Vietnam, the first civil society roundtable took place 03 August 2009 and a donor roundtable scheduled for November 2009. The results of those consultations will be covered in a separate summary report. Together these reports provide a summary of the Vietnam perspective on the scope and approach for the SEA.

2. NATIONAL GOVERNMENT LINE AGENCY MEETINGS

OVERVIEW

The purpose of the individual meetings with government line agencies was to

(i) introduce the SEA team, objectives, methodology and timing to key line agencies and
(ii) receive their initial views on key strategic issues of concern to development in Mekong Delta.

The scoping meetings opened discussion on Delta wide challenges and priorities relating to, for example, power, fisheries, agriculture, transport and development in other economic sectors. They also covered the environmental and social pressures facing the Delta such as flooding, salinity and pollution.

Over a period of 4 days the SEA Team met with seven line agencies as identified in Table 1. The meetings were typically 1.5-2hours of facilitated discussion.

Table 16 Line agencies consulted during the Scoping Mission

No	Meeting with	Meeting location	Theme discussed
1	Department of Energy	MOIT – Ministry of Industry & Trade	Power development, trade & Energy security
2	Department of Prevention & Environment	MOH – Ministry of Health	Health and Nutrition
3	IMHEN – Institute of Metrology, Hydrology and Environment	MONRE – Ministry of Natural Resources and Environment	Physical systems and climate change
4	DSI – Development Strategy Institute	MPI – Ministry of Planning and Investment	Master plan of socio-economic development in the Mekong delta
5	Vietnam Inland Waterway Administration – Northern Office	MOT – Ministry of Transport	Transport and Navigation
6	DoF -Department of Forestry	MARD – Ministry of Agriculture & Rural Development	Terrestrial Ecology
7	National Directorate of Aquatic Resources Exploitation and protection (NADAREP)	MARD – Ministry of Agriculture & Rural Development	Aquatic Biodiversity & Fisheries

A short summary report for each meeting is provided in Appendix A, and organized according to the key strategic issues which the line agency identified.

Some days before the meetings, the government officials were provided with background materials such as guiding questions and explanation of the SEA objectives and process. Consequently, meetings were generally able to remain on target. Some discussion moved towards an assessment of the opportunities and risks of mainstream hydropower before the issues of concern were consolidated. In this regard, the line agency meetings served an ancillary purpose of building understanding of the entire SEA process and its stages and better preparing stakeholders for the subsequent National Scoping Workshop.

SUMMARY OF FINDINGS

Based on the government meetings, the following issues were identified as being of current strategic and national significance for the Mekong Delta. The number in brackets denotes the number of line agencies which identified the particular issue. Comprehensive notes appear in Appendix A:

- Water quality and environmental pollution (x4[8])
- Environmental Flows (x2)
- Community Livelihoods (x2)
- Biodiversity & aquatic system conservation (x2)
- Hydrology and climate change (x2)
- Significance of remaining forest & wetlands in the Mekong Delta (x2)
- Infrastructure vulnerability to flooding and climate change
- Upstream/downstream effects, especially of the China dams
- Importance of in land water & road transport to delta economy
- River bank instability & erosion
- Agriculture and aquaculture development and susceptibility to flooding and natural

[8] " "x3" indicates that three line agencies raised this issue, "x2" indicates that 2 agencies raised an issue and so on

- Economic importance of the Mekong Delta for national and regional development
- Connectivity in the Mekong Delta
- Power Trade: hydropower with China, Laos and Cambodia
- Transition to a market approach in energy generation and supply
- disasters
- Water related diseases
- Large-Scale migration of people to and from the Delta
- Health protection

3. NATIONAL SCOPING WORKSHOP

OVERVIEW

The purpose of the national scoping workshop was to continue discussion begun in the line agency orientation meetings, with the aim of systematically honing in on the key strategic issues to be addressed by the SEA and their different geographical and sectoral levels of focus. Specifically, the National Scoping workshop aimed to:

i. Define the key strategic issues to be addressed by the SEA.
ii. Review and refine the SEA approach

The workshop was organised and chaired by the Vietnam National Mekong Committee (VNMC). There were 48 participants: 38 from Government line agencies, 3 from MRCS and 7 from the SEA Team. Nine government ministries were represented as well as four Vietnamese NGOs. A full list of participants together with the workshop agenda appears as Appendix B.

There were three main components to the workshop. Their function and time allocation is set out in Table 2.

Table 17 Main components of the Vietnam National Scoping Workshop

ITEM	WORKSHOP COMPONENT	FUNCTION	PROPORTION OF THE WORKSHOP
1	Presentations	▪ Stimulate discussion ▪ Share understanding of the sectoral focus and priorities of the Government of Vietnam ▪ Build understanding of the SEA	25%
2	Plenary Discussions & Question time	▪ Orientate presented materials towards the strategic issues ▪ Record and consolidate points of agreement	25%
3	Working Group Sessions	▪ Build consensus on the: (ix) 3-5 key themes which the SEA will need to address (x) The development objectives and targets of the GoV* in relation to each theme (xi) sustainability principles[+] used by the government to direct planning in each theme or associated sector (xii) 10-20 strategic issues which the SEA will need to address	50%

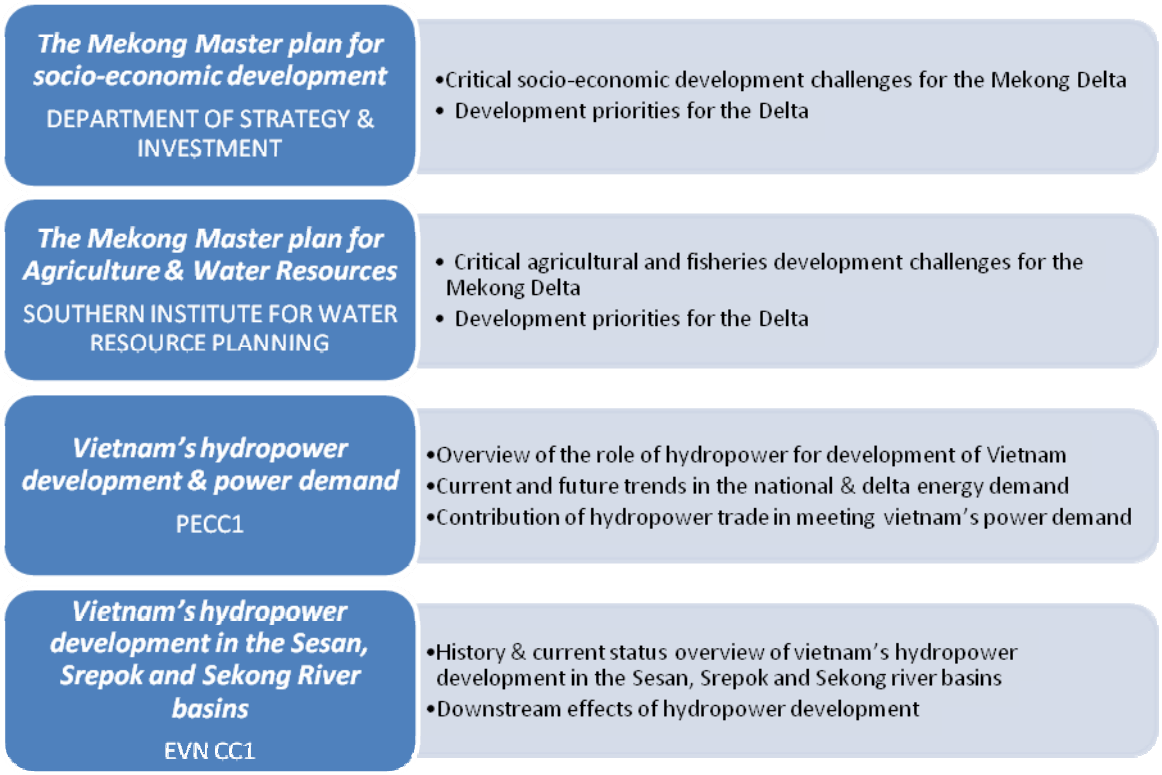
* GoV = Government of Viet Nam

[+] Sustainability principles are the guiding principles of the GoV which will ensure that government objectives are met without jeopardizing the ability of future generations to meet their objectives

3.1 PRESENTATIONS

Following a number of presentations by the SEA team on the SEA objectives, the mainstream hydropower projects under assessment and the SEA approach, four presentations were made by government agency and developer representatives during the workshop. The four presentations and their respective focus are outlined in Figure 1. Presentations by government agencies and the SEA Team are available as full power points from the MRC website.[9]

Figure 4 Workshop Presentations



3.2 PLENARY DISCUSSIONS

The two plenary discussions focussed on identifying the strategic issues, by orienting discussion around three broad subjects: current challenges facing the Mekong Delta, Vietnam's position as a partner for power trade and regional cooperation.

