Water Governance

A situational analysis of Cambodia, Lao PDR and Viet Nam

MEKONG REGION WATER DIALOGUES

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ACRONYMS

ADB	Asian Development Bank
BDP	Basin Development Plan
BOD	Biochemical Oxygen Demand
CANTA	Cambodia National Tourist Authority
CBDRM	Community-Based Disaster Risk Management
CC	Climate Change
CDC	Commune Development Council
CFDO	Community Fisheries Development Office
CNMC	Cambodia National Mekong Committee
DARD	Department of Agriculture and Rural Development
EAC	Electricity Authority of Cambodia
EDC	Electricité Du Cambodge
ESI	Environment Sustainability Index
FiA	Fishery Administration
FiC	Fishery Community
FMMP	Flood Management and Mitigation Programme
FWUC	Farmer Water User Community
GDP	Gross Domestic Product
GWP	Global Water Partnership
IDMC	Irrigation and Drainage Management Company
IFReDI	Inland Fisheries Research and Development Institute
IWRM	Integrated Water Resources Management
LNMC	Lao National Mekong Committee
LWR	Law on Water Resources
MAFF	Ministry of Agriculture, Forestry and Fisheries
MARD	Ministry of Agriculture and Rural Development
MCTPC	Ministry of Communication, Transportation, Post and Construction
MEF	Ministry of Economy and Finance
MIH	Ministry of Industry and Handicraft
MIME	Ministry of Industry, Mines and Energy
MOC	Ministry of Construction
MOE	Ministry of Environment
MOH	Ministry of Health
MONRE	Ministry of Natural Resources and Environment
MOST	Ministry of Science and Technology
MoT	Ministry of Tourism
MOT	Ministry of Transport
MOTI	Ministry of Trading and Industry
MOWRAM	Ministry of Water Resources and Meteorology
MPH	Ministry of Public Health
MRC	Mekong River Commission
MRD	Ministry of Rural Development
MRWD	Mekong Region Water Dialogues
MTT	Ministry of Trade and Tourism

MW	Mega Watts
NGO	Non-Governmental Organisation
NSDP	National Strategic Development Plan
NTP	National Target Program
NWG	National Working Group
NWRC	National Water Resources Council
NWRP	National Water Resources Policy
NWRS	National Water Resources Strategy
PARDS	Provincial Agriculture and Rural Development Service
PIMD	Participatory Irrigation Management Development
PPC	Provincial Peoples Committee
RBM	River Basin Management
RBO	River Basin Organisation
RWSS NTP	Rural Water Supply and Sanitation National Target Programme
SA	Sub-Area
SAWG	Sub-Area Working Group
SEDP	Sustainable Energy Development Program
SNV	The Netherlands Development Organization
STEA	Science, Technology and Environment Agency
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
VDC	Village Development Committee
VND	Vietnamese Dong
VNWP	Viet Nam National Water Partnership
WRCC	Water Resources Coordinating Committee
WREA	Water Resources and Environment Administration
WSUG	Water and Sanitation User Group
WUO	Water Users' Organisation

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- Dr. Mak Solieng (Cambodia)
- Dr. Bui Cong Quang et al. (Viet Nam)
- Dr. Phouphet Kyophilavong (Lao PDR)

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EXECUTIVE SUMMARY

The Mekong Region, encompassing territories of Cambodia, Lao PDR, Viet Nam, Thailand, Myanmar and China's Tibetan Autonomous Region, Yunnan, Qinghai and Guangxi provinces[1] is economically one of the fastest-growing regions of the world. Amongst its 300 million inhabitants, over 100 million local people are dependent on fisheries and other products of the major river systems (Lancang-Mekong, Nu-Salween, Upper Yangtze, Irrawaddy, Chao Phraya, Red River) while simultaneous commercial utilization of the water resources, water infrastructure development, and water pollution are increasing.

The Mekong Region Water Dialogue Programme (MRWD), convened by the International Union for the Conservation of Nature (IUCN) and supported by the Ministry for Foreign Affairs of Finland, was initiated to work with countries of the Mekong Region to improve water governance by facilitating transparent and inclusive decision-making to improve livelihood security, human and ecosystem health. The programme aims to improve decision-making processes around water-related management and conservation in the Mekong Region, to provide an opportunity for government, private sector and civil society in the region to participate in dialogues and to enable different perspectives about water-related development to be considered.

The approach of the MRWD is to develop country-led and regional dialogue processes enabling better flow of information and knowledge, flows greater stakeholder participation, and an increased appreciation of the inter-dependence of issues. Under the programme, National Working Groups (NWGs), comprising representative experts from government, civil society/non-government organisations (NGOs), the private sector and academia/research sector were formed to guide the implementation of the MRWD program in each country.

In order to identify the key issues, local consultants were engaged in Cambodia, Lao PDR and Viet Nam between October 2008 and January 2009 to prepare country situation analysis studies. The situation analysis studies assessed the current water governance frameworks encompassing policies, legal and regulatory frameworks, and institutional and decision-making aspects, for the three countries. The studies were used to assist the NWGs by identifying the key water governance issues for each country, providing recommendations on relevant dialogue topics for 2009 and 2010 and highlighting the scope for improving water governance. Each situation analysis study was presented to the respective NWG for approval and endorsement. Following this, national multi-stakeholder meetings were conducted, inviting representatives from government, the civil society and NGO sector, community representatives, academia/research sector and the private sector, to prioritise the issues and agree the key topics for further investigation during 2009 and 2010.

The sectors investigated in each country were guided by Terms of Reference agreed by the respective NWGs in each country. Some water-related governance issues were not addressed by any of these studies, such as environmental flows and wetlands management. IUCN recognises the importance of environmental flows for supporting the equitable and sustainable use of water resources, and as a key element in environmentally responsible water resources development. Despite this, it was not identified as a relevant topic for consideration by the respective NWGs, and therefore has not been considered in any of the three studies. Wetlands management was also not included in these studies as IUCN is in the process of developing a separate publication which will specifically consider governance issues associated with wetlands management in the Mekong region, for publication in 2010.

Key sectors explored in the three countries were:

Sector	Cambodia	Lao PDR	Viet Nam
Irrigation	X	X	X
Fisheries and aquaculture	X	X	X
Hydropower and energy	X	X	X
Tourism and navigation	X	X	X
Water supply and sanitation	X	X	X
Industry and craft village			X

This synthesis report presents the key findings from the three studies and describes some of the issues, differences and commonalities between the three countries. It is hoped that this report will provide a means for identifying opportunities where countries can share information and draw on the learnings of their neighbouring countries in addressing water-related governance and development challenges.

[1]The ADB includes the Chinese Provinces of Yunnan and Guangxi in its definition of the economic construct of the GMS while the actual basin of the Mekong River includes parts of the Tibetan Autonomous Region (TAR) and Qinghai Province. We therefore take the broadest definition of the Mekong Region to include all four provinces.

Key issues

The most important general conclusions are as follows:

1. Water resources management is typically sector- driven and not integrated.
Principles of Integrated Water Resource Management (IWRM) have only been recognized and introduced recently, and have had limited application to date.

- River Basin Organisations have been established for only a small number of rivers in the three countries and their experience and effectiveness so far has been very limited.
- Strategic Environment Assessments (SEAs) are only recently starting to be used as a tool to support more integrated planning in river basins. Standards for SEAs need to be established and practice improved.

2. While improved policies and legal frameworks have been initiated in many areas, there are still gaps that need to be addressed, and in all cases the process of translating laws into action has just begun and further work is required.

- In Lao PDR there are still no overall national water policy principles that define how the government wants its water resources to be developed and managed. In Viet Nam there is no clear national policy position for many aspects of water management such as water allocation/sharing in dry times, environmental flows, and intact rivers. In contrast, Cambodia has a more comprehensive National Water Resource Policy of 2004 but even this has some gaps that still need to be addressed.
- Both Viet Nam and Lao PDR have a Law on Water Resources (1998 and 1999 respectively) which require revision and updating, whereas Cambodia has a more modern Law on Water Resource Management (2007), it is somewhat more comprehensive. Water User Rights, however, are not clearly defined in any of the countries.
- Legal and policy frameworks for hydropower development need to be improved in all countries. Disclosure and dissemination of information, and involvement of affected stakeholders in decision-making processes needs to be improved in all cases.
- Although a National Water Supply and Sanitation Sector Policy (2004) do exist in Cambodia, an overall strategy to implement the Policy needs to be developed, and the Water Supply and Sanitation Law still needs to be passed.
- In Cambodia the Fisheries Law (2006) and Community-Fisheries Sub Decree provide a good basis for addressing management issues in inland fisheries, whereas in Lao PDR a draft Fisheries Law (2009) is being considered. The Fisheries law in Lao PDR will provide for the first time a legal basis for fisheries co-management arrangements between communities and local government agencies. In Viet Nam, State Fisheries Enterprises are in urgent need of reform.

3. In many water-related sub-sectors roles and responsibilities of various ministries and agencies are not clearly defined, resulting in indefinite and vague accountability assigned to any of the agencies. Coordination between various ministries and agencies is also lacking, hence the implementation of policies, schemes and programs is ineffective.

- Coordination between government agencies and other actors such as NGOs, donor agencies, the private sector and communities is lacking.
- There is inadequate data collection and management, while information sharing as well as exchange is a complicated, cumbersome process. This is compounded by a serious shortage of skilled technical and scientific personnel and an urgent need for capacity building particularly in Lao PDR and Cambodia.

4. Participation of communities and affected stakeholders is limited and there is generally poor awareness regarding water management and governance issues amongst both communities and government officials.

- In irrigation, Farmer Water User Committees (FWUC) in Cambodia need to be strengthened to improve farmer participation, while in Viet Nam Irrigation and Drainage Management Company (IDMC) coordination and communication needs to be improved and incentives must be provided to encourage further development of Participatory Irrigation Management (PIM). In Lao PDR ways must also be found to involve farmers more in demand-driven planning and development of irrigation.
- In water supply and sanitation, roles and responsibilities of Water and Sanitation User Groups (WSUG) need to be clarified in Cambodia while similar groups need to be established in Lao PDR. In Viet Nam mechanisms for increasing community participation in water supply and sanitation also need to be developed.
- In hydropower, mechanisms to enable affected communities to be involved in decision-making processes, particularly in regard to projects that have transboundary impacts on downstream communities.
- In navigation and tourism, mechanisms need to be developed for consultation with communities affected by navigation improvement schemes, and benefit sharing arrangements need to be improved.

Conclusions and Recommendations

The water-related challenges facing Cambodia, Lao PDR, and Viet Nam are diverse, though inextricably linked. Addressing these challenges requires not only improving decision making processes between the different state and non-state actors within countries, but also improving information flows across the Mekong Region and ensuring the decisions of individual countries take into consideration developments across the region more broadly.

From the status reports from each country, national consultants made the following initial recommendations for issues that MRWD should take up in 2009 and 2010:

For Cambodia, MRWD should focus on IWRM as an overall approach for equitable and sustainable water development and also conduct more detailed work on governance issues relating to:

- fisheries resource management;
- hydropower development and impacts management; and
- irrigation planning and management.

For Lao PDR it was proposed that MRWD should have an overall focus on supporting the current reform in the water sector where the process to improve water governance is being deliberated. Discussion on the national water policy and strategy which sets the direction for water resources development and management and recognizes the principles of integrated water resources management should be the first priority.

For Viet Nam the crucial issues recommended as MRWD priorities were:

- pollution - caused by handicraft activities in villages should be selected for in-depth evaluation and the dialogue process should focus on practical recommendations for mitigation measures;
- decentralization - MRWD can help to clearly define the responsibilities, rights and roles of authorities and stakeholders at different levels from central to grass-roots;
- equitable use of water - MRWD can help to facilitate and coordinate negotiations to resolve water use conflicts in some specific areas;
- water supply and sanitation - MRWD could help to mainstream the issue of sanitation and to mobilize the participation and investment from the private sector in this sub-sector; and
- promoting IWRM - through sets of case studies, dialogues and follow-up processes, MRWD could help to introduce innovative and effective IWRM approaches.