The discussion has been summarized in Table 3, with comments and questions divided by theme. The themes used in organising the plenary comments were developed by the SEA team before the workshop on the basis of the initial discussions with government line agencies. Although they

[9] http://www.mrcmekong.org/ish/SEA.htm

resemble the themes identified by the workshop participants there are some differences – the themes should be considered as an evolving framework to be shaped and prioritized by national interests as well as the SEA process itself.

Table 18 Summary of plenary discussions

No.	Government of Vietnam Consultation Workshop, Scoping Phase, SEA Key Themes
	1. Metrology, Climate Change, Hydrology, Water Quality & Sediment
1	SEA needs to define scope ensuring that positive and negative impacts are fully covered; in existing assessments and feasibility studies the negative impact have not been addressed properly.
2	Daily regulation has strong impact on flows in downstream e.g. in Hoa Binh dam to Hanoi. During the dry season water flow levels are reduced due to the dam, but can be elevated with appropriate operational management (e.g. Spring time release to meet agricultural needs)
3	Flood control is a complex process with complicated management requirements. Dams may further complicate the seasonal flooding regime – does Laos and Cambodia have the capacity for this level of coordinated management?
4	Tonle Sap Lake in Cambodia has a large storage capacity (80 bil m3). It is one of the dominant features of the Delta hydrology and relies on finely balanced variations in the hydraulic gradient between the Mekong mainstream and Tonle Sap – changes to the flow regime may disrupt this important hydrological mechanism and affect the Delta.
5	The Delta is being affected by climate changes – and upstream developments could aggravate the impacts of those changes.
	2. Aquatic Biodiversity & Fisheries
1	Fish migration routes are critical for Delta fisheries productivity – will they be blocked and, if so, with what implications for the diversity, location and overall catch in the Delta
2	The health of Delta aquatic ecosystems are key to many economic sectors and livelihoods – already they are being lost and degrading with subsequent losses in aquatic biodiversity
	3. Terrestrial Ecology, Forestry and land use/change
1	The coastal and inland forest systems play an important role in protection from natural disasters – any changes in the process of sedimentation and flooding will affect these systems. Not enough is known about sediment dynamics.
	4. Agriculture, Irrigation & Water Supply
1	Freshwater annual demand is 30 bil m3 in Mekong Delta. Meeting this demand and retaining freshwater during the dry season is a major management challenge for the Delta provinces.
2	Issues of water transfer from one subcatchment or ecosystem to another have been raised. This can have wide-reaching socio-economic and environmental implications
	5. Transport & Navigation
1	A major upgrade of the inland waterway system is underway – it is the foundation of agricultural exports, especially rice, but an increasing number of other goods. This system is sensitive to changing water levels and sedimentation.
	6. Power Development
1	Power in general, and hydropower in particular are important regional issues: it could become a source of friction or an opportunity for cooperation
2	The new Mekong Delta Power Centre in Ca Mau is to supply power to the delta by 2020
3	National initiative to develop nuclear power by 2020
4	By 2015 proportion of hydropower in national power mix = 23%
5	Yali is a govt priority and used as a model for the study of hydropower
6	Regional power trade & Vietnam's position is complex: Vietnam is a major power importer especially from

	China and Laos as well as one of the nations to be affected by hydropower development. Vietnam will only import power if the price is right.
7	Trade-off analysis among countries is needed
	7. Tourism
1	Tourism along the Mekong and in the Delta is increasing
	8. Poverty, ethnic groups & livelihoods
1	Mekong Delta is well studied and understood but poverty levels remain high and the benefits of development are not well shared: there are complex reasons for this which the SEA should be aware of.
	9. Health & Nutrition
1	Health problems are on the increase due to water borne illnesses and those related to increasing levels of pollution
	10. Resettlement, migration, population growth, human trafficking & urban development
1	The Mekong Delta is a regional subject to a very dynamic flow of migration and very high levels of population growth. It is also a region of relatively high poverty as poor from other regional seek to settle in marginal areas. This movement will be affected by climate change and any disruption to the Delta hydrodynamics
	Other issues raised
1	SEA should be undertaken during project design not after construction. SEA should be flexible, and adapt to the phases of planning
2	SEA should consider the many projects on tributaries as well as the mainstream proposals
3	Need to review SEA legal documents in each country - as the basis for integrating the SEA into the institutional and regulatory context
4	Mekong Delta master plan considers all sectors master plans – but it does not consider the potential effects of upstream development
5	Regulation regime of each project and all projects are important – effective coordination in their operations will be essential – is their capacity for this?
6	National attitude to other countries: a guiding principle should be to minimize negatives imposed on others and to compensate for them.
7	How to increase role of MRC in the region? SEA should address the role of MRC as a future regulator for mainstream development
8	Integrated approach: Hydropower project shall look at the overall river basin impact, not just individual project impacts in connection with other sectors.
9	What is the role of MRC; SEA conducts in design phase; how will this cross-border SEA influence hydropower projects and associated decisions?
10	How is SEA understood in other countries? Do they have SEA requirements? The SEA should provide common output that all countries accept to follow
11	SEA should cover the implications for development of all sectors
12	SEA needs to review policy and institutions in all 4 countries: 4 countries have Environment Law that can accommodate SEAs to varying levels. So need to compare and make recommendations on how regional SEAs fit into the national planning context
13	Need to look at existing sector policy/planning and programs for the Delta and how these might be affected by the proposed developments - how will the SEA support these?
14	Need to be seen in the context of sectoral trade-offs, and link hydropower with other relevant sectors (eg irrigation) => use a cost-benefit approach
16	SEA must be based on principles of good scientific understanding. Because hydropower is a hot issue there is the potential to lose focus and integrity
17	MRC's role in regional planning is becoming more crucial – need to review its authority and function in this respect

3.3 WORKING GROUP SESSIONS

The working group sessions were a key activity of the workshop, allowing government participants to define and rank the key themes and issues for the SEA.

The working group sessions aimed to define and build consensus on the:

(i) The strategic themes and their ranking,
(ii) Key strategic issues,
(iii) government objectives and targets for each theme and
(iv) sustainability principles for the themes (Table 2).

The plenary was split into two working groups, with facilitation from the SEA Team.

STEPS IN THE WORKING SESSION

The methodology guidance for the working session was as follows:

1. Define 5-6 key themes
2. Rank the themes according to their importance

Then for each theme, starting with the most important:

3. Define the key strategic issues
4. Define Vietnam's development objectives
5. Define the targets and principles to achieving sustainability
6. Summarize the group's findings in a short (5-10min) presentation
7. Deliver presentation back to the plenary
8. Synthesize group outcomes into one set of templates for the workshop

Outputs from group discussion were recorded using a simple template (Appendix C), once consensus was reached within each group.

COMBINED RESULTS OF THE WORKING GROUP SESSION

Based on plenary and group discussions, five strategic themes were recommended by the workshop to direct the baseline assessment, ranked as follows:

1. Agriculture,
2. Fisheries,
3. Transport and Inland waterways,
4. Ecosystem integrity and environment,
5. Hydrology and climate change

Theme 5 – Hydrology and climate change was identified as a cross-cutting theme. For each theme; key strategic issues, government development objectives and sustainability principles were also identified. The following are summaries based on the combined results of the two working groups:

Table 19 Summary scoping conclusions of the workshop

THEME: 1. AGRICULTURE	RANK: 1
KEY ISSUES	
• Hydrology: Quantity (discharge), quality (sediment load, pollution, acidity), and timing of water entering and leaving the Mekong Delta. • Water and soil conditions for agricultural production: water availability, flood and drought, sediment load, salinity, and acidity. • Saline intrusion (dependence on water regime and sea level) • Climate Change (sea level rise, flood and storm) • Cropping regime, land use and seasonality (dependence on water regime) • Agriculture productivity (dependence on sediment and water regime) • Employment and income (dependence on productivity) • Migration (dependence on employment and income)	
DEVELOPMENT OBJECTIVES	RELEVANT PLANS AND POLICIES
• To ensure food security for the whole country • Strengthen export capacity of agricultural products especially rice and fruits • Employment security • Livelihoods	• Socio-economic development of Mekong Delta to 2020 with vision to 2030 • Science and Technology policy • Irrigation plans • Agriculture Development Strategy to 2020 • South West economic zone Master Plan • Other supporting policies
SUSTAINABILITY PRINCIPLES	
• Maintaining land area for agricultural production • Minimize the use of chemicals (pesticides, fertilizers). • Conservation of genetic resources and diversity • Conservation of soil quality. • Maintaining water quantity, quality, and timing for consumption, environmental flows and production.	

THEME: 2. FISHERIES	RANK: 2
KEY ISSUES	
▪ Migratory fish for replenishing fish stock in the Mekong Delta (dependence on water regime from upstream and the Tonle Sap) ▪ Water flows from upstream, including the Tonle Sap. ▪ Fish stock (dependence on flow regime from upstream (including the Tonle Sap) and water environment in rivers, canals, and flood plains) ▪ Habitat modification and loss ▪ Fish yield ▪ Protection of fish breeding areas and areas for fingerlings ▪ Maintenance of migration fish flow ▪ Aquaculture/farmed fish stock (partial dependence on water flow regime from upstream) ▪ Fishing intensity (dependence on population and law enforcement)	

▪ Saline intrusion (dependence on water regime from upstream and sea level in the sea) Fishing and aquaculture seasons (dependence on water regime and saline intrusion and climate change)	
DEVELOPMENT OBJECTIVES	RELEVANT PLANS AND POLICES
▪ Meeting the nutrient requirements of the population in the Mekong Delta ▪ Meeting the needs for export and domestic markets ▪ Maintaining employment and income for local	• Fishery development strategy • Biodiversity Law • National targeted program on nutrient, and food hygiene • Master plan for fishery development
SUSTAINABILITY PRINCIPLES	
▪ Biodiversity and abundance of fishery must be conserved. ▪ Aquatic habitats (in rivers, canals, and floodplains) must be conserved. ▪ The health of the Tonle Sap in Cambodia must be maintained for supply of fishery stock and maintaining hydrology regime of the Mekong Delta. ▪ Maintenance of water quantity, quality, and timing ▪ Protection of fish breeding and rearing areas ▪ Maintenance of natural migration routes of fishes	

THEME: 3. TRANSPORT / INLAND WATERWAYS	THEME RANKING: 3
KEY ISSUES	
▪ Maintenance of inland waterways: ensuring the width of rivers routes, permitted depth of the rivers, ensuring speed of natural flows ▪ Defining flow of goods, such as: sources of goods, types of goods, volume of goods by seasons and locations ▪ Identifying efficient waterway routes	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
• Permit ships with 3,000 ton capacity moving on waterway routes having minimum 4.5 m in depth currently • Ensure minimum of 5.5m in depth of rivers for ships of 5,000tons capacity moving in future • Increase volume of goods transport from 120 million up to 300 million in the following years • Increase passenger transport from 150,000 persons/year up to 300,000 persons/year	• On-going drafting convention on inland water ways between Vietnam and Cambodia (with support from MRC) • Plan of inland waterways to 2020 • Law on inland transport
SUSTAINABILITY PRINCIPLES	
• Ensure minimum depth of river routes at 4.5m • Plan development on sources of goods • Introduce policies on trans-boundary transport	

TOPIC: 4. ECOSYSTEM INTEGRITY AND ENVIRONMENT	RANK: 4
KEY TOPICS	
• Quantity, quality, and timing of water entering and leaving the Mekong Delta (dependence on water flows from upstream) • Climate change impact on ecosystems and biodiversity • Biodiversity and integrity of wetland ecosystems (dependence on water regime from upstream and management practices) • Biodiversity and integrity of mangrove forest (dependence on water regime from upstream, sea level in the sea, and management practices) • Saline intrusion and acid-sulphate soils (dependence on water flows from upstream)	
DEVELOPMENT OBJECTIVES	RELEVANT PLANS AND POLICIES

• Biodiversity and integrity of ecosystems conserved • Negative impacts on the environment reduced • Wetlands protected • Mangrove forest protected. • Landscapes protected.	• Environment Protection Strategy to 2020 • Environment Protection Law • Biodiversity Law • Ramsar Convention • Convention on Biodiversity (CBD)
SUSTAINBILITY PRINCIPLES	
• Integrity of aquatic and terrestrial ecosystems maintained and restored. • Overexploitation of resources and pollution activities controlled • Appropriate quantity, quality, and timing of water coming and leaving the Mekong Delta. • All require effective enforcement of environmental and conservation laws	

THEME: 5. HYDROLOGY AND CLIMATE CHANGE	**RANK: CROSS-CUTTING THEME**
KEY TOPICS	
• Water resources: Quantity, quality, and timing of water entering and leaving the Mekong Delta (dependence on flows from upstream and sea level from the sea) • Flood and drought frequency (dependence on water regime and climate change) • Amount of sediment (and nutrients) arriving at the Mekong Delta (dependence on water regime) • Sea level rise (impact of climate change) • Saline intrusion (dependence on water regime and sea level) • Yearly flood regime, water nutrient, situation of saline intrusion and acid sulphate • Water quality and quantity: Ensure water quality for aquaculture, agriculture, home use and industry	
DEVELOPMENT OBJECTIVES	RELEVANT PLANS AND POLICIES
• Maintenance of environment flows to the Mekong Delta. • Climate change adaptation and mitigation	• Law on Water and Water Resources; • Decree to implement the Law on Water and Water Resources ; • Decree 120/2008/ND-CP dated 1 December 2008 on River basin management • Circular to guide the implementation of the decree is on-going be developed • Circular on minimum flow is also being developed by IMHEN
SUSTAINABILITY PRINCIPLES	
• Maintenance of the Mekong Delta flow regime and its' key hydrological signatures. • Impacts of climate change are mitigated and adaptation measures followed.	

3.4 CLOSING REMARKS – DIRECTOR MRCS ISH

The following is a summary of the closing remarks by Do Manh Hung, Director Operations Division, MRC Secretariat.

MRCS CLOSING REMARKS

VIET NAM NATIONAL SCOPING WORKSHOP

DIRECTOR DO MANH HUNG | MRCS OPERATIONS DIVISION

The development of mainstream dams in the Lower Mekong Basin is perhaps the most important strategic decision the four member Countries of the MRC have faced since the signing of the 1995 Mekong Agreement.

Under the 1995 Agreement, the Member Countries agreed to cooperate cooperation for sustainable development of the Mekong basin to "optimise the multiple-use and mutual benefits" of water resources and to "minimise the harmful effects that might result from natural occurrences and man-made activities".

As discussed today, the development of the Mekong water resources is accelerating, particularly hydropower.

Given the progress of preparatory works for the 11 proposed hydropower projects on the mainstream reaches in Lao PDR, Thailand and Cambodia, an immediate priority for the MRC is to assess the long-term environmental and social implications of these mainstream dam proposals and contribution to regional development.

Other strategic concerns that need to be addressed include the regional distribution of costs and benefits with respect to economic development, social equity and environmental protection and among different affected interests and sectors – and the balance with energy security and reliable, affordable electricity supply.

Based on its mandate, the MRC is introducing a more holistic approach to the assessment of risks and opportunities of hydropower development in the Mekong region through a number of mechanisms.

As discussed today, the SEA of the mainstream dam proposals is an important, timely and focused input to help:

- Firstly, to provide an understanding of the range of issues that need to be balanced from the national and different stakeholder perspectives – today we have focused on the Vietnam perspective;
- Secondly, to give input the ongoing basin development planning process, and priorities in the work of MRC Programmes to help counties reach decisions - through longer term planning;
- Thirdly, to propose a consistent framework for the appraisal of individual projects under our Procedures for Notification, Prior Consultation and Agreement.

Many of you are familiar with the MRC and its procedures. For those who are not, the 1995 Mekong Agreement that established the MRC also established a series of protocols for Member Countries to notify each other if they wish to engage in any major infrastructure developments (such as hydropower schemes) on the Mekong.

The Procedures for Notification, Prior Consultation and Agreement (PNPCA) state that any mainstream development proposals, are subject to rigorous prior consultation among the Member States. This consultation aims at arriving at an agreement by the Joint Committee of the MRC on the project.

Of course because MRC is an inter-governmental advisory body, the ultimate decision to proceed with a project is left with individual Member States.

The PNPCA is triggered when the preparation of a mainstream dam advances to the stage where the Member Country makes as submission to the MRC. In considering proposals, the Joint Committee must try and avoid inter-state disputes by resolving several key factors related to mutually beneficial

and sustainable development of the basin.[10]

Today's workshop is a further step towards dialogue around the issues and objectives in relation to the 11 mainstream proposals.

But mostly we wanted to listen to you, and to better understand how these proposed dams fit in relation to your plans in all sectors – and how the issues should best be incorporated in the SEA process. Of course we recognize there are different views – given the complex issues and tradeoffs that are at stake.

Our common challenge is to maximize the opportunities and minimize the risks that hydropower offers to sustainable development of the Mekong Basin for people today and future generations.