The consultants' initial recommendations were further discussed in national stakeholder meetings in Hue (Viet Nam) in December 2008, Pak Se (Lao PDR) in January 2009 and Siem Reap (Cambodia) in February 2009. These stakeholder consultations endorsed the consultants' recommendations. In the case of Lao PDR, the stakeholders specifically identified the need to work on irrigation and hydropower within the overall focus on water sector reform.

Hydropower, and in particular governance aspects relating to transboundary impacts were identified as a priority in the Cambodian consultant's report, and as mentioned in the Lao stakeholders' consultation. Presently Mekong River mainstream proposed hydropower projects are receiving significant attention from international development community, and throughout the second half of 2009 and early 2010, the Mekong River Commission is conducting an SEA study of mainstream hydropower. Implementing this SEA with expert consultant assistance, will also provide opportunities to help build the capacity of national agencies in conducting SEAs. The best approach for MRWD is to be involved in and to provide input/add value to this process, and at the same time to learn from the experience of this SEA, rather than to conduct separate stand-alone studies on hydropower. Lessons learned from SEA could be applied to other large transboundary rivers in the Mekong Region including the Red River and the Nu-Salween River.

In all three countries, stakeholder consultations helped to prioritise the top two issues for each country for 2009. Drawing on the recommendations from the three situational analysis studies and the three national stakeholder consultations, key activities under MRWD for 2009 and 2010 include:

- A review of application of IWRM approaches in development and implementation of programme and project activities around the Tonle Sap Basin in Cambodia, and the role of the Tonle Sap Authority in coordinating activities and involving local stakeholders; followed by a National Dialogue on IWRM approaches to Tonle Sap management;
- Assessment of fisheries resource management issues amongst local communities around the Tonle Sap followed by a Dialogue of fisher-folk for improved fisheries management;
- A detailed case study on irrigation in Lao PDR, with a focus on the Nam Khan Basin followed by a National

Dialogue on irrigation in Lao PDR;
- Assessment of the impact of the Craft Village Sector in Viet Nam on water quality and a National Dialogue on recommendations for improved governance and reduced pollution; and
- A Writeshop with the "knowledge community" to develop a "State of Knowledge" publication and policy brief on Decentralisation and Governance in the Mekong Delta, followed by a Policy Dialogue meeting to encourage adoption of recommendations.

In parallel to the above, IUCN has also identified the following priority activities for MRWD in 2009:

- Publication of a photo-essay book on Siphandone in English, Lao and Thai and policy dialogue on potential Ramsar, World Heritage or Man and Biosphere status for this area;
- Review on the Phnom Penh Water Supply Authority in Cambodia, highlighting lessons learned from this successful model that can be applied elsewhere;
- Regional case study on Irrigation practices in Thailand, Viet Nam, Cambodia and Lao PDR; and
- Development of a Publication on Wetlands management and governance in the Mekong Region with chapters contributed by invited authors.

MRWD, in its work plan for 2009 and 2010 will continue to facilitate greater dialogue between the different state and non-state actors within the participating countries of the Mekong region as they work toward improving water management and governance processes, taking into consideration their continued economic growth, while maintaining the ecological value of the river systems and aquatic resources. Finally, looking beyond the already impressive list of MRWD priority activities emanating from this status review, there is still a need to assess and articulate if and how MRWD will in future focus on governance aspects related to the additional critical topics of ground water management, environmental flows, and climate change adaptation.

1. INTRODUCTION

The Mekong Region, encompassing territories of Cambodia, Lao PDR, Viet Nam, Thailand, Myanmar and China's Tibetan Autonomous Region, Yunnan, Qinghai and Guangxi provinces[2] is economically one of the fastest-growing regions of the world. Amongst its 300 million inhabitants, over 100 million local people are dependent on fisheries and other products of the major river systems (Lancang-Mekong, Nu-Salween, Upper Yangtze, Irrawaddy, Chao Phraya, Red River) while simultaneously commercial utilization of the water resources, water infrastructure development, and water pollution are rapidly increasing.

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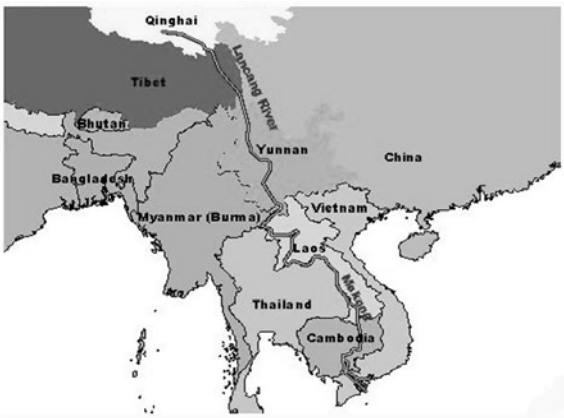
Map: Mekong River flowing from China (called Lancang) via Lao PDR, Thailand, Cambodia and Viet Nam into the South China Sea



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Fisheries and aquaculture	X	X	X
Hydropower and energy	X	X	X
Tourism and navigation	X	X	X
Water supply and sanitation	X	X	X
Industry and craft village			X

This synthesis report presents the key findings from the three studies and describes some of the issues, differences and commonalities between the three countries. It is hoped that this report will provide a means for identifying opportunities where countries can share information and draw on the learnings of their neighbouring countries in addressing water-related governance and development challenges.

2. CAMBODIA

2.1 Overview

Although Cambodia has abundant fresh water resources of rivers, streams, lakes, and aquifers, variability of stream flows and droughts in some parts of the country is increasingly affecting the food security, future livelihood and economic prosperity of the Khmer people. The country's water resources are facing potential threats from changes to the hydrological regime due to variations in rainfall, and man-made development impacts, including the activities of other countries upstream in the Mekong River. The main issues of concern are:

- impacts of upstream hydropower development and water diversions;
- changes in river morphology due to river bank erosion in the Mekong mainstream and changes to sediment loads in streams and tributaries;
- degradation of fishery resources due to changing hydrology, declining water quality, loss of wetlands, forest degradation and illegal fishing;
- increasing pollution of surface water and groundwater due to pesticide and fertilizer use, population pressures, the disposal of liquid wastes and pollution from mine exploitation activities; and
- changes to watershed and river hydrology caused by deforestation, variations in rainfall, loss of wetlands, land use changes, urbanization, and climate change.

This report therefore attempts to identify the key governance arrangements in a number of major water-use sectors, and seeks to understand how effective these arrangements are in enabling the country to address its major water-related concerns. Gaps and priorities for improved governance are identified, and a limited set of these which MRWD can start to help to address are highlighted.

2.2 Policy, legal frameworks and institutional arrangements

2.2.1 Policies, laws, agreements and strategies

Water resources form a crucial part of the nation's environment and natural resource base. Cambodia's watercourses, especially those of the Tonle Sap, provide the basis for fisheries, irrigated agriculture production, domestic and industrial water supply, hydropower, and navigation. Since the late 1990s the Government of Cambodia has introduced some water governance reforms aimed at supporting the sustainable and equitable management of its water resources. These reforms, in policies, infrastructure and outlook, have been important milestones towards better water governance in Cambodia, though there are still some areas where further work is required.

Regional frameworks

The Agreement on Sustainable Development in Mekong River Basin was signed in 1995 by the Governments of Cambodia, Lao PDR, Thailand and Viet Nam, for cooperation and promotion of sustainable development, utilization, conservation and management of the Mekong River Basin water.

Country specific frameworks

The Law on Environment Protection and Natural Resources Management, 1996 is the instrument for governing environmental project and natural resource management. The Law also includes the requirement to undertake an Environment Impact Assessment (EIA) on every project and activity, private or public, and submit these documents for review to Ministry of Environment (MOE).

MOE has also prepared additional guidelines for the preparation of EIA documentation.

The National Water Resources Policy, 2004 was developed and approved by the Council of Ministers in January 2004 and is one of the key frameworks for water resource management and use in Cambodia for all sectors. The objectives of this policy are to:

- protect and manage water resources in an equitable and sustainable manner;
- foresee and take measures to assist related institutions to settle problems in the water sector; and
- develop and implement the national strategy and sector policies on water resources management.

The NWRP provides important policy direction which is useful to water governance covering:

- surface and ground water resources;
- development and management of fresh water resources;
- effectiveness of water utilization and partnership;
- equitable water sharing and allocation;
- water related hazards; and
- maintenance, protection and sustainability of aquatic systems.

The National Strategic Development Plan 2006 – 2010 (NSDP) aims to rehabilitate and reconstruct the extant irrigation and drainage systems, especially in areas with high poverty and along the border areas. Promoting investment by the private sector in irrigation, drainage and other aspects of

agricultural water management and promoting appropriate and effective river basin management and water allocation systems are also envisaged.

The Law on Water Resource Management, 2007supports the implementation of the NWRP and the NSDP and includes articles on the provision of data and information on water quantity and quality and other water related information, water resources development and use, access to water for domestic and development purposes, water infrastructure and official authorization for water use.

Sector specific policies, laws, agreements and strategies are discussed below.

Irrigation Sector

The Circular on the Implementation Policy for Sustainable Irrigation Systems was passed in 1999. It recognizes farmer water user committees (FWUC) as a legal entity with the rights to make rules, enforce sanctions, have a bank account, loan money and enter into legal contracts. This policy also includes the following reforms:

- irrigation system development will be carried out only at the request of the FWUC and the FWUC will participate in all aspects of scheme development, including decision-making and investment in every stage of scheme repair, rehabilitation, modernization and extension;
- water users will be obligated to pay for the cost of routine operation and maintenance and develop a fund to pay for emergency repairs;
- irrigation system will be maintained and improved over time, in partnership between the FWUC and government;
- water delivery will be arranged by the FWUC in an equitable and reliable manner; and
- Ministry of Water Resources and Meteorology (MOWRAM) will be responsible for providing technical and managerial support, monitoring and evaluation, and other support as needed.

In June 2000, MOWRAM issued a Policy for Sustainability of Operation and Maintenance of Irrigation Systems, 2000 for effective and sustainable management of irrigation systems, with a view to increase farmers' participation and successively reduce the role of government. The policy also seeks to build the capacity of FWUCs, to create awareness among the farmers and encourage donor agencies to support participatory irrigation systems.

The Participatory Irrigation Management and Development (PIMD), 2000 policy was developed based on Circular No. 1, and seeks to improve governance arrangements between water users, FWUCs and the government; encourage farmers to take over responsibility for managing their own irrigation systems. MOWRAM has implemented PIMD in 11 provinces around the Tonle Sap Lake and along the Mekong River from 2001 to 2005.

Fishery and aquaculture sector

Fishery reforms were introduced on 24 October 2000 to support sustainable access for rural people and to improve governance in this sector. The reforms aimed to:

- enable community-based development by empowering local communities to participate in fishery plans, programs and management;
- transform fishing lots with expired concession contracts into fish sanctuaries, thereby helping to increase natural fish stocks and to conserve endangered species ; and
- expand community-based fishing lots and promote aquaculture conservation in order to respond to the increasing needs for fish, and reduce the pressure on fishery resources.

These three reforms were also set as priorities in the NSDP (discussed above).

The National Fisheries Law, 2006 is the foremost basis for fisheries management in Cambodia and the new law was ratified on 30 March 2006. It describes the definitions of the fisheries domain, the state fisheries management institutions and the prohibitions on fishing activities, navigation, new settlements within the sanctuaries and other activities that adversely impact the resource. The law provides a comprehensive legal framework for the establishment and management of Community Fisheries and lays down the legal basis for establishing fishing lots and allocation of the lots through a system of public auctioning.