While the benefits of hydropower are potentially considerable for Mekong countries, the construction of one or more of these schemes will also have many implications for sustainable development in the basin. Hydropower brings with it several concerns regarding the potential for impact on the environment, fisheries and people's livelihoods. These concerns need to be balanced with the economic and poverty alleviation priorities of the MRC Member Countries.

Considering the importance of dialogue on these issues, I am most grateful that the respective line agencies have participated today.

We will also ensure that feedback from this workshop is provided on the MRC website. You can also see the discussions on the SEA and the dam proposals as they unfold in the Lao PDR, Cambodia and Thailand over the next two months. I encourage you to follow progress on our website as the SEA progress - and also make submissions.

The SEA will report its findings in late 2010.

Finally, I wish to thank the VNMC for bringing us all together for this work and thank the VNMC Chairman for the leadership provided to make the workshop a success. I would also like to thank the MRC team of national and riparian consultants for their diligence, hard work and impartial advice.

I thank you especially for your cooperation - both today and in future.

With these words, I declare this national workshop closed.

5. NEXT STEPS

Similar scoping missions were undertaken in Lao PDR, Cambodia and Thailand during July - November 2009. The results of these missions will form the backbone of the MRC SEA Inception Report, completed in October 2009. This volume of national workshop reports opens with a comparison of the substantive outputs of each of the four National Scoping workshops. The aim of this paper is to consolidate an LMB regional list of themes and associated issues. This volume is part of the inception report and appears as separate files on the MRC website to facilitate downloading

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- Optimises water use;
- Provides better benefits than can be derived through cooperation and trade-offs;
- Has an established right of claim against further proposed uses;
- Assesses the potential impacts on multi-stakeholder's rights and interests; and
- Provides for planning security.

and use.

The Inception report determines the SEA scope and methodology based on the outcomes of the scoping missions. Timing for the subsequent steps in the SEA is outlined in Table 5.

The baseline assessment phase commences in November 2009 and ends with a regional workshop in Phnom Penh (scheduled for January 2010). The baseline assessment phase gathers information on the past trends and current status of the themes and associated key issues. It also explores the associated national and local development objectives, as explicitly defined in government policy or plans. The impacts assessment phase will overlay futures with and without dams to assess the opportunities and risks of mainstream hydropower on the strategic themes and issues. The final stage in the SEA will explore avoidance, enhancement and mitigation measures to increase opportunities and minimise the risks for each nation.

The scoping mission was of particular importance, because subsequent reporting will use the consolidated list of key strategic themes to define and present the assessment. Future consultation events are presented in Table 5.

Table 20 Schedule of the major consultation events

DATE		MEETING	LOCATION	SEA STAGE
		NATIONAL CONSULTATIONS		
	Viet Nam	***Scoping Phase JUNE – SEPT***		**SCOPING** What are the key development issues for the Mekong River?
JUNE	29-30	VN Government line agency meetings	Ha Noi	
JULY	02	VN National Workshop		
	03	VN Civil Society meeting		
	Lao PDR			
JULY	06-07	LAO Government line agency meetings	Vientiane	
	08-09	LAO National Workshop		
	09	LAO Civil Society meeting		
	10-11	LAO Field Mission: Xayaburi, Luang Prabang	Luang Prabang	
	Cambodia			
JULY	14-15	KH Government line agency meetings	Phnom Penh	
	16-17	KH National Workshop		
	17	KH Civil Society meeting		
AUG	03	VN Civil Society meeting	Ha Noi	
	Thailand			
AUG	14	THAI National Workshop	Bangkok	
SEP/OCT	29-01	THAI Government line agency meetings	Bangkok	
NOV	03	THAI Civil Society meeting	Bangkok	
		REGIONAL CONSULTATIONS		
	Cambodia	***Baseline Assessment Phase OCT - DEC***		**BASELINE ASSESSMENT** What are the past & current trends for these issues?
JAN	21,25	Follow Up: KH Government line agency meetings	Phnom Penh	
	22-23	Cambodian Field Mission: Stung Treng, Sambor	Sambor	
	27-28	Regional Baseline Assessment Workshop	Phnom Penh	
	Thailand	***Impacts Assessment Phase JAN - APR***		**IMPACTS ASSESSMENT** What are the future trends for these issues, with & without mainstream hydropower?
APR	19-20	Follow up: THAI Govt. Line agency meetings		
	22-23	Regional Impacts Assessment Workshop	Bangkok	
	24-25	Thai Field Mission: Ban Koum	Ban Koum	
	Lao PDR			
APR	27-28	Follow up: LAO Govt line agency meetings	Vientiane	
	30	Regional Multistakeholder Workshop	TBD	
MAY	01-02	Lao Field Mission: TBD	TBD	
	Viet Nam	***Avoidance, Enhancement & Mitigation Assessment Phase MAR - JUN***		**MITIGATION** What measures will be useful in enhancing the benefits and avoiding or mitigating the negative effects of mainstream hydropower?
JUN	18, 21-22	Follow up: Vietnam Government line agency meetings	Hanoi/Ho Chi Minh	
	24-25	Regional Mitigation Workshop	Can Tho	

APPENDIX A: LINE AGENCY MEETING SUMMARIES

AIM: to explore the key strategic issues for the Mekong Delta:

i. *What are the strategic concerns for the development of the Mekong Delta?*
ii. *What are the strategic concerns for the sustainable use and conservation of Mekong River resources?*
iii. *What methods should the SEA adopt to effectively involve stakeholders and to conduct the assessment?*

General topics covered:

- Introduction to the team and recent activities
- SEA mandate & rationale
- Vietnam involvement in the SEA, and implications of:
  i. developments on the river and transboundary effects,
  ii. Vietnam as a market for mainstream hydropower development and trade,
  iii. Vietnam investment in mainstream and tributary projects, and
  iv. Mekong Delta provincial and local use of the Mekong River

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: National Directorate of Aquatic Resources Exploitation and Protection	*MINISTRY*	MARD
10 Nuyen Cong Hoan, Ngoc Khanh Ward, Ba Dinh District HA NOI	*DATE*	29/6/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	• No specific study has previously been undertaken regarding hydropower issues for the MD; • MD is a core centre for fisheries and aquaculture production, 80-90% of Vietnam aquaculture production is in MD; • Delta cat fish production 1.2mil tone per year and worth USD$1.5billion/year, and expected to increase; • Shrimp is a key development priority of GoV; • Freshwater fisheries along the Mekong mainstream 0.1 mil tone per year is small compared to the delta's total production; • Recently natural freshwater fisheries production in MD is lower, smaller in fish size, less species than before. Fishing season is changing too; • Agriculture & aquaculture are the two main economic sectors of the MD aquaculture strongly developed for catfish and shrimp, but not sustainable => have their own adverse effects on the deltaic environment; • Migratory fish reproduce outside Vietnam =>transboundary implications; *Identified Key Issues:* A. Environmental Flows B. Impacts on Livelihoods C. Biodiversity & aquatic system conservation D. Water quality
2	**KEY ISSUES**
A	**Environmental Flows**
	• Need to determine the minimum hydrological requirements to sustain aquatic productivity • Directorate does not have specific information on this
B	**Impacts on Livelihoods**
	• MD is an important economic region but still has problems of low income and schooling rates

	• Labor number in fishery is large
C	**Biodiversity & aquatic system conservation**
	• 40 species in Vietnam are in dangerous as in Red Book, in which 17 are in MD • Need further study on reproduction of migratory species • Collaboration with Aquaculture and Environmental Management research institutes of MARD (listed below) • 9 aquatic system conservation projects in Mekong Delta by 2020 • 2009 will see a focus on 6 protected areas of the Hau River (one of Mekong mainstream channels) as well as potential transboundary collaboration with Cambodia
D	**Water quality**
	• Current sources of pollution: o Floating fish cages aquaculture o Industrial pollution o River transport o Domestic waste o Changes to water flow and currents o Fisheries technologies
3	**CHALLENGES**
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• MARD has team to draft development strategy including fishery. • Attention is paid to climate change in preparing strategy • MRC has previously cooperated with the former Ministry of Fisheries • Aquatic Master Plan for the Mekong Delta 2006-2010 (with a vision to 2020) with 9 in Mekong Delta and 1 in Central Highland • 2009 will focus on: (i) 6 protected areas along the Hau river (An Giang, Dong Thap, Vinh Long, Can Tho, Soc Trang, Tra Vinh), (ii) potential for transboundary cooperation with Cambodia • Climate Change Action Plan (part of NTP framework) • Fishery Economic Institute has used GIS in fishery development strategy management • decision No 82/2008 MARD (annex 2 lists the 40 species in dangerous) • Prime Minister decision 1479/ 2008 13 October 2008 on Inland water body planning • Gave the SEA team a hard copy list of relevant ministerial decisions • Law of Fisheries • Request for registration of floating fish cages