Maintenance, protection and sustainability of aquatic systems, including fisheries resources, are also key policy areas under the NWRP.

The community fisheries sub-decree provides direction to set rules and establish legal procedures for co-management of community fisheries throughout Cambodia. Roles and responsibilities of community fisheries, the Ministry of Agriculture Forestry and Fisheries (MAFF), and the Department of Fisheries are clearly established in the sub-decree, in which MAFF has general jurisdiction over community fisheries management. There are five objectives in the sub-decree (Kurien, So, and Mao, 2006):

a) to manage inland fisheries and related ecosystems where fishing lots have been cancelled;
b) to manage fisheries resources in sustainable and equitable manner;

c) to increase understanding and recognition of benefits of fisheries resources through participation in protection and management;
d) to provide legal frameworks to establish community fisheries; and
e) to improve standard of living and reduce poverty.

Hydropower and energy sector

The objectives of the Cambodia Power Sector Strategy, 1999-2000 are to:

- provide an adequate supply of electricity throughout Cambodia at reasonable and affordable price;
- ensure a reliable, secure electricity supply at prices, which facilitate investment in Cambodia and development of the national economy;
- encourage exploration and environmentally and socially acceptable development of energy resources needed for supply to all sectors of the Cambodian economy; and
- encourage efficient use of energy and minimize detrimental environmental effects resulting from energy supply and use.

The Electricity Law, promulgated in 2001, defines the role of government institutions with respect to the electricity sector. The Hydro Electricity Department of the Ministry of Industry, Mines and Energy (MIME) is responsible for developing policy and strategic plans for the hydropower sector, in cooperation with international and national institutions and agencies.

Based on the Cambodia Power Sector Strategy 1999-2016, the Cambodian Government approved the Rural Electrification by Renewable Energy Policy, 2006 as an integral part of the government's overall agenda for energy. The policy's objective is to create a comprehensive enabling framework for renewable energy technologies to increase access to electricity in rural areas. A Master Plan study provides the guiding principles for the implementation of projects and programs under this policy.

Tourism and navigation sector

The Tourism Policy and Law is still in draft form, but has been recently submitted by the Ministry of Tourism to the Council of Ministers.

The National Ecotourism Policy (responding to climate change) 2007 is still in the process of getting approval. The draft policy emphasizes the following:

- providing a highly recognised 'Green Label' award as an incentive to those who follow eco-friendly practices;
- encouraging the industry to preserve the environment and respond to climate change;
- promoting environmental education and awareness to both hosts and guests; and
- providing increasing financial support potential for nature conservation through entrance free, levies, concessions and other economic activities.

Water supply and sanitation sector

In 2003, the Royal government of Cambodia adopted the National Water Supply and Sanitation Sector Policy with a view to provide complete coverage by 2025. The policy acknowledges the need for stakeholder participation and involvement of the private sector. The policy is guided by four principles:

- social and economic value of water;
- promotion of safe behaviour;
- importance of sustainable management of rural water resources; and
- community participation and local decision making.

The Water Supply and Sanitation Regulatory Law has been drafted by MIME, however it has not yet received official approval. The draft law covers all the activities related to all Water Supply and Sanitation Systems within Cambodia.

2.2.2 Institutional arrangements for key sectors

Establishment of the Ministry of Water Resources and Meteorology (MOWRAM) 1999

MOWRAM is the lead water sector agency. The objectives of MOWRAM are to provide sustainable and pro-poor management of water resources, water management facilities, water-related hazards, and land resources that is integrated, efficient, and carried out in a river basin context.

Beyond this, institutional arrangements across the key sectors for Cambodia fall to a number of different institutions. The key institutions involved in the management of each sector are presented below.

Table 1: Institutional Arrangements, Cambodia

Sector	Institutions
Irrigation Sector	• Department of Irrigation and Drainage is in charge of the irrigation sector in Cambodia. • Other related agencies for the sector are the Ministry of Agriculture, Forestry and Fisheries (MAFF); Ministry of Rural Development (MRD); MOE; Ministry of Economy and Finance (MEF); the provincial and district departments of irrigation, Commune Development Council (CDC); and Village Development Committee (VDC). • Establishment of FWUCs commenced in 1999. FWUCs were established to manage, repair and improve existing water irrigation systems, and to promote and guide the development of new irrigation systems. The Circular No. 1 on Implementation Policy for Sustainable Irrigation Systems was created to support the role of the FWUCs.
Fisheries Sector	• The Fishery Administration (FiA), established under MAFF, plays the main role in facilitating the establishment of Fishery Communities. • The Community Fisheries Development Office (CFDO) complements the role of the FiA by implementing the policy reforms, building the capacity of communities around the country to manage their new Community Fisheries, and working closely with civil society. • The Inland Fisheries Research and Development Institute (IFReDI) is in charge of conducting fisheries research and developing fisheries databases. • The respective provincial and district Fisheries Administrations operate under the FiA. • CDC and VDC are also involved in fisheries activities at the community level. Their main roles include participation in the implementation of the Community Fisheries and supporting the FiC.
Hydropower and Energy Sector	• MIME is responsible for development of policy and strategic plans for the hydropower sector in cooperation with both international and national institutions. MIME also cooperates with MRD, MOE, MOWRAM, MEF, MAFF, Cambodia National Mekong Committee (CNMC), CDC, and the Council of Ministers for sector integration. • Electricité Du Cambodge (EDC) and Electricity Authority of Cambodia (EAC) are responsible for the hydropower sector in Cambodia.
Tourism and Navigation sector	• The Ministry of Tourism (MoT) is the lead ministry for the Tourism Sector. • The Cambodia National Tourist Authority (CANTA), Department of Tourism, and Tourism Development Committee are also important policy making and coordinating bodies. CANTA is currently being developed and will eventually include nine departments on various aspects of tourism.
Water supply and sanitation sector	• Several government agencies are responsible for the provision, management and regulation of water supply. The overall water sector is divided into different areas, with a lead agency generally responsible for each. • The Sector Coordinating Committee for the Development of Water Supply and Sanitation is chaired by the MIME. The Committee includes 11 other institutions such as MRD, Ministry of Public Works and Transport, MOWRAM, Ministry of Health (MOH), MOE, Council of Ministers, CDC, MEF, MAFF, Phnom Penh Water Supply Authority and the Ministry of Planning.
Basin / Sub-Area Organisation	• The Tonle Sap sub area is managed by the Tonle Sap Authority. The Authority coordinates the development, management and conservation of the lake, the Tonle Sap Biosphere, and the Tonle Sap Sub-Area Working Group (SAWG). The SAWG works on the Basin Development Plan Program of the Mekong River Commission. • The Se San Committee targets the issues of hydropower impacts, while the 3S Sub-Area Working Group works on the Basin Development Plan Program of the Mekong River Commission (MRC). Civil society groups that are active in the area include the 3S Rivers Protection Network, Community Forestry, Community Fisheries, FWUC, NGO Forum and River Coalition. These groups target water and natural resources management issues and issues associated with hydropower development. • The Stung Treng-Kratie Sub-Area Working Group works on BDP Program of the MRC and civil society groups such as Community Forestry groups, Community Fisheries groups, FWUCs, NGO Forum, CEPA, WWF and Wetlands Alliance are also active in the area. These groups target water and natural resources management issues and also issues associated with dolphin conservation and hydropower development.

Other stakeholders including donor agencies, local as well as international NGOs, academic institutions, community-based organisations and private sector actors are also very active regarding a range of matters across all the sectors.

2.3 Status of various sectors

2.3.1 Irrigation sector

Irrigation in Cambodia is underdeveloped, and about 80 per cent of cultivated areas rely only on rain-fed agriculture. Only 30 per cent of the rice crop is produced using irrigation (Veng, 2007) and consequently, the overall production of rice is quite low. The main challenges in the irrigation sector include:

- lack of strong rural institutions and support service providers;
- limited participation of the farmers in planning and management of irrigation systems;
- weak legal status of FWUC;
- non-approval of water rights;
- unclear rights, roles and responsibilities of the state and the users; and
- limited or lack of awareness and understanding on the policies and laws related to water resource management amongst the government officials as well as stakeholders.

While recent developments such as NSDP, NWRP and policies regarding sustainable irrigation systems particularly targeted at strengthening the status of FWUCs are a step in the right direction, greater consistency and coordination in water management and irrigation planning is required. The key agenda for improved governance in the irrigation sector should therefore include:

- clarification of rights, roles and responsibilities of the state and of users (including the approval of water rights); and
- strengthening the legal status of FWUCs to create strong local institutions which facilitate much greater participation of farmers in irrigation planning and management.

2.3.2 Fisheries and aquaculture sector

The total water resources supporting inland fisheries in Cambodia is estimated to cover 1.867 million hectares, of which permanent water accounts for 567,000 hectares or 30.4 per cent (NIS, 2006). The seasonally flooded forests, grasslands, rice fields and swamps account for 1.3 million hectares or the remaining 69.6 per cent. The fisheries sector is crucial in Cambodia as it contributes tremendously to food security and poverty alleviation due to rich inland fisheries resources provided especially by the Mekong and Tonle Sap river ecosystems. The natural catch per annum is exceptionally high, particularly during peak harvest season from November to February. According to a review on the fishery sector by CNMC-BDP in 2003, it has been estimated that inland fisheries produce an estimated 200,000 to 430,000 tonnes of fresh fish each year, worth up to US$ 500 million[3].

As detailed above (see section 2.2: Policy, legal frameworks and institutional arrangements), fishery initiatives were introduced on 24 October 2000 to support sustainable access for rural people and to improve governance in this sector. A new Fisheries Law and Community Fisheries Sub-Decree were also developed to provide a comprehensive legal framework for the establishment and management of Community Fisheries.

Under the reforms, about 538,522 hectares of freshwater fishing ground were released for establishing Fisheries Communities. This move has partially checked the escalating levels of conflicts and illegal fishing in some areas, though new problems of management and governance have cropped up due to corruption, low financial returns, lack of coordination among government agencies, low stakeholder participation, and absence of legal mechanisms to ensure enforcement. Further, the fishery sector is increasingly at risk of being impacted by proposed hydropower developments both in Cambodia and from its neighbouring upstream countries.

The main challenges faced by the fisheries sector include:

- fair access to fish and fisheries by the Cambodian poor;
- the control of illegal fishing and destructive exploitation of the resource;
- poor institutional arrangements for managing fishing lots and limited enforcement of fisheries regulations;
- fishery degradation, including potential impacts from existing (and proposed) hydropower developments along the Mekong both in Cambodia and upstream; and
- variable resource availability which is reliant on favourable flooding and ecological functions.

The first three bullet points are clearly issues of governance within Cambodia, while the fourth and fifth points relate also to issues of regional or transboundary governance between neighbouring countries. The key agenda for improving governance in the fisheries sector in Cambodia would therefore include:

- improving coordination between different agencies;
- developing mechanisms to deal with corruption;
- improving enforcement of laws and regulations; and
- improving regional mechanisms for decision-making processes about upstream developments that will have transboundary impacts.

[3]This value however, may underestimate the true size of the fish catch, due to data collection limitations.

2.3.3 Hydropower and energy sector

At present, only 18 per cent of Cambodian households have access to electricity, including 54 per cent of urban households and 13 per cent of rural households. The present electricity supplies comprise of 22 small isolated power systems, which are fossil fuel operated. To cover the increasing demand and reduce dependency on imported fuel, hydropower development has been deemed necessary. A study carried out by MRC in 1995 has revealed that the hydropower potential in Cambodia is 10,000 MW, 80 per cent of which is from the Mekong and its tributaries. At present, there are a few hydropower projects in Cambodia, but numerous projects have been proposed and this sector is developing rapidly.