Note MD = Mekong Delta | GoV = Government of Vietnam

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: MPI DSI	*MINISTRY*	MPI
65 Van Mieu,, Ba Dinh District , HA NOI	*DATE*	29/6/2009
ITEM	DISCUSSION SUMMARY	
1	**CURRENT & FUTURE PLANS**	
	• It is reported that climate change has been integrated into development plans for MD • Master Plan for the Mekong Delta to 2020 with vision to 2030 produced in collaboration with scientists and authorities from 13 provinces including a workshop • Recognized the need for regional cooperation on an international river like the Mekong with 60million inhabitants • Dense population but with low level of economic development and improvement to livelihoods	

	(compared to the national average, as well as in comparison the delta's potential) • Mr Hoang Ngoc Phong is the team leader for a new SEA on the new MD Special Economic Focal Zone *Mekong Sensitive Areas:* • Central highlands are particularly sensitive (i.e upstream reached of Sesan, Srepok and Sekong rivers) • 4 hydropower projects planned for Srepok river basin (Yaly, Srepok 1,2,3) • These induce seasonal regulation of water levels (e.g. Yaly stores water in the dry season for the central highlands) *Identified Key Issues:* A. Hydrology and climate change B. Community Livelihoods C. Water quality and environmental pollution D. Economic composition of the MD E. Connectivity in the Delta
2	**KEY ISSUES**
A	**Hydrology & climate change**
	• MD has six months of flooding. Half of MD area is deep flood during 1-2 months of the year. • Increasing of sea level with high salinity, saline intrusion. 30cm SLR could affect 1/3 of delta => serious implications for socio-economic development • 4-5 million hectares of natural land will be under water due to climate change • Long lasting floods and typhoons influence on sector development plans, and socio-economic planning of MD
B	**Impacts on livelihoods**
	• MD is an important economic region: 70-80% areas are rice production, over 70% of fish export, and 60% of shrimp are coming from MD, • However, MD is facing a lot of problems: (1) low land elevation, (2) soil base is weak, easy to have landslide deposition/ erosion along river bands, (3) transport is mainly by inland waterways, (4) low income and schooling rates, (5) bordering with poor provinces of Cambodia, (6) saline intrusion, (7) loss of biodiversity • Dam failures could be devastating – introducing a new risk/uncertainty into the delta • Fisheries are a crucial sector of the delta which is highly dependent on the natural system. Livelihoods are at greater risk when uncertainty in the natural system is increased
C	**Water quality & environmental pollution**
	• Lack of clean water for domestic use and agricultural production • Acid sulphate pollution in dry season • Environmental pollution causes by pesticides in agricultural production, untreated domestic wastes of population, river transport, and pollution causing by fisheries production
D	**Economic development of the Mekong Delta**
	• MD 70-80% agriculture (mainly rice and aquaculture) => low level of industry • MD is an important export zone • Mekong Delta is one of the six important zones in social and economic development of Vietnam. • It is also one of the four core zones of the nation. Any change of MD will impact on socio-economic development of the whole country. • 4 of the 13 provinces will be part of a new Special Economic Focal Zone, which have a number of supporting plans including: o Irrigation master plan o Construction master plan • Target to develop internal infrastructure: o Airports for Can Tho, Rach Gia and Ca Mau o Sea port & 18 river ports o Increasingly important role for Can Tho in the regional socio-economic development • Hindrances to industrial development: o Delta is ~0.5-1.0m above sea level which increases the risk for large scale industry
E	**Connectivity in the Delta**

	• Main socioeconomic flow pathways are for energy, transport and communications • All three are hindered by the delta geography and the land use patterns (e.g. extensive farming makes road construction more difficult)
3	**CHALLENGES**
4	**GOVT PLANS, DATA & GIS**
	• DSI has commissioned SEAs of the Regional Socioeconomic Development Plans (SEDP) for the MD and the Central Highlands, conducted by the National Scientific University. Report will be submitted in August and released within 12months • Sector plans, including: (i) industry (11 industrial zones), (ii) Energy (Ca Mau petro-gas factory), (iii) Transport (road network, inland waterways, and four airports),(iv) irrigation plan and other sectors • Master Plan for the Mekong Delta to 2020 with vision to 2030 • Climate Change has been taken into account when developing sector plan and master plan for MD • SEA for MD and Central Highlands is on-going conducted by MONRE. Report will be ready by August 2009 • Website covering 6 socio-economic zones.
4	**POINTS TO FOLLOW UP**
	• Sub-institute of strategy development is located in Ho Chi Minh City, which is responsible for Mekong Delta => a good partner throughout the SEA • Work with sub-institute in Ho Chi Minh City to get concrete information and data on sector plans and master plan of MD. • Follow-up to get report of SEA for MD and Central Highlands conducted by MONRE which reports will be ready by August 2009

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: National Directorate of Department of Energy	*MINISTRY*	MOIT
Room 409 4th floor 54 Hai Ba Trung street, Hai Ba Trung District HA NOI	*DATE*	03/9/2009
ITEM	DISCUSSION SUMMARY	
1	**CURRENT & FUTURE PLANS**	
	• Vietnam has two agreements to buy electricity with Cambodia: it is on Sesan 1 and Sesan 2. These two dam are in Cambodia, tributary of Mekong • Vietnam companies invested in these projects; VN Government has shares in these companies. • Hydropower projects in China have strong impact to Vietnam as they affect natural hydrological regime, water quality • Hydropower projects in Laos and Cambodia shall consider these impacts • it is better to have run-off-river hydropower projects. This means low dam, water accumulation and discharge over a daily time-step. Changes to natural regime will be less • Large dam with annual regulation? Will have big negative impact as they change all stream regimes especially in flooding season. • MOIT has little information on potential 11 hydropower projects in upstream of Mekong • MOIT unsure how large is Sambor hydropower project in Cambodia? *Identified Key Issues:* A. Power Trade hydropower with China, Laos and Cambodia B. Market approach in energy generation and supply C. Environmental Flows *Collaborating organisations*:	

	• EVN • Other investment companies like BP investing in Laos
2	**KEY ISSUES**
A	**Power Trade with China, Lao and Cambodia**
	• Vietnam needs to import power from other countries; it is about 3-5% of the demand of Vietnam (3000-5000 mw) • Import only hydropower • Recently imports from China 1-2 billion kWh • Government has guaranteed framework for energy trade, and companies will discuss in detail on volume, price, seasons & other specifics
B	**Market approach in energy generation & supply**
	• Electricity price is regulated by government now. Electricity price was proposed to increase by 2007, but postponed until the beginning of 2009 because of concerns over price increases on public. • Moving towards a more market-based pricing system. • Now Vietnam buys electricity with price under 5 cent per kwh. • Price of Electricity generation will be under competitive approach. • Power transmission agency will buy electricity from different electricity generation companies' base on competitive price. This will be fully operating in 2010-2015
C	**Environmental flows**
	• Construction of hydropower dams on Srepok, Sesan • Vietnam has discussed with Cambodia and got agreement on information sharing such as discharge regime, water regulation schedule, data on water quality • To stabilize stream to downstream, Vietnam has constructed lake/reservoir on border with Cambodia to regulate flows from hydropower plant before crossing the border in to Cambodia
3	**POINTS FOR FOLLOW-UP**
	• ICEM provides MOIT documents on workshop 2 July in Hanoi and data on Sambor dam in Cambodia • Possibility to have energy group meetings with experts from four countries
4	**GOVT PLANS, DATA & GIS**
	• PDP (Power Development Plan) VI approved by 2007. But it does not meet current changes in development, so • Now draft PDP VII is started • Liberate electricity market by 2025 • Electricity Law • Decision on electricity prices

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Department of Forestry	*MINISTRY*	DoF
	DATE	03/9/2009
ITEM	DISCUSSION SUMMARY	
1	**CURRENT & FUTURE PLANS**	
	• SEA should consider both technical and political aspects • Technical aspects – learn from Vietnam's extensive experience with hydropower • Political aspects – Vietnam should look back to the agreements signed when joining the MRC to determine their national position on the dams • large scale hydropower needs to b approved at the national level (National Assembly), medium scale hydropower needs provincial level approval • REDD activities in central highlands. • Examples of impact such as Hoa Binh can be used (reduced water flows, increase salinity, sulphate acidity)	