Hydropower development is a very controversial topic in the area of water governance, due its potential impacts on people and environment and water related resources and there are many lessons to be learnt (Middleton and Sam Chanthy, 2008; 3S Rivers Protection Network, 2007; Sam Chamroeun, 2006; NGO Forum, 2005; Australian Mekong Resource Centre, 2002). As hydropower development is being promoted by the Cambodian Government and at present is still at an early stage of development, clear governance and decision-making processes are necessary to ensure that all issues and problems are reported and considered. The Hydro-Electricity Department of MIME is responsible for the development of policy and strategic plans for the hydropower sector in Cambodia. MOE has developed a number of policies including the Law on Environment Protection and Natural Resource Management (1996) requiring that an EIAs should be undertaken on every project and activity, private or public, and these should be submitted for review to MOE. MIME is not familiar with the EIA tool, and MOE is responsible for assessing EIA submissions.

The agenda for improving governance in the hydropower sector in Cambodia should include:

- developing policy, guidelines and legal framework for hydropower development;
- increasing cooperation and coordination among the key institutions and stakeholders including the community and private sector;
- increasing information regarding the impacts of hydropower development and the proposed management and measures to minimize risks; and
- providing opportunities for public discussion of key issues and measures.

2.3.4 Tourism and navigation sector

Cambodia has an extensive network of rivers and lakes, particularly in the central plain, that allow navigation for the at least part of the year. However, changes in the hydrological regime, morphology and sedimentation of rivers, streams and lakes may impact on navigation, tourism and water transport. To address this, the Cambodian Government has adopted the following policies:

- promote the use of watercourses, both natural and artificial, for bulk water transportation, tourism, and cruises;
- take account of the effects of managing water flows and levels in river channels, estuaries, lakes, canals, reservoirs and sea, on their actual or potential use for navigation and tourism; and
- promote dredging in critical locations, while taking every effort to protect and conserve natural water bodies and waterways for navigation and tourism.

Tourism is a rapidly growing sector in Cambodia. The contribution of tourism to Gross Domestic Product (GDP) of the country has grown from 6.3 per cent in 2000 to almost 16 per cent in 2007. Ecotourism and pro-poor tourism are being promoted in a big way, with 95 per cent of the poor living in the vicinity of natural sites with tourism potential.

The aim of pro-poor sustainable tourism is to harness tourism to bring local economic development in forms that will assist in the reduction of poverty; to increase the role of poverty reduction criteria in decision making about tourism development at the national and provincial levels; and to increase the standing of sustainable tourism to be comparable with other industries in government policy and related actions.

Activities underway regarding tourism initiatives include a study of pro-poor tourism by the Development Analysis Network[4] in five countries of the Greater Mekong Sub-region. The Netherlands Development Organization (SNV) is also contributing to poverty alleviation through ecotourism and sustainable tourism in Cambodia.

The key agenda for improving governance in the Navigation and Tourism sector should include:

- finalization of the National Ecotourism Policy;
- passing of the Tourism Law;
- further institutional development of CANTA and improved institutional and policy coordination, clarifying delineation of responsibilities among government agencies;
- strengthening local community-based institutions for tourism management and improving their negotiating power with commercial tour operators; and
- establishing clear benefit-sharing mechanisms.

[4] The Development Analysis Network is a network of seven research institutions from Cambodia, Lao PDR, Thailand and Viet Nam, coordinated by the Cambodia Development Resource Institute (CDRI) with the support of the Rockefeller Foundation. DAN addresses a major research initiative of regional interest.

2.3.5 Water supply and sanitation sector

While Cambodia has abundant freshwater resources, only 30 per cent of rural households have safe access to drinking water, while only 12 per cent are with access to improved sanitation facilities.

In 2003, the Royal government of Cambodia adopted the National Water Supply and Sanitation Sector Policy with a view to provide complete coverage by 2025. The policy acknowledges the need for stakeholder participation and involvement of the private sector. Following the approval of the policy, MRD has initiated the process of developing and adapting guidelines regarding informed choice and private sector participation, however an overall strategy for implementing the policy is not yet developed.

The water supply and sanitation sector still faces many challenges including dry season water shortages in some provinces and locations, water quality degradation, lack of water quality testing and treatment facilities for safety, inadequate knowledge on water supply and sanitation issues and very low sanitation awareness levels in rural Cambodia.

The key agenda for improving governance in the water supply and sanitation sector should include:

- development of an overall strategy to implement the 2003 National Water Supply and Sanitation Sector Policy;
- approval of the Draft Water Supply and Sanitation Regulatory Law
- improving inter-ministerial relationships;
- clarification in definition of roles and responsibilities of WSUGs
- establishing clear mechanisms, processes and incentives for increased participation of stakeholders, especially the poorest section; and
- creating opportunities for increased involvement of the private sector.

2.4 Conclusion–constraints and recommendations

2.4.1 Constraints

There are a number of factors which have constrained the effective implementation of policies and the enforcement of law and legal frameworks related to water management and governance in Cambodia. These constraints include:

- unclear delineation of rights, roles and responsibilities across Government ministries;
- limited cooperation and communication flows between Government ministries;
- low stakeholder participation, limited transparency and consultation during policy formulation and decision making processes;
- poor awareness and understanding of policies and laws by Government officials and the general public; and
- limited application of IWRM and river basin management processes.

However, there is growing awareness about these problems and several technical working groups have already been formed to improve the governance and include various stakeholders in the process. The situation is quite conducive for MRWD to initiate changes in water governance processes and perspectives in Cambodia.

Table 2: Agenda for improved governance, Cambodia

Sector	Key agenda for improved governance
Irrigation	• Clarification of rights, roles and responsibilities of the state and of users (including the approval of water rights). • Strengthening the legal status of FWUCs, building them into strong local institutions. • Facilitating much greater participation of farmers in irrigation planning and management.
Fisheries and aquaculture	• Improving coordination between different agencies. • Developing mechanisms to deal with corruption. • Improving enforcement of laws and regulations. • Improving regional mechanisms for decision-making processes about upstream developments that will have transboundary impacts.
Hydropower and energy	• Developing policy, guidelines and legal framework for hydropower development. • Increasing cooperation and coordination among the key institutions and stakeholders including the community and private sector. • Increasing information regarding the impacts of hydropower development and the proposed management and measures to minimize risks. • Providing opportunities for public discussion of key issues and measures.

Sector	Key agenda for improved governance
Water supply and sanitation	• Approval of Water Supply and Sanitation Regulatory Law. • Development of an overall strategy to implement the National Water Supply and Sanitation Sector Policy. • Improving inter-ministerial relationships. • Clarification in definition of roles and responsibilities of WSUGs. • Establishing clear mechanisms, processes and incentives for increased participation of stakeholders, especially the poorest section. • Creating opportunities for increased involvement of the private sector.
Tourism and navigation	• Approval of National Ecotourism Policy. • Approval of Tourism Law. • Further institutional development of CANTA, improving institutional and policy coordination and clarifying delineation of responsibilities amongst government agencies. • Strengthening local community-based institutions for tourism management and improving their negotiating power with commercial tour operators. • Establishing clear benefit sharing mechanisms.

2.4.2 Recommendations

This situational analysis study indicates a number of key issues that are important for improving water governance in Cambodia ***(see Table 2 above)***.

There is also a need for additional policies and legal frameworks regarding IWRM and governing river basin organizations, the allocation of water rights, and the roles and responsibilities of government as a regulator to the water sector and the provider of support services to FWUC. It is recommended that the following topics need further probing and should be taken up for the National Water Dialogues in 2009-2010:

- IWRM as an approach for equitable and sustainable water development;
- Governance issues relating to fisheries resource management;
- Governance issues in planning, access to and management of irrigation; and
- Governance issues in relation to hydropower development and impacts management.

3. LAO PDR

3.1 Overview

Lao People's Democratic Republic, with an area of 236,800 km^2 and population of 6 million, is one of the poorest countries in Southeast Asia. About 97 per cent of this mountainous and predominantly rural country falls within the lower catchments of the Mekong River, which traverses the country from north to south. The total average annual available surface water resources in Lao PDR are 272 cubic km, which is equivalent to more than 55,000 cubic meters per person per year, providing Lao PDR with the highest per capita water supply in Southeast Asia. Not surprisingly, water is one of the key natural resources that play a crucial role in Lao socio-economic development.

This report therefore attempts to identify the key governance arrangements in a number of major water-use sectors, and seeks to understand how effective these arrangements are in enabling the country to address its major water-related concerns. Gaps and priorities for improved governance are identified, and a limited set of these which MRWD can start to help to address are highlighted.

3.2 Policy, legal frameworks and institutional arrangements

Policy, law, and institutional arrangements are overwhelmingly referred to as the key important issues in water governance since together they define a framework for the way that the country wants its water and water resources to be managed and the mechanisms for people to interact with their government on water-related decision-making.

3.2.1 Policies, laws, agreements and strategies

Laws and policies that govern the water sector include:

Regional frameworks

Lao PDR is also a signatory of the Mekong Agreement 1995.

Country specific frameworks

The Water and Water Resources Law, 1996 is the primary law concerned with water resources management in Lao PDR. The law mainly focuses on the protection of water resources, water resource planning and prevention of water pollution. It agrees to carry out water development activities in accordance with socio-economic development plans. It lists types of water resources and sets out various uses of water.

It also spells out detailed plans of water development activities and protection of water sources, while riparian rights as well as responsibilities and the rights of agencies to undertake infrastructure-related activities are defined. Various administrative agencies are listed with responsibility to prevent flooding, erosion and pollution. The issues of trans-boundary water management are also dealt with. The Law vaguely defines some provisions for the issuance of water use permits. However, there is no provision for civil society to participate in the process of policy formulation.

The 1999 decree on the implementation of Water and Water Resource Law defined the role and responsibility of the agencies concerned with management, exploitation, development and the use of water resources. The relevant Ministries defined at that time were the Ministry of Agriculture and Forestry (MAAF), Ministry of Communication, Transportation, Post and Construction (MCTPC), Ministry of Industry and Handicraft (MIH), Ministry of Public Health (MPH), Ministry of Trade and Tourism (MTT), Science, Technology and Environment Agency (STEA), Lao National Mekong Committee (LNMC), and the Water Resources Coordinating Committee (WRCC). These ministries and agencies were expected to coordinate with the local authorities in the detailed determination of responsibilities and scope of activities within their sectors. The decree empowered these agencies in implementing the tasks specified in the Water and Water Resource Law.

In 2003 the Government of Lao PDR endorsed the National Growth and Poverty Eradication Strategy (NGPES), 2003 which defined the framework for the Socio-Economic Development Plan. This strategy provides for the creation of National Sector Plans to promote sustainable growth and poverty eradication by establishing policy and prioritising projects. The national sector plans are organized into 8 areas.

- Poverty focused agriculture /forestry development plan.
- Poverty focused education development action plan.
- Poverty focused health development plan.
- Transportation and poverty eradication plan.
- Industrialization and modernization.
- Inter-sector priorities (e.g. Gender, environment).
- Poverty related national programmes (e.g. Drug control, HIV).
- Community–driven rural development, poor districts and poverty eradication.

The Government has outlined its strategic vision to achieve the National Poverty Eradication Strategy, based on seven themes.

1. Participatory planning, to ensure that local needs and circumstances are taken into account. Village and district level action is the main catalyst for growth of the agriculture sector.

2. Lowland transformation to help expand commodity export.
3. Sustainable development of hill slopes which will include environmental management.
4. Stabilization of shifting cultivation.
5. Expansion of irrigation areas, improvement of already implemented schemes for managing more effectively and initiation of new projects for expanding the area under irrigation.
6. Human resource development to improve participatory planning, extension techniques as well as understanding of the market system and role of the private sector.
7. An enabling environment for business development promoting economic growth with equality.

Overall the key objective of the Plan is to increase integration among sectors, as well as encourage consideration of environmental effects.