	• Ten years ago benefit from forestry was higher than that in rice production because of market price for forestry goods *Identified Key Issues:* A. Significance of remaining forest & wetlands in the MD
2	**KEY ISSUES**
A	**Significance of remaining forest and wetlands pockets in the MD**
	• Land productivity reduced. The main causes were ASS (directly related to loss of forest cover) and saline intrusion • Identified Kien Giang, An Giang and Dong Thap as provinces of particular concern/importance • deforestation • Balance between conservation and socio-economic development => need to define the amount of ha required for protected areas and properly define forest areas. • There is a mangrove protection initiative, but not enough government incentives and strong direct competition from shrimp farming. • Need policy and financial mechanism to properly value forest protection • Forest coverage reduced for rice and shrimp production •
3	**CHALLENGES**
	• Difficult for Vietnam to react to upstream developments. • Vietnam does not have any power to tell other country to stop hydropower developments. • Within the country, MARD does not make decision but PPCs at provincial levels. • Agreements are too broad • Need for negotiation windows: how to harmonize regional interests
4	**GOVT PLANS, DATA & GIS**
	• 1994 draft proposal for the Law on Environment • Law on dyke development and mangroves • PM Decision 670 – rehabilitation of dyke system (Quang Nai to Keing Giang) • Forest Development Strategy 2010 (vision to 2020) does not have a Mekong regional plan only sub-regional plan for economic zone • Develop mixed forest plantation combining cash and protection forest • Forest plantation is considered in MD economic zone development plan • Develop mangrove plantation: VND 20 billion

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Vietnam Inland Waterways Administration	*MINISTRY*	MOT
	DATE	01/7/2009
ITEM	DISCUSSION SUMMARY	
1	**CURRENT & FUTURE PLANS**	
	• MoT has five subsectors based on transport type: Ground, sea, air, railway & inland waterways, with a planning scheme for each. (website of the ministry) • 60% of passengers use road transport • 70% of goods/products travel via waterways • Inland waterways transport plays an important part in the delta economy • General transportation conditions are quite good • Japanese govt supporting MoT to develop Phase 2, with planning to 2020 and vision t0 2050 *Water routes being improved* i. 04 water routes connecting HCMC-MD ii. 09 routes from Cambodia via Tien and Hau rivers iii. 1998-2005: 6-7 large-scale projects (dredging & signage) for improving capacity of 02 key	

	routes (HCMC-Ca Mau and HCMC-Kien Luong) funded by the WB. These projects are multi-purpose for flood drainage and irrigation (with saline locks) iv. 2009: 02 large projects (i) WB5 (305 mil. Funded by WB and AusAid) to improve capacity of transportation system to 2013 and (ii) Cho Gao canal to connect the MD with the South East Asian region with a capacity of 90 million tons/year (start in 2010) v. 04 small projects to improve river transports (Soai Rap River-Mekong Delta; HCMC-MD; MD-Phnom Penh including transit sea vessels to PNP through the MD; Vung Tau HCM Can Tho-PNP *Identified Key Issues:* N. Infrastructure vulnerability O. Upstream/downstream effects P. Importance of water & road transport to delta economy Q. Bank stability & erosion R. Multi-purpose conflicts: canals
2	**KEY ISSUES**
A	**Infrastructure Vulnerability**
	• Roads & waterways defined by orientation: North-South (parallel to rivers) and East-West (crossing river channels). • Infrastructure vulnerability follows similar differentiation • The roads running across rivers in East-West directions are most vulnerable to floods (such as NR#1, and N1 and N2 roads along the border with Cambodia), a large number are flooded annually during the dry season. • The ones in North-South direction running parallel to the rivers are less vulnerable • Most vulnerable provinces: Dong Thap followed by An Giang and Long An and Kieng Giang. • Area from the NR#1 to the border is more vulnerable than from NR#1 to the sea (quicker drainage to the sea)
B	**Upstream/downstream effects**
	• Flooding/Water Level fluctuations is a significant management issue for road transport infrastructure • Inland waterways are not significantly affected by flooding, because fluctuation of water levels between dry/wet season not much (not like in the north, ships may need to reduce loads but no seasonal halt of transport) • Waterways are also navigable during the dry season • Flooding more pronounced in Cambodian border area (i.e. NR#1 to the border) • No current observable impact from China dams as yet but worried about the future, especially with regard to (based on understanding of other rivers eg Mississippi): o Timing of flood season and magnitude of peaks o Erosion o Changes to the extent of saline intrusion • Sea level rise was estimated as 0.8cm/yr
C	**Importance of water & road transport to delta economy**
	• Transport 70% of goods in the delta • Nationwide: 145 million passenger trips/year in short distances (while the railway system of the country supports 10 million passenger trips /year) • In 2008: 05 million tons of goods and 150,000 tourists transported between VN-Cambodia via waterway, 40,000tonnes of goods transit in Can Tho • Before 2005: means of small capacity (50-300 tons) • Present: 1,000-2,000 tons • Future: 2,000-5,000 tons
D	**Bank stability & erosion**
	• Over 700 erosion areas in the whole country • Many causes, including waterway transportation • Transport induced erosion will only occur in southern part of delta, because: o Soil conditions and type

	o Channel morphology o Ship size
E	**Canals: Multi-purpose conflicts**
	• Nationwide: 220,000km of waterways, only 20,000 used for waterway transport • During canal construction, only sluices were installed with few ship locks • In some cases for the MD sluices are actually exacerbating salinity problems
3	**CHALLENGES**
	• Designing for ships of 5,000 tons in capacity which need at least 5.5 meters depth of water. • Any impact to the system will significantly affect socio-economic development of the MD. • Water transport and salinity control are not of the same authority nor coordinated. • No information on water distribution (among the rivers and branches) and trend of changes. • Need coordination between sectors (water transport and salinity control) • Need for a regional body to coordinate developments of the Mekong River, as trade is a regional activity
4	**GOVT PLANS, LEGAL FRAMEWORK, DATA & GIS**
	• Master Plan of MoT (to 2020 with a vision to 2050) • Maps of transportation routes

Note MD = Mekong Delta | PNP = Phnom Penh | NR = National Road

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: Institute for Metrology, Hydrology and Environment	*MINISTRY*	MoNRE
5/62, Nguyen Chi Thanh Str, Dong Da District, Hanoi	*DATE*	03/9/2009

ITEM	DISCUSSION SUMMARY
1	**CURRENT & FUTURE PLANS**
	• CC scenario's are developed at national and regional levels • Undertaking, for VNMC, and impact assessment of the Sambor proposal (undertaken by Dr Tuyen) *Identified Key Issues:* A. Hydrological regime and climate change B. Agriculture and Aquaculture C. Water quality
2	**KEY ISSUES**
A	**Hydrological regime and climate change**
	• Need to know flow regime change – many aspects of the delta (social and environmental) are dependent on aspects of the flow regime • IMHEN & TNC are developing guide lines for minimum flows, based on standardised criteria and looking at: o River maintenance o Ecological flows o Water use • TNC wanted to test on the MD, but IMHEN prefer to test on the Red River Delta • Reasons of flow change can be found in MRC report • Take into account sea level rise by climate change • Take into account of dam regulation Impact of climate change on water resources • Impact of dam and sea level rising on MD • The above issues were mentioned but they have no information and data to share.
B	**Agriculture and aquaculture**
	According to people from HMEC, SEA should focus on the following issues (theoretically)

	• Change of flood season impacts on agriculture and aquaculture in MD • Change of water flow also causes water quality, river bank erosion and other hydro/morphological issues • Need assessment of sediment on agriculture production and aquaculture in MD
C	**Water and soil quality**
	• Water and soil quality includes: o Sediment and sediment transport o Erosion and deposition o Saline intrusion o soil quality
3	**CHALLENGES**
	• The Center not open to sharing information. No valuable data and information have been collected. • Response on discussion topics of Center staff is very general and theoretical.
4	**GOVT PLANS, DATA & GIS**
	• The Center has cooperation with VNMC in conducting impact assessment of some trans-boundary dams between Vietnam and Cambodia. Report will be available by the end of 2009 • The Center is also conducting research on the impact of climate change on water resources. • Flooding maps of MD, but it is not permitted to shared. • Decree 120/2008/ND-CP dated 1 December 2008 on River basin management • Circular to guide the implementation of the decree is under formulation • Circular on (i) minimum flow & (ii) reservoir operations is also being developed in collaboration with TNC • Toolset at institute can be used to calculate impacts on water resources form existing reservoirs • MONRE has developed indicator sets for poverty reduction & environment • Centre for Environment – SLR in the Coastal Zone
5	**POINTS FOR FOLLOW UP**
	• Need discussion with Sub-IMHEN in Ho Chi Minh City to get concrete information on MD during baseline assessment period