Lao PDR develops a National Socio-Economic Development Plan (NSEDP) every five years. The latest plan is for the period of 2006-2010 and focuses on achieving the following 11 priority programmes.

- Food Security Programme.
- Agriculture Development Programme.
- Agro Industry and Forestry Management Programme.
- Infrastructure Development Programme.
- Tourism Promotion and Land-link Programme.
- Poverty Eradication Programme.
- International Cooperation and Regional Integration Programme.
- Communication and Transport Programme.
- Effective Economic Mechanism Programme.
- Human Resource Development and Culture Programme.
- Governance Reform Programme.

The five-year NSEDP and NGPEP seek to define the future direction for the development of Lao PDR and the main contribution from the water sector including irrigation development, hydropower, agriculture development, fisheries, urban and rural water supply. Although the 5-year plan mentions some water related targets, it does not provide a basis for coordinated planning of water resources at the national or river basin level. There is a marked absence of a government-endorsed water policy in the national agenda which defines the policy principles for how the Government wants its water resources to be developed and managed.

Fisheries and aquaculture sector

The Government of Lao PDR is currently developing Draft Fisheries Law, 2009 specifically for the fisheries and aquaculture sector. In support of this, the Food and Agriculture Organisation (FAO) of the United Nations, in collaboration with four international technical organisations have developed a *Legislative Review of Fisheries and Aquaculture in the Lao PDR* to provide guidance on the development of legislation by Lao PDR Government.

Up until this point, Lao PDR has not enacted a separate fisheries and aquaculture legislation, with the sector regulated under the Forestry Law 1996. Fisheries-related provisions may also be found in the Agriculture Law 1998 and the Penal Law 1990.

The legislation will be "enabling legislation" (rather than "prescriptive legislation"), to allow for flexibility and adaptive management and ensure that measures adopted at the local level are commensurate with local realities and practices and thus likely to be implemented (Cacaud and Latdavong, 2008). The draft law comprises of 10 parts, 10 chapters and 72 articles and if the National Assembly approves it, it will be a significant legal instrument for fish management in Lao PDR (Pongkhao, 2009).

The Forestry Law was adopted in 1999 and determines the basic principles, rules, and measures related to the administration, maintenance, use of forest resources and forest lands, promotion of rehabilitation, planting and propagation of forest resources in Lao PDR. The law recognizes the importance of forestry to water resources protection. The law states very clearly that the Ministry of Agriculture and Forestry is responsible for overall administration of forest resources as well as forest land. With such designated responsibility, the Ministry of Agriculture and Forestry could play a crucial role in water resources governance and the scope of water resources management between water and water resources law on the one hand, and forestry law on the other, to avoid overlapping and confusion between water and forest issues.

The Environmental Protection Law was adopted in 1999, like other laws, the environmental protection law determines the basic principles, rules, and regulations in environmental protection. Water is recognized as an important substance of the environment. The law states that national socio-economic development plans must come up with environmental protection plans. The law has empowered the Science Technology and Environment Agency to oversee environmental management and monitoring, and water resources governance is also been subjected to this law.

Hydropower and energy sector

The Government of Lao PDR acknowledge that hydropower development must be sustainable if its development potential to delivery lasting benefits to Lao PDR is to be fully realised. The National Policy on Environmental and Social Sustainability of the Hydropower Sector 2007 seek to ensure the principles of social and ecological sustainability are integrated into all large hydropower developments and is based on the following three principles:

- economic sustainability relies upon the maintenance of the renewable resources base, and the use of non-renewable resources rents to support the development of other factors of production;
- social sustainability is based upon the principles of inclusiveness, mutual understanding and consensus; and
- ecological sustainability relies upon the avoidance of irreversible environmental impacts such as the loss of biodiversity, accumulation of persistent pollutants, or disruptions of ecological cycles.

The policy applies to all large hydropower dams constructed after 1990, where large dams are defined as having installed capacity of higher than 50 Megawatts or inundating more than 10,000 hectares of land at their full-capacity level. The policy requires that all large hydropower projects must produce a full EIA–report and Environmental Management Plan (EMP) according to the Environment Protection Law 1999 and related regulations. The policy also includes provisions regarding affected communities, watershed management and conservation, consultation, disclosure, compliance, revenues, existing hydropower projects, institutionalisation and reporting.

The Electricity Law was adopted in 1997 and determines a regime for the administration, production, transmission and distribution of electricity, the law also determines the scope of the use of highly productive natural resources for electricity generation including water resources. The electricity law has empowered the Ministry of Industry and Handicraft to oversee the development of electricity and environmental protection in their sector, and this could lead to the dominance of the electricity sector over water resources management.

Water supply and sanitation sector

The Prime Ministerial Decision on the Management and Development of Water Supply Sector, 1999 defines the policy by the Lao PDR Government on management and development of the water sector. It describes a range of functions for the sector including the division of responsibilities on sector administration, the establishment of the Water Supply Authority's Regulatory Board, financing of sector operations and cost recovery and utility operation requirements.

3.2.2 Institutional arrangements in key sectors

National IWRM Support Programme (N-IWRM-SP)

The National IWRM Support Programme (N-IWRM-SP) is a 10 component framework to enable development partners and government to coordinate and support IWRM in Lao PDR. Components 1-10 will be implemented in Water Resources and Environment Administration (WREA) and other agencies under the supervision of the WREA Programme Coordination and Management Office, which in turn will report to the N-IWRM-SP Steering Committee. This steering committee will also have links to a Donor Coordination Group, and the LNMC.

Water Resources and Environment Administration

The WREA has equivalent status to a Ministry and is an agency under the Prime Minister's Office. The responsibilities of the administration include:

- elaborate and implement guidelines, policies, strategies, rules and regulations which are issued by the Party and the Government concerning water resources, environment, meteorology, and hydrology;
- draft policies, strategies, master plans, long term plans, laws and decrees concerning water resources, environment, meteorology, and hydrology. Provide guidance on the implementation of the Government endorsed regulations;
- propose, modify, and improve rules and regulation concerning water resources, environment, meteorology, and hydrology if they are inconsistent with the condition of Lao PDR;
- formulate plans to manage, conserve, and rehabilitate water resources and environment in a sustainable manner and submit to the Government for endorsement with the aim to promote education, scientific research, and raised public awareness on the conservation of water resources and the environment. Prior to any project approval, the Water Resources and Environment Agency shall coordinate with line agencies concerned in ensuring the balance between the proposed development project and the conservation of water resources and environment; and
- manage, monitor, inventory and share data and information concerning water resources, environment, meteorology, and hydrology nationwide.

There are six departments in the administration which are mentioned below.

- Office of WREA.
- Department of Water Resources.
- Department of Meteorology and Hydrology.
- Department of Environment.
- Water Resources and Environment Research Institute.
- Lao National Mekong Committee Secretariat.

The administration is also authorized to establish its own offices at the provincial and district levels.

The establishment of WREA can be seen as a major effort of the Government of Lao PDR in easing the fragmentation in national water management by uniting the water resources agencies into one single administration. The Department of

Water Resources is expected to oversee water management nationwide and apply the principles of IWRM into a water sector policy.

3.3 Status of various sectors

Water is a vital input for the country's economic development, and is associated with different sectors that substantially depend or use water and its related resources including agriculture and forestry, fisheries, hydropower and energy, navigation and tourism, and water supply and sanitation.

3.3.1 Irrigation sector

Agriculture is the most important sector in the economy of Lao PDR, contributing 53 per cent of GDP and occupying about 83 per cent of the income earning population. In rural areas, farming is the main activity of almost 91 per cent of income earning males and over 94 per cent of income earning females, with little variation across regions. About five million hectares of Lao PDR's total land area of 23.68 million hectares is suitable for cultivation. However, of this, only 17 per cent of the suitable land area, equal to less than 4 per cent of the total land area of the country (between 850,000 and 900,000 hectares), is actually cultivated.

With Government efforts, the irrigated area has expanded significantly over last few years.

Table 3: Irrigated area 1991–2003, Lao PDR
(Source: MRCS, 2004)

Year	Rainy Season (hectare)	Dry Season (hectare)
1995	150,000	26,000
1996	156,000	28,000
1997	164,000	45,000
1998	216,890	75,000
1999	258,200	124,234
2000	295,535	197,131
2001	300,054	214,131
2002	307,097	214,625
2003	310,171	214,832

Although, the area under irrigated agriculture has expanded significantly and the development of irrigated agriculture was included in the agenda of the National Poverty Eradication Program in 2003 (Government of Lao, 2004), it has been noticed that several irrigation schemes have been left in poor condition. Most of the irrigation schemes were funded by loans and grants, however once initiated, there was no budget allocation for the operation and maintenance of these schemes. Moreover, the operation of pump irrigation schemes is relatively expensive and requires a certain amount of capital input, which is primarily financed by the user and partially subsidized by the central and local government. Where farmers cannot afford the cost of electricity, the use of irrigation systems is reduced. In recognition of this problem, the government has started to focus on the rehabilitation of extant irrigation schemes and the provision of small irrigation schemes for remote areas in the National Socio Economic Plan of 2006-2010.

The agenda for improving governance in the irrigation sector should therefore focus on:

- strengthening the involvement of farmers in planning demand-driven approaches to irrigation development; and
- establishing mechanisms to generate sustainable revenue for operation and maintenance.

3.3.2 Fisheries

Fisheries are a vital part of the socio-economic structure of the Lao PDR and other countries of the lower Mekong basin. Fish is regarded as the main food item of the people in Lao PDR especially the rural poor. It accounts for 42 per cent of animal protein consumed and contributes 7 to 8 per cent to Lao GDP (MRCS, 2004). Recent government policy has sought to encourage this sector in order to support poverty eradication in rural areas as well as to provide supplementary food sources for urban areas. The problems of over exploitation of fish resources, degradation of important fish habitats, and the impacts of hydropower on fish are major issues of concern.

The agenda for improving governance in the fisheries sector should include:

- promulgation of the draft –Fishery Law that recognises community-based/co-management arrangements for fisheries management; and
- developing mechanisms to allow affected fishing communities to effectively participate in decision-making processes regarding water infrastructure development

3.3.3 Hydropower and energy sector

Theoretically, the hydroelectric potential is about 26,500 MW, excluding the mainstream Mekong. Of this, about 18,000 MW is technically exploitable, with 12,500 MW found in the major Mekong sub-basins and the remainder in minor Mekong or non-Mekong basins (MRCS, 2004). However, less than two per cent of the country's hydropower potential has been developed over the last thirty years. Currently, the proportion of electricity production that is not exported to Thailand is insufficient to meet the real demand in the country. Only 58.3 per cent of households have access to electricity and domestic consumption is growing at 8 to 10 per cent annually.

The government is intensively promoting investment in this sector. The number of joint ventures and independent power projects are expected to grow in the near future. The government is planning to implement 42 hydropower development projects for domestic demand and 31 projects for exporting the electricity in major watersheds of the country such as Nam Ngum, Nam Ou, Xebangfai, Xekong, and the Mekong mainstream. The issues of fish migration, watershed management, changes in natural flow and water quality, human resettlement, and rural development are crucial.

The agenda for improving governance in the hydropower sector should therefore focus on:

- improving collaboration on basin-wide IWRM-based planning approaches between Ministry of Energy and Mines (MEM) and WREA;
- institutionalising SEA approaches within MEM/WREA;
- strengthening the process for review of proposals and concession contracts as well as management and monitoring of concessions within the Department of Energy Development and Promotion (DEDP)/ MEM;
- strengthening capacity and effectiveness of the WREA EIA office which will have to deal with a high number of projects over the coming five years; and
- ensuring the National Policy on Environmental and Social Sustainability of the Hydropower Sector in Lao PDR is implemented, particularly the articles regarding disclosure and consultation.

3.3.4 Tourism and navigation

During the past decade, Lao PDR has witnessed an impressive growth in the tourism sector. Between 2006 and 2007 the number of tourists grew by 34 per cent and this sector contributed around 8 per cent to GDP. Though it is difficult to quantify the revenue gained from water related tourism activity, it may be suitable to narrow our focus to the natural resources based tourism activities. Since 1993, the Government of Lao PDR has identified and designated 20 locations as national protected areas (UN, 1999) and by 2007, 849 ecotourism sites were identified by the Lao National Tourism Authority. The Nam Ha ecotourism project is one often highlighted example of an ecotourism project which assists both the conservation of the Nam Ha watershed and rural development through the sustainable use of natural resources. In July 2009, Lao PDR hosted the World Ecotourism Conference.

The Mekong and its tributaries form a transport network throughout Lao PDR and provide a convenient facility for the transport of goods, commodities and people. However, navigation in the Mekong tributaries can be inconvenient and the volume of transport varies between only 0.5 and 3.5 tonnes/boat. By comparison the volume of transport in the Mekong mainstream varies between 60 and 200 tonnes (MRC, 2004). Use of river transport for sea access is constrained by the impassable Khone Falls in the Mekong River in Lao PDR, and during the dry season, navigation is not possible in parts of the country. Nevertheless, river transport has become attractive in recent years and a navigation improvement programme, supported by China, has improved navigation along the Mekong in northern parts of the country. Dynamites were used to remove rocks and rapids resulting in negative environmental consequences changing river morphology and reducing critical fish spawning and refuge habitats.

The key agenda for improving governance in the tourism and navigation sector should therefore include:

- strengthening local community-based institutions for tourism management and improving their negotiating power with commercial tour operators;
- establishing clear benefit-sharing mechanisms and certification schemes; and
- establishing mechanisms for consultation with affected communities in schemes for improving navigation.

3.3.5 Water Supply and Sanitation

The main source of urban water supply in Lao PDR is from the Mekong and its tributaries, constituting over 80 per cent of the supply, while the remainder is sourced from groundwater, springs and small streams. Although it is possible to treat and produce about 193,488 cubic meters of drinkable water every day, the actual production is only 157,340 cubic meters, which is supplied to around 50 per cent of the urban population. Access to sanitation is varied. While in the capital city of Vientiane, around 75 per cent of the population is covered by sanitation facilities; only around 13 per cent of the population has sanitation facilities in Phongsaly province.

The Government aims to provide 80 per cent of the urban population with water supply and sanitation facilities by 2020 (WASA, 2004). To achieve this goal, the government has sought a wide range of financial assistance, including participation of the private sector. The government is promoting build, own and operate schemes on small scale water supply systems. Two examples of concession contracts have been operating since April 2006 (WB, 2008).

The agenda for improving governance in the water supply and sanitation sector should include:

- establishment of WSUGs;
- establishing clear mechanisms, processes and incentives for increased participation of stakeholders, especially the poorest section; and
- creating opportunities for increased involvement of the private sector.

3.4 Conclusion–constraints and recommendations

Lao PDR, at present, falls within the category of the world's least developed countries but is seen to have a promising future due to its extensive array of natural resources, including water resources, and a strong commitment to policy and economic reform. In view of the importance of agriculture and the competitive advantage of hydropower in the region, water resources are critical to any development strategy of Lao PDR.

3.4.1 Constraints

There are a number of key issues which currently exist in Lao PDR that have constrained the effective implementation of good water management and governance. Such constraints include:

- Though WREA is present, water resources management and planning are sector driven and not integrated;
- no water policy and strategy has been adopted at national level;
- little consistency in converting water policy into the law;
- no clear responsibility assigned to any agency to implement the law;
- institutional overlapping in water resources development and management;
- regulatory and legal frameworks are not yet reflected in the institutional changes;
- lack of mechanisms to promote the participation of private sector, civil society and other stakeholders into water resources development and management activities;
- confusion in the water policy/strategy framework;
- rights and responsibilities of users as well as water providers are not defined;
- no penalty provisions set down in the legislation;
- principles of IWRM are not recognized properly; and
- no education programmes on community responsibility for water resources management.

Though Lao PDR has focused its socio economic development on the utilization of its natural resources to respond to its poverty eradication programme, and among the resources available, water resources are taken into consideration as having significant potential to contribute to national development. However, the institutional arrangements for water resource management in Lao PDR are largely sector driven and clearly fragmented recognition of the need to manage such a resource in a more integrated manner.

3.4.2 Recommendations

On the basis of the study outcomes, a number of areas in which governance aspects can be improved in different water-related sectors have been identified *(see table below)*.

Overall, it is proposed that the MRWD should focus on supporting the current reform in the water sector of the country processes to improve water governance is under discussion. The national water policy and strategy which sets the direction for water resources development and management and recognizes the principles of integrated water resources management should be the first priority area for MRWD discussion in Lao PDR.

Table 4: Agenda for improving governance, Lao PDR

Sector	Key agenda for improving governance
Irrigation	• Strengthening the involvement of farmers in planning demand-driven approaches to irrigation development. • Establishing mechanisms to generate sustainable revenue for operation and maintenance.
Fisheries and Aquaculture	• Promulgation of the draft Fishery Law that recognises community-based/co-management arrangements for fisheries management.
Hydropower and energy	• Improving collaboration on basin-wide IWRM-based planning approaches between MEM and WREA. • Institutionalising SEA approaches within MEM/WREA. • Strengthening the process for review of proposals and concession contracts as well as management and monitoring of concessions within the Department of Energy Development and Promotion (DEDP)/Ministry of Energy and Mines (MEM). • Strengthening the capacity and effectiveness of the EIA office of WREA which will have to deal with an exponentially increasing number of projects over the coming 5 years. • Ensuring the National Policy on Environmental and Social Sustainability of the Hydropower Sector in Lao PDR is implemented, particularly the articles regarding Disclosure and Consultation.
Tourism and navigation	• Establishing mechanisms for consultation with affected communities in navigation improvement schemes. • Strengthening local community-based institutions for tourism management and improving their negotiating power with commercial tour operators. • Establishing clear benefit-sharing mechanisms and certification schemes.
Water supply and sanitation	• Establishment of WSUGs. • Establishing clear mechanisms, processes and incentives for increased participation of stakeholders, especially the poorest section. • Creating opportunities for increased involvement of the private sector.

4. VIET NAM

4.1 Overview

With an area of 331,690 km^2 and population of around 84 million[5], the predominantly rural country of Viet Nam is the 13th most populous in the world and also one of the most densely populated with an average 250 people/ km^2. The annual runoff of surface water is 830-840 billion m^3, (about 3,840 m^3 per capita) of which about 320-325 billion m^3 is generated within the country and the rest comes from neighbouring countries. The following five basins depend on water inflows from other countries:

- Mekong, where almost 92 per cent of the average annual water flows are generated in five upstream countries;
- Red-Thai Binh river with nearly 40 per cent of annual water flow originating in China;
- Ma basin, where 30 per cent of the flows come from Lao PDR;
- Ca basin, where 22 per cent of the flows come from Lao PDR; and
- Dong Nai basin where almost 17 per cent of flows come from Cambodia.

Groundwater sources have an additional potential of about 1500 m^3/s, however, water distribution is uneven, both in space and time. About 75 to 80 per cent of annual runoff is concentrated in three-four months of the rainy season. Consequently, most parts of the country suffer from seasonal water shortage and drought in the dry season and flooding or water logging in the rainy season.

Demands on surface water resources and groundwater extraction are growing rapidly to meet the requirements of an expanding economy and growing population. Presently 8.5 million urban dwellers do not have access to clean water and 41 million rural people (half of the entire population) do not have receive water that meets Ministry of Health (MoH) clean water standards. Irrigation systems are inefficient and infrastructure is old and dilapidated, and water quality is increasingly polluted especially near urban and industrial centres. By 2025 the population will have increased to 100 million, hydropower development will have more than tripled from 10,000MW in 2010 to over 33,000MW and average annual per capita surface water availability will have reduced to about 2,830 m^3. Overall the water sector in Viet Nam is faced with tremendous challenges.

This report therefore attempts to identify the key governance arrangements in a number of major water-use sectors, and seeks to understand how effective these arrangements are in enabling the country to address its major water-related concerns. Gaps and priorities for improved governance are identified, and a limited set of these which MRWD can start to help to address are highlighted.

4.2 Policy, legal frameworks and institutional arrangements

4.2.1 Key policies laws, strategies and agreements

Regional frameworks

Viet Nam is also a signatory of the Mekong Agreement 1995.

Country specific frameworks

The 1993 Environmental Protection Law defined the management rights and responsibilities related to the exploitation and use of natural resources, including wetlands. The law defined management arrangements including management agencies, environmental protection agencies and local administration agencies. One of the most important aspects of the law was the introduction of requirement for environmental impact assessments.

The updated Law on Environmental Protection of 2005 for the first time formally legalized Strategic Environmental Assessments in Vietnamese Law and strengthens the basis for local participation in both EIA and SEA processes

The Law on Water Resources (LWR), 1998 provides the basis for:

- establishing the basic policies, principles and framework for the planning, exploitation, utilization, conservation, protection, regulation and management of all water resources for comprehensive, integrated and sustainable development;
- defining the rights and obligatio8ns of the government, water users and the public in the use and protection of the water resources and hydraulic works; and
- prescribing the administrative authority and responsibility to implement this Law, including the cooperation, communication and coordination of the various ministries and agencies of the government, provinces, water users and the public.

The law makes provisions for the creation of a National Water Resources Council and river basin organisations in major basins. It is aimed at the harmonization of water management, providing a mechanism for planning, utilization and protection of water resources through licensing water users and granting permits for wastewater discharges. It also provides the

[5] For the year 2008.

means to monitor, evaluate, and enforce the Law. However, water rights are not defined and environmental protection provisions are seriously lacking leading to ineffective water quality management. The law is in need of review.

The National Water Resources Strategy towards the Year 2020 aims to diversify international cooperation in water resource management through multi-lateral and bilateral programs by strengthening partnerships with international donor agencies and NGOs. Enhancing international cooperation with the member countries of the MRC has also been proposed, along with initiating cooperation in Red River basin and other river basins. The government has also planned to actively participate in regional and international forums, emphasizing the exchange of information, sharing experiences and engaging in seminars, conventions etc.

The National Strategy for Environment Protection (NSEP) is an environmental management framework for the period 2001-2010. The Strategy was based on an intensive consultative process over three years, and involved a wide range of ministries, provincial authorities, research institutes, NGOs, bilateral and multilateral organizations, and other stakeholders. The Strategy seeks to encourage continued institutional development and capacity building, and the integration of environmental considerations into mainstream economic planning and decision-making.

The overall goal of the NSEP is to protect and improve the environment to enhance the quality of life and health of the people and to ensure sustainable development of the country. This includes addressing pollution, protecting, conserving and ensuring the sustainable use of natural and biodiversity resources and improving environmental quality in urban, rural and industrial areas (Viet Nam Environment Protection Agency, 2001).

The Viet Nam Government approved the Strategic Orientation for Sustainable Developing (Viet Nam Agenda 21) in Viet Nam in August 2004. The plan will be implemented over a five year period from 2005-2010. The agenda identifies 19 priorities areas for sustainable development, divided into three categories:

- economic;
- social; and
- environmental.

To support the promotion of policies, and dissemination and implementation of this agenda, a manual has been produced on sustainable development implementation in Viet Nam.

The National Rural Clean Water Supply and Sanitation Strategy (NRWSS), 2000-2020 was produced by the Ministry of Construction in co-operation with related Ministries with support from Danish International Development Assistance (DANIDA) and approved by the Prime Minister in August 2000.

The NRWSS in conjunction with the Strategy for Rural Development seeks to achieve the following objectives:

- improved health of the rural population;
- improved living conditions; and
- reduced environmental pollution from human and livestock excreta.