SLR = Sea level rise | MD = Mekong Delta |

MRC SEA for HYDROPOWER ON THE MEKONG MAINSTREAM		
SCOPING PHASE MEETING: National Directorate of Department of Health Prevention & Environment	*MINISTRY*	MOH
Room 805, 84th floor, 135 Nui Truc Street, Da Dinh District HA NOI	*DATE*	30/6/2009
ITEM	DISCUSSION SUMMARY	
1	**CURRENT & FUTURE PLANS**	
	• There is no regional health protection plan. There is only a national one. • National Target program: collaboration between MoH and MPI • Health Master plan for the MD is under preparation • Each province in MD has own annual health protection plan • Health departments in provinces play an important role for disease planning • Health protection shall be the special issue in social economic development strategy as well as in SEA • SEA has no meaning if it will not improve health status for people • There is no any database on diseases before and after hydropower construction. Special hospital was built in Song Da hydropower before to care health of local people and worker, now hospital managed by province. • Department did not participate in any SEA	

	• MOH draft the Guidance for EIA on health • General concern for health and poverty in the delta despite strong economic growth • MoH not yet involved in EIA process *Identified Key Issues:* A. Change in water quality and living environment B. Water related diseases C. Large-Scale migrations D. Health protection
2	**KEY ISSUES**
A	**Change in water quality and living environment**
	• Reduced fresh water from upstream • Increase salinity and brackish water body in MD • Drinking water supply issue • Fish and agriculture production are the main nutrition sources in MD, especially for children. • Child malnutrition is big problem.
B	**Water-related diseases**
	• Dengue fever, diarrhoea, skin disease & malnutrition are prominent in the MD • Direct impact: water vector diseases like intestines diseases , skin diseases • Indirect impact: middle disease transmission vector like mosquito vector disease – malaria, sot *xuat huyet* or under-skin blooding fever, *viem nao* or inflammation of brain • More prominent during the flood season o Have established initiatives like quick response team •
C	**Large-scale migrations**
	• Migration typically places strain on health services • Previous experience with hydropower => construction workforces and resettlement can exacerbate health problems
D	**Health protection**
	• Transmission diseases among workers and local people during dam construction • Health protection for resettlement in new areas • Special sanitary issue in flooding area/ season: drinking water supply, waste water treatment, latrine • Provincial input to national strategy: o Nutrition o Water supply o Sanitation o Disease rate (dengue & HIV) • From a strategic point of view, malnutrition, food storage and security are critical issues
3	**POINTS TO FOLLOW UP**
	• To work with Health Departments in MD provinces to collect data • Search data at national level on the website of MOH • Le Van Chinh: Expert on environmental and medicine management (mobile: 0983825689)
4	**GOVT PLANS, DATA & GIS**
	• National target program on nutrition • National target program on rural drinking water supply and sanitary • There is a World Bank project on capacity building for province Health Protection Centers • Data on disease at national level on website of MOH • No GIS on disease mapping, but provinces will have information on incidence of disease, clean water supply & sanitation • Law on Public Health Prevention •

APPENDIX B – WORKSHOP AGENDA & PARTICIPANTS

AGENDA

MRC SEA OF HYDROPOWER ON THE MEKONG MAINSTREAM

VIET NAM NATIONAL SCOPING WORKSHOP

08:00 – 17:30 | 02 JULY 2009

VENUE: ARMY HOTEL

[33C PHAM NGU LAO STREET, HANOI]

AGENDA

02 JULY: 8:00 – 17:30		
8:00 – 8:20	*Registration*	
8:30 – 8: 40	***Introductory Address***	Chairman VNMC
INTRODUCTORY SESSSION		
8:40 – 9:00	***The aims of the MRC SEA*** (i) Aims (ii) The proposed Mekong mainstream hydropower projects (iii) The approach in this SEA (iv) SEA timeline & milestones	SEA Team
9:00 – 9:15	***Findings of the initial MRC review of LMB concerns*** (i) LMB country priorities (ii) Vietnam's priorities	SEA Team
ISSUES FOR THE MEKONG DELTA		
9:15 – 9:40	***The Mekong Master plan for socio-economic development*** (iii) Critical socio-economic development challenges for the Mekong Delta (iv) Development priorities for the Delta	DSI
9:40 – 10:00	***The Mekong Master plan for Agriculture & Water Resources*** (i) Critical agricultural and fisheries development challenges for the Mekong Delta (ii) Development priorities for the Delta	Southern Institute for Water Resource Planning
10:00 – 10:30	***Plenary discussions on critical upstream/downstream development issues for the Mekong Delta?***	All participants
10:30 – 10:45	*Coffee break*	
THE REGIONAL CONTEXT		
10:45 – 11:00	***Vietnam's hydropower development & power demand*** (i) Overview of the role of hydropower for development of Vietnam (ii) Current and future trends in the national & delta energy demand (iii) Contribution of hydropower trade in meeting Vietnam's power demand	EVN

11:00 – 11:20	***Vietnam's hydropower development in the Sesan, Srepok and Sekong River basins*** (i) History & current status overview of Vietnam's hydropower development in the Sesan, Srepok and Sekong river basins (ii) Downstream effects of hydropower development	EVN
11:20 – 12:00	***Plenary discussions on Vietnams influence on the Mekong River*** ▪ Downstream effects of hydro development in the Central highlands ▪ Effects of Vietnam's power demand and trade arrangements ▪ Vietnam's hydropower investments in the region	All participants
12:00 – 13:00	*Lunch break*	
WHAT IS THE SCOPE OF THE MRC SEA ON MAINSTREAM HYDROPOWER?		
SUSTAINABILITY PRINCIPLES & ISSUES OF CONCERN FOR THE MEKONG DELTA		
13:00 – 13:20	***Objectives of the working session***	SEA Team
13:20 – 15:20	***Working Session –*** (i) Defining sustainable development priorities for the Mekong Delta (ii) Defining the key strategic issues of concern for the Mekong Delta	All participants
15:20 – 15:30	*Coffee break*	
15:30 – 16:50	***Working groups report back to plenary*** (i) Present summary of sustainable development priorities for the Mekong Delta (ii) Present summary of key strategic issues of concern for the Mekong Delta	All participants
THE NEXT STEPS FOR THE SEA		
16:50 - 17:10	***Synthesis –*** *Combined summary of the key issues for the Mekong Delta identified by workshop* *And the next steps for the SEA*	SEA Team
17:10 – 17:20	***Remarks from the MRC***	MRCS
17:20 – 17:30	***Closing remarks from the VNMC***	Chairman VNMC
	Close of workshop	

LIST OF PARTICIPANTS

	NAME	ORGANISATION	MINISTRY
1	Le Duc Trung	VNMC (Secretary General)	MONRE
2	Tran Duc Cuong	VNMC	MONRE
3	Nguyen Thu Linh	VNMC	MONRE
4	Le Van Diem	VNMC	MONRE
5	Truong Hong Tien	VNMC	MONRE
6	Le Thanh Ha	Meteorology and Hydrology Institute	MONRE
7	Nguyen Thi Thu Phuong	General Department of Environment	MONRE
8	Pham Anh Dung	Appraisal and EIA/SEA Department	MONRE
9	Phuong Van Dong	Natural Resources and Environment Magazine	MONRE
10	Nguyen Chi Yen	Centre for Water Resources Planning and Investigation	MONRE
11	Le Thanh Cong	National Centre for Hydrology and Metrology	MONRE
12	Tran Hong Quang	Institute for Strategic Development	MPI
13	Nguyen Viet Dung	Department of Science, Education, Natural Resources and Environment	MPI
14	Vu Duc Binh	Department of Agriculture & Economy	MPI
15	Kim Van Chinh	Institute of Policy and Strategy for Rural and Agricultural Development	MARD
16	Hoang Tran Hiep	National Institute for Agricultural Planning and Projections	MARD
17	Phan Van Bac	National Directorate of Aquatic Resource Exploitation and protection	MARD
18	Vu Minh Tuan	Department of Forestry	MARD
19	Ng Van Toan	Institute of Water Resource Planning	MARD
20	Tran Minh Trong	Institute for Forest Planning and Investigation	MARD
21	Ng Thuy Nga	Vietnam Institute for Water Resources Research	MARD
22	Truong Trong Doanh	Vietnam Inland Waterways Administration (Northern Office)	MOT
23			
24	Tran Viet Hoa	Department of Science & Technology	MOIT
25	Doan Ke Ruan	Consulting Company 1	EVN
26	Nguyen Huy Hoach	Consulting Company 1	EVN
27	Dao Chi Hien	Department of Science, Technology & Environment	EVN
28	Ng Van Dang	Department of Social Welfare	MOLISA
29	Nguyen Bien Thuy	Department of Health & Environment	MOH
30	Pham T. Kim Anh	Department of International Organisations	MOFA
31	Do Hong Phan	Centre for Promotion of Integrated Water Resource Management	NGO
32	Nguyen Nhan Quong	Centre for Promotion of Integrated Water Resource Management	NGO
33	Nguyen Hong Toan	Centre for River Basin Water Resources and Environmental Management	NGO
34	Dau Van Van	Vietnam Association of Large Dams and Water Resources Development	NGO
35	Dang Tuyen	Journal of Environment	
36	Nguyen Xuan Hien	Southern Institute for Water Resource Planning	MARD
37	Tran Quoc Bao	Research Institute for Aquaculture No 2. (RIA 2)	MARD
38	To Quang Toan	Southern Institute for Water Resource Plannig	MARD