The strategy describes the key objectives and the timeline for achieving these outcomes over the period to 2020, including a detailed action plan for the period to 2005. Key components of the strategy are implementation, education and communication activities and the facilitation of greater stakeholder engagement. The strategy also provides direction on the role of the government in the sector.

4.2.2 Institutional Arrangements

Institutional arrangements for water management in Viet Nam fall under a number of different agencies. The key institutions involved in water management are presented in below.

Table 5: Institutional Arrangements, Viet Nam

Agency	Functions
National Water Resources Council	• The water sector apex body chaired by the Deputy Prime Minister.
River Basin Organisations (RBOs)	• Recognized by Law on Water Resources as a mechanism for water and related resources planning and management in a river basin. • Responsible for developing integrated river basin plans, while taking into account various sectoral water users and uses. • Coordinate ministry, agency and provincial water related activities. • Coordinate water resource assessment and monitoring. • Advise the government on the resolution of water-related disputes within the river basin.

Agency	Functions
Ministry of Natural Resources and Environment (MONRE) established in 2002	• Guiding and organizing implementation of legal documents and policies on water resources. • Guiding and assessing the implementation of strategies, projections on water resources and general programs on prevention of degradation and depletion of water resources. • Guiding and assessing the implementation of regulations on water extraction. • Developing, managing and exploiting a network for monitoring and measuring water resources. • Appraising sectoral water use projections, projects of inter-basin water diversion developed by ministries, sectors and/or provinces. • Guiding and assessing the issuance and withdrawal of licenses on water resources as defined in legal documents. • Implementing methods to prevent water resources pollution, revive degraded/depleted water sources.
Ministry of Agriculture and Rural Development (MARD)	• Guiding the implementation of strategies, projections on irrigation, strategies on prevention and mitigation of natural disasters. • Development of irrigation projection for region/reservoirs to serve agriculture production. • Approving dyke and irrigation planning. • Publicizing, leading, guiding, monitoring, assessing, synthesizing, and summarizing reports on the implementation of approved projections, plans of irrigation development. • Proposing implementation methods for mobilizing materials and means to prevent and repair damages caused by floods, droughts, water logging, failures of irrigation works and impacts of water, guiding flood diversion, flood retarding, people evacuation. • Responsible for craft villages, rural water supply and sanitation.
Ministry of Trading and Industry (MOTI)	• MOTI is responsible for hydropower, among other functions and implements as well as operates hydropower schemes.
Ministry of Science and Technology (MOST)	• Created with the enactment of the Environmental Protection Law of 1993, MOST sets water quality standards, carries out research and environmental management through the EIA process.
Ministry of Construction (MOC)	• Urban water supply, drainage and sanitation. • Sets regulations, designs, and constructs water supply and sanitation facilities through design and construction companies.
Ministry of Transport (MOT)	• Responsible for prevention and protection against pollution of water resources by marine navigation. • Management of marine works and ports.
Department of Agriculture and Rural Development (DARD)	• While MARD plans the policy, regulation and procedures, the operation of hydraulic works is carried out by DARD. • Most DARDs supervise a number of autonomous enterprises that develop and manage water resources for the Provincial Peoples Committee (PPC).
Provincial Agriculture and Rural Development Service (PARDS)	• PARDS administer water resources activities at provincial level and formulate provincial water plans.
Irrigation and Drainage Management Companies (IDMCs)	• 128 IDMCs, (mostly state enterprises, though some are single-member limited state companies or joint stock companies) operate water distribution systems and manage operation and maintenance, down to the point at which water is delivered to a 'district'. • The interface with the farmers called the 'District Station' concentrates on managing contracts between the IDMC and the farmer cooperatives or commune level groups in regard to water supply and the payment for the supplied water. • There is an increasing trend of transferring irrigated land to IDMCs. It is estimated that over 65 per cent of the irrigated land in Viet Nam is now managed this way.
Water Users' Organisation (WUOs)	• While a few IDMCs manage the entire irrigation scheme, from head-works to on farm canals, many secondary and lower level canals are managed by Water Users' Organisations. In some cases, the entire schemes are managed by WUOs.

4.3 Status of various sectors

4.3.1 Irrigation sector

At present, about 82 per cent of total water use is used for irrigation. Viet Nam has 75 large irrigation systems, 800 big and medium dams, over 3,500 reservoirs with capacity of over one million cubic metres, 5000 big sluices, over 2000 pumping stations and thousands of small water works. About 3.3 million hectares of land is fully irrigated, while over one million hectares is partially irrigated, together covering about 80 per cent of cultivable land of the country. Strong irrigation development over many years has helped ensure food security and also enabled Viet Nam to become one of the world's leading exporters of rice. Irrigation water has generally been provided free of charge (effectively becoming a social service to rural communities). The irrigation systems are becoming less efficient as infrastructure gets older and there are limited budgets available for maintenance and repair.

The main challenges faced by the irrigation sector include:

- institutional, legal and policy frameworks suffer from gaps and overlaps, inconsistencies and duplications, creating uncertainties in mandates and functions, ambiguities in the management of water resources, irrigation, drainage, and promoting both inaction and territorial disputes;
- irrigation management has been supply driven with 'command and control' approaches designed to meet the needs of paddy rice irrigation. Farmers have little say in system management and crop diversification is difficult;
- successful PIM models have been hampered by slow implementation has little incentive for farmers to get involved because irrigation water provided for free; and
- communication and coordination is limited within the IDMCs, between the Board of Directors, technical/water management and financial/administration departments and the field stations.

The key agenda for improving governance in the irrigation sector should therefore include:

- review and reform of legal and policy frameworks, including clarification of mandates and functions of different agencies;
- improving coordination and communication processes of IDMCs; and
- more widespread adoption of PIM approaches based on lessons from successful models, and providing incentives for farmers to get involved.

4.3.2 Fisheries and aquaculture sector

The fisheries sector in Viet Nam has been growing considerably, strongly promoted by the government as a means to alleviate hunger and poverty. The sector provides about half of the supply of animal protein to the human diet. Total earnings make it the third most important export-oriented sector. More than three million people are directly employed and nearly 10 per cent of the population derives its main income from fisheries.

Aquaculture has grown significantly in recent years, averaging over 12 per cent annual growth since 1990, contributing to over 40 per cent of total fishery production with a value of 15,400 billion VND in 2003 (Kellogg Brown and Root Pty Ltd, 2008).

Some of the challenges regarding the fisheries and aquaculture sector include:

- inefficient performance of the state fisheries enterprises, providing relatively small returns for their investment;
- environmental performance, particularly wastewater management, is very poor;
- insufficient information, research and capacity building;
- lack of understanding of environment management and conservation of fisheries resources;
- limited vocational training and a major shortage of skilled local level workers; and
- poor extension services in the aquaculture sector.

The key agenda for improving governance in the fisheries and agriculture sector should therefore include reform of state fisheries enterprises.

4.3.3 Hydropower sector

From 1995 to 2005, the capacity for electricity production has almost tripled with an average growth rate of 12.7 per cent per year, but still this has not been able to meet the demand. By 2010 hydropower will provide 42 per cent of the total national power capacity. The three most significant river basins for hydropower capacity are the Red-Thai Binh, Dong Nai, and Se San.

Some of the challenges regarding the hydropower sector include:

- minimal planning or coordination between the hydropower sector and other sectors. This leads to unintended impacts of hydropower developments on other sectors and activities and vice versa;
- the absence of formal consultative mechanisms for effective participation of civil society;
- little consideration of the potential of multi-purpose use of reservoirs, which require significant public sector investment; and
- limited awareness about the impacts of hydropower as well as mitigation options.

The first two of these are clearly governance issues. In addition Viet Nam has recently encountered some problems with hydropower developments on international rivers. However, recently, Viet Nam, Cambodia and Lao PDR have established a forum to discuss socio-economic development issues, in particular hydropower developments, in the boundary areas. China is also planning many hydropower projects in the catchment areas of the Red River, but consultation with Viet Nam on these proposals or their impacts is low. Going forward there is a need for a strong regulatory environment, with clear, well communicated processes and rules that apply to all both government and non-government operators.

The agenda for improved governance in the hydropower sector should therefore include:

- improved multi-sector collaborative planning (basin wide scale and IWRM principles);
- developing standards and improving practice in Strategic Environment Assessments (SEAs) and Cumulative Impact Assessments (CIAs); and
- establishment of formal consultative mechanisms for effective participation of stakeholders both within the country and across borders when Vietnamese dams impact neighbouring countries, or dams of neighbouring countries impact Viet Nam.

4.3.4 Tourism and navigation sector

Transport of cargo on inland waterways accounts for almost 20 per cent of the total cargo transported in Viet Nam and has grown by 7 per cent during 2001 to 2006. In 2006, about 13 per cent of total passenger transport was on inland waterways. The total value of inland waterway transport was almost 7,730 billion VND in 2004. Some of the challenges regarding the transport and navigation sector include:

- limited planning or coordination between the navigation sector and other sectors;
- the need for further policy and technical work to be undertaken to improve cross border inland waterway transportation with Cambodia, Lao PDR and China;
- lack of a comprehensive legal framework for inland waterway navigation management;
- poor participatory mechanisms and an inadequate communications and warning response systems;
- deficient awareness of navigation issues within other central and provincial government sectors;
- limited understanding of the regulatory environment by vessel operators and navigation companies; and
- adverse impacts on navigation in terms of restrictions and safety due to aquaculture developments.

In particular, the first four of these challenges represent key governance issues. The key agenda for improving governance in the navigation sector would therefore include:

- development of a comprehensive legal framework;
- development of regional policies to support transboundary navigation between Viet Nam, Cambodia and China; and
- improved participatory mechanisms.

4.3.5 Water supply and sanitation sector

About 62 per cent of urban population has access to clean water. In 2005 the average urban water supply was about 80-90 liters per person per day in smaller towns and 120-130 liters in large cities. Between 1991 and 2005, the government has invested 18,567 billion VND in water supply schemes, of which the foreign investment share was 15,020 billion VND. This investment provided an increased supply capacity of 1,250,000 m^3 per day.

The national coverage of hygienic rural water supply is estimated at approximately 66 per cent and hygienic latrines at 50 per cent. Most rural households use traditional hand-dug wells for their primary drinking water source, particularly the lower income families. Drilled wells are the second most common model, used by an estimated 22 per cent of rural households. Only four to six per cent of the rural population has access to piped water supply. About 12 per cent of households use unprotected surface water for drinking and cooking, 11 to 19 per cent households rely on rainwater for direct consumption, while less than one per cent of the rural population buys clean water. The rural households in Viet Nam are being served by a growing private sector, comprising of tens of thousands of micro and small enterprises. These range from informal self-employed individuals that drill wells and install pumps, to enterprising individuals that collect water and sell it, to small 'utility' companies that provide piped water to individual households.

The Government has initiated the second phase of the Rural Water Supply and Sanitation National Target Programme II (RWSS NTP II) for the period of 2006 to 2010. It is expected that by the end of 2010:

- 85 per cent of the rural population would use safe water with 60 litres per capita per day;
- 70 per cent of rural households would have improved latrines;
- 70 per cent of livestock pens would have improved sanitation; and
- 100 per cent of rural schools, clinics, commune people's committees and public places in rural areas would have access to clean water and improved latrines.

While progress has been achieved in this sector, a number of challenges still exist. These include:

- poor coordination between different institutions involved in the sector, especially at the provincial level;

- water supply and drainage enterprises are being hampered by poor and inconsistent policies and unclear organizational arrangements. These obstruct the promotion of supply ability, water quality, service quality and financial autonomy of enterprises;
- limited community participation;
- limited financial viability of water systems, with water tariffs set too low;
- no incentives to collect wastewater, as the water supply companies that collect the sewerage charge minimum fees, which is diverted to the provinces or cities and not to the companies providing services; and
- shortages of highly skilled workers to operate advanced technologies.