39	Do Manh Hung	ISH/OPS	MRCS
40	Voradeth Phonekeo	ISH	MRCS
41	Larry Haas	ISH	MRCS
42	Jeremy Carew-Reid	Team Leader	SEA Team
43	Nguyen Van San	Vietnam Team Leader/Environmental Management specialist	SEA Team
44	Nguyen Xuan Nguyen	Energy Systems specialist	SEA Team
45	Nguyen Huu Thien	Natural systems specialist	SEA Team
46	Tran Thanh Cong	GIS	SEA Team
47	Nguyen Thi Nga	Finance & operations	SEA Team
48	Tarek Ketelsen	Program Coordinator	SEA Team

APPENDIX C – WORKING SESSIONS: MATERIALS & OUTPUTS

C1 THE WORKING SESSION TEMPLATE

THEME:	THEME RANKING:
KEY ISSUES	
List the 5-6 key issues for the theme which are most relevant for the Mekong Delta	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
▪ List the specific development objectives and targets relevant to the theme	▪ List the policies or plans relevant for the theme
SUSTAINABILITY PRINCIPLES	
▪ Define the sustainability principles relevant to this theme	

C2 GROUP 1

THEME: AGRICULTURE	RANK: 01ST
KEY TOPICS	
• Quantity, quality, and timing of water coming and leaving the Mekong Delta (dependence on flows from upstream and sea level from the sea) • Flood and drought (dependence on water regime and climate change) • Acidity of water and soil (dependence on water regime) • Amount of sediment (nutrient) arriving at the Mekong Delta (dependence on water regime) • Saline intrusion (dependence on water regime and sea level) • Sea level rise (impact of climate change) • Seasonality of farming systems (dependence on water regime) • Land use structure (dependence on water regime) • Agriculture productivity (dependence on sediment and water regime) • Employment and income (dependence on productivity) • Migration (dependence on employment and income)	
DEVELOPMENT OBJECTIVES	RELEVANT PLANS AND POLICIES
• Food security • Export • Employment security • Livelihoods	• Science and Technology policy • Irrigation plans • Agriculture Development Strategy to 2020 • Mekong Delta Development Planning Scheme to 2015 • Other supporting policies
SUSTAINABILITY PRINCIPLES	

- Genetic resources must be conserved
- Soil quality must be conserved.
- Water quantity, quality, and timing must be sufficient and appropriate.

THEME: FISHERY	RANK: 02

KEY ISSUES

- Quantity, quality, and timing of water coming and leaving the Mekong Delta (dependence on flow regime from upstream and sea level in the sea)
- Migratory fishes for replenishing fish stock in the Mekong Delta (dependence on water regime from upstream)
- Artificially bred fish stock for aquaculture (partial dependence on water flow regime from upstream)
- Fish stock (depended on flow regime from upstream and water environment in rivers, canals, and flood plains)
- Fishing intensity (dependence on population and law enforcement)
- Saline intrusion (dependence on water regime from upstream and sea level in the sea)
- Fishing and aquaculture seasons (dependence on water regime and saline intrusion and climate change)

DEVELOPMENT OBJECTIVES	RELEVANT PLANS AND POLICES
• Meeting nutrient requirements of the population of the Mekong Delta • Meeting the needs for export and domestic markets • Employment and income	• Fishery development strategy • Biodiversity Law • Master plan for fishery development

SUSTAINABILITY PRINCIPLES

- Biodiversity and abundance of fisheries must be conserved.
- Aquatic environment (rivers, canals, and floodplains) must be conserved.
- Appropriate water regimes (quantity, quality, and timing) monitored

TOPIC: ECOSYSTEM INTEGRITY AND ENVIRONMENT	RANK: 03

KEY TOPICS

- Quantity, quality, and timing of water coming and leaving the Mekong Delta (dependence on water flows from upstream)
- Biodiversity and integrity of wetland ecosystems (dependence on water regime from upstream and management practices)
- Biodiversity and integrity of mangrove forest (dependence on water regime from upstream, sea levels, and management practices)
- Saline intrusion and sulphate acidity (dependence on water flows from upstream)

DEVELOPMENT OBJECTIVES	RELEVANT PLANS AND POLICIES
• Biodiversity and integrity of ecosystems conserved • Negative impacts on the environment reduced • Wetlands protected • Mangrove forest protected. • Landscapes protected.	• Environment Protection Strategy to 2020 • Environment Protection Law • Biodiversity Law • Ramsar Convention • Convention on Biodiversity (CBD)

SUSTAINBILITY PRINCIPLES

- Laws and regulations observed
- Overexploitation of resources avoided
- Appropriate quantity, quality, and timing of water coming and leaving the Mekong Delta.
- Integrity of ecosystems maintained and restored.

C3 GROUP 2:

THEME: AGRICULTURAL	THEME RANKING: 1
KEY ISSUES	
• Water sources: ensure sufficient water for agricultural production. Attention paid to yearly flood regime, nutrient loading, and , saline intrusion and acid sulphate by localities, based on months of the year, irrigation and drainage regime • Crops structure/ and seasonal crop cycles: pay attention to appropriate crops structure, adapt with water source condition	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
• Ensure food security for the whole country • Strengthen export capacity of agricultural products: rice and fruits	• Socio-economic development of Mekong Delta to 2020 with vision to 2030 • Core economic zone of South West
SUSTAINABILITY PRINCIPLES	
• Active irrigation for agricultural areas • Ensure areas for agricultural production • Maintenance of organic agriculture production: reduce chemical pesticides and fertilisers, increase clean food products and export ability of agricultural products	
THEME: FISHERY	**THEME RANKING: 2**
KEY ISSUES	
• Water quality : ensure water quality for aquatic environment and aquaculture • Protection of areas for fish breeding and fingerlings • Maintenance of migration fish flow • Ensure aquatic biodiversity: attention paid to development of aquatic protected areas • Attention paid to development of food processing sub-sector for aquaculture	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
• Ensure nutrient sources for people • Supply stable material for aquatic export	• National targeted program on nutrient, and food hygiene
SUSTAINABILITY PRINCIPLES	
• Protect of fish breeding areas • Maintain natural migration flow of fishes	
THEME: INLAND WATERWAYS	**THEME RANKING: 3**
KEY ISSUES	
• Maintenance of inland waterways: ensure width of rivers routes, permitted depth of rivers, and speed of natural flows • Define flow of goods: sources of goods, types of goods, volume of goods by seasons and locations • Identify efficient waterway routes	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
• Permit ships with 3,000 ton capacity travelling on	• On-going draft of convention on

waterway routes to maintain a minimum 4.5 m in depth currently • Ensure minimum of 5.5m in depth of rivers for ships of 5,000tons capacity moving in future • Increase volume of goods transport from 120 million up to 300 million in the following years • Increase passenger transport from 150,000 persons/year up to 300,000 persons/year	inland water ways between Vietnam and Cambodia (with support from MRC) • Plan of inland waterways to 2020 • Law on inland transport
SUSTAINABILITY PRINCIPLES	
• Ensure minimum depth of river routes at 4.5m • Plan development on sources of goods • Develop policies on trans-boundary transport	
THEME: WATER QUALITY	**THEME RANKING: 4**
KEY ISSUES	
• Supply clean water for home/domestic use • Ensure water quality for agricultural production, aquaculture, industrial production • Source types of water pollution: natural pollution, industrial pollution, pollution from agricultural production • work to limit saline intrusion and acid sulphate pollution in water supplies	
DEVELOPMENT OBJECTIVES	RELEVANT POLICY OR PLAN
• Increase number of households using clean water, ensuring environmental hygiene • Work to limit saline intrusion and acid sulphate in water supplies	• National program on clean water and environmental hygiene
SUSTAINABILITY PRINCIPLES	
• Ensure natural water flows • Limit pollution of water sources • Establish waste water treatment and waste emission treatment facilities at production bases	