From this list, the key agenda for improving governance in the water supply and sanitation sector should therefore include:

- increasing policy consistency for water supply and drainage enterprises;
- improved coordination between different agencies; and
- developing mechanisms for community involvement.

4.3.6 Industry and craft villages sector

In 2006, industrial activities accounted for over 41 per cent of national GDP and it is expected to reach 45 per cent by 2010. Over the past seven years the industrial sector has achieved an average annual growth rate of 17.3 per cent with the GDP doubling during 2002 to 2006. Industrial activities are being increasingly concentrated in the Red–Thai Binh basin, the Ba Ria - Vung Tau and Dong Nai basins, which together account for nearly 80 per cent of the industrial output value (Kellogg Brown and Root Pty Ltd, 2008). The total water use by industries is estimated at around 3,760 million m^3 a year, which by 2015 is expected to double. The discharge of wastewater effluents from industries is a major problem causing massive pollution of water sources. Only 70 per cent of effluents are treated.

The craft village industry has witnessed phenomenal growth, especially in the Red – Thai Binh basin. Craft villages are areas with high occupational health risk and exposure to pollution, particularly in small-scale industries with no pollution control technology, worker protection or wastewater treatment. Almost all village households use their houses and gardens as a production place, with waste discharged directly into the surrounding residential areas and river. This directly affects not only surface water sources, but also groundwater, affecting the drinking water sources. Water pollution from craft villages is a serious and growing problem, while excessive water usage, especially by food processing craft villages, has grave implications on limited water resources. Other challenges regarding the industry and craft villages sector include:

- increasing water demand;
- generation of large amount of wastewater and growing toxicity as well as complexity of pollution, affecting surface as well as ground water sources;
- increasing burdens on water demand in industry centres due to growing population concentrations;
- poor wastewater management and monitoring with inadequate data availability;
- lack of skilled staff, insufficient funds and poor coordination between various sectors; and
- environmental protection processes are inadequate to deal with booming development (even with provisions for environment protection fees, implementation is poor).

Of all these challenges, the key agenda for improving water governance in the craft village sector should include improving environmental protection processes, particularly the setting and collection of environmental protection fees.

4.4 Conclusion–Constraints and recommendations

4.4.1 Constraints

The problems faced by the water sector in Viet Nam range from absence of data to poor financial viability, absence of water rights and a grave pollution situation. The rights to water are not defined and although licensing is underway, it lacks focus and support. Water quality management efforts are not effective. The environmental protection provisions are seriously lacking, as water is not recognized as part of the ecosystem. There is a very poor understanding of water issues throughout all levels of the government as well as the community. Community participation in all sectors is very limited. In short, the current water sector governance is dominated by traditional approaches rather that IWRM based approaches.

The water sector is characterized by a fragmented policy and institutional framework, with a wide range of policies affecting the sector and a history of poor coordination among ministries such as MARD, MONRE, MoC and MoH. Moreover, synchronization with wider national policies, economic development and institutional reform policies is inadequate. Consequently, the developmental impacts of water management are often not realized.

However, large investments have been made in water services and in various sectors such as irrigation, flood protection, hydropower development and water supply and sanitation. There have been reform initiatives, including establishing river basin organizations, introduction of participatory irrigation management and development of province-level water strategies. But these efforts have been limited in scale and their impacts are yet to be realized on a large scale.

The key governance challenges for Viet Nam include:

- legal framework is characterised by duplication, innumerable by-laws and is often impractical, making the implementation difficult;
- legal framework is sector-driven, neglecting the principles of IWRM;
- poor coordination between various ministries and agencies results in overlapping and ambiguities in defining the roles as well as responsibilities of concerned agencies and ineffective implementation;
- RBOs are not vested with any powers and act only as coordinating agencies;
- there is no uniform or coordinated mechanism to collect, manage and effectively share data between agencies;
- as the government's role slowly changes from that of a developer and operator, to one of planner and regulator, a different skill set will be required within government agencies. Capacity building is urgently required, and potentially a re-distribution of human resources;
- awareness about water governance issues is poor amongst the ministries, provincial governments and departments. The agencies themselves have little understanding of or practical training in, integrated approaches to resource allocation, development and protection; and
- operating and maintenance budget is not adequately allocated as the focus is on infrastructure construction, rather than management and governance. Moreover, the investment is unfocused.

4.4.2 Recommendations

Overall, the crucial issues of water sector in Viet Nam that are recommended for MRWD focus are as follows.

- River pollution: It is suggested that pollution caused by handicraft villages should be selected for in-depth evaluation and the dialogue process should focus on practical recommendations for mitigation measures.
- Decentralization: MRWD can help through advocacy and development of policy and institutional instruments to clearly define responsibilities, rights and roles of all concerned authorities and stakeholders at different levels from central to grass-roots.
- Equitable use of water: With increasing water demands of various economic sectors, conflicts about water allocation are inevitable. MRWD with its multi-stakeholder dialogue process can help to facilitate and coordinate negotiations.
- Water supply and sanitation: Through its dialogue process, MRWD could help to mainstream the issue of sanitation and to mobilize the participation and investment from the private sector in this sub-sector.
- Promoting IWRM: through sets of case studies, dialogues and follow-up processes, MRWD can contribute in introducing innovative and effective IWRM approaches.

The key agenda identified for improving governance in each of the different water-related sectors investigated is provided in the table below.

Table 6: Agenda for improved governance, Viet Nam

Sector	Key agenda for improved governance
Hydropower	• Improved multi-sector collaborative planning (basin wide scale and IWRM principles). • Establishment of formal consultative mechanisms for effective participation of stakeholders both within and the country and across borders when Vietnamese dams impact neighbouring countries, or vice versa.
Irrigation	• Review and reform of legal and policy frameworks, including clarification of mandates and functions of different agencies. • Improved coordination and communication processes of IDMCs. • More widespread adoption of PIM approaches based on lessons from successful models.
Fisheries and Aquaculture	• Reform of state fisheries enterprises.
Tourism and navigation	• Development of a comprehensive legal framework. • Development of regional policies to support trans boundary navigation between Viet Nam, Cambodia and China. • Improved participatory mechanisms.
Water Supply and Sanitation	• Increased policy consistency for water supply and drainage enterprises. • Improved coordination between different agencies. • Develop mechanisms for community involvement.
Industry and Craft Villages	• Improved environmental protection processes, particularly the setting and collection of environmental protection fees.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Key Issues

The overview of the situational analysis studies in Cambodia, Lao PDR and Viet Nam makes it clear that all three countries have a number of water governance challenges that need to be dealt with for sustainable management. Moreover, these countries, like many others, are suffering from the usual development problems such as immense pressures on limited water sources caused by growing demands of various sectors, pollution caused by industrialization and urbanization, dangers posed by climate change and the urgent need to provide water services to growing population.

Common and key issues which were highlighted by the studies, across the three countries are detailed in the table below.

Table 7: Summary table - Agenda for improved governance

Sector	Key agenda for improved governance
Regional and transboundary collaboration	• Establishment of formal consultative mechanisms for effective participation of stakeholders in decision-making processes across borders when dams and other upstream developments impact the water resources, fisheries and livelihoods of neighbouring countries. Such river systems include: ♦ Mekong River: Chinese existing and planned dams impacts on all downstream countries; Lao planned dam impacts on Cambodia and Viet Nam; Cambodia planned dam impacts on Viet Nam; ♦ Red River: Chinese existing/planned dams impacts on Viet Nam; ♦ Mekong River: Lao PDR planned dams impacts on Cambodia; and ♦ Srepok and Sesan Rivers: Vietnamese existing and planned dams impact on Cambodia • Development of regional policies for transboundary navigation between Viet Nam-Cambodia and China-LaoPDR (Mekong River); China-Viet Nam (Red River).
Overall basin planning and IWRM/IRBM approaches	• Increased focus on improving SEA policy and practices. In particular, for Viet Nam, improved multi-sector collaborative planning at the basin level is necessary, based on the principles of IWRM. While for Lao PDR, it is necessary to see improved collaboration between government agencies, particularly WREA and MEM.
Hydropower	• Establishment of the transparent and effective institutional mechanisms to ensure appropriate development in the hydropower sector. Specifically for each country: ♦ Viet Nam – establishment of formal consultative mechanisms for effective participation of stakeholders and setting standards and improving practices regarding the use of SEAs and CIAs in the hydropower sector; ♦ Lao PDR – strengthen the review of proposals and concession contracts and the management and monitoring of concessions within DEDP/MEM, strengthen the EIA office of WREA, and ensure the National Policy on Environmental and Social Sustainability of the Hydropower Sector in Lao PDR is fully implemented, particularly the articles regarding disclosure and consultation; and ♦ Cambodia – development of policy, guidelines and legal framework for hydropower development, increased cooperation and coordination among key institutions/stakeholders including community/private sector, increase information regarding the impacts of hydropower development and proposed management and measures to minimize risks, and provide more opportunities for public discussion.
Irrigation	• Review, clarification and reinforcement of legal and policy frameworks. Specifically for each country: ♦ Viet Nam - review and reform legal and policy frameworks, including clarification of mandates and functions of different agencies, improvement of IDMC coordination and communication processes, and encouragement of more widespread adoption of PIM approaches based on lessons from successful models; ♦ Lao PDR - strengthen the involvement of farmers in planning demand-driven approaches to irrigation development and establishment of mechanisms to generate sustainable revenue for operation and maintenance; and ♦ Cambodia - clarification of rights, roles and responsibilities of the state and of users (including the approval of water rights), strengthen the legal status of FWUCs, and facilitate greater participation of farmers in irrigation planning and management.

Sector	Key agenda for improved governance
Fisheries and Aquaculture	Key agenda for each country: • Viet Nam – reform of State Fisheries Enterprises; • Lao PDR – promulgation of the draft Fishery Law recognising community-based/co-management arrangements for fisheries management; and • Cambodia – improve coordination between different agencies, improving law enforcement and dealing with corruption.
Navigation and Tourism	Key agenda for each country: • Viet Nam – development of a comprehensive legal framework and improved participatory mechanisms for navigation development; • Lao PDR – establishment of mechanisms for consultation with affected communities in navigation improvement schemes; and • Cambodia – improvement of institutional and policy coordination, clarification of the delineation of responsibilities among government agencies: strengthen local community-based institutions for tourism management and strengthen negotiating power with commercial tour operators, and establishing clear benefit-sharing mechanisms.
Water Supply and Sanitation	Key agenda for each country: • Viet Nam – increased policy consistency for water supply and drainage enterprises, improved coordination between different agencies and development of improved mechanisms for increased community involvement; • Lao PDR – establishment of WSUGs, establishment of clear mechanisms, processes and incentives for increased participation of stakeholders, especially the poorest section, and creation of opportunities for the increased involvement of the private sector; and Cambodia – improved inter-ministerial relationships, clarification of roles and responsibilities of Water and Sanitation Users' Groups (WSUGs), establishment of clear mechanisms, processes and incentives for increased participation of stakeholders, especially the poorest section and creating opportunities for increased involvement of the private sector.
Industry and Craft Villages	Key agenda for Viet Nam: • improved environmental protection processes, particularly the setting and collection of environmental protection fees.

The most important general conclusions are as follows:

1. Water resources management is typically sector-driven and not integrated.

Principles of Integrated Water Resource Management (IWRM) have only been recognized and introduced recently, and have had limited application to date.

- River Basin Organisations have been established for only a small number of rivers in the three countries and their experience and effectiveness so far has been very limited.
- Strategic environment assessments (SEAs) are only recently starting to be used as a tool to support more integrated planning in river basins. Standards for SEAs need to be established and practice improved.

2. While improved policies and legal frameworks have been initiated in many areas, there are still gaps that need to be addressed, and in all cases the process of translating laws into action has just begun and further work is required.

- In Lao PDR there are still no overall national water policy principles that define how the government wants its water resources to be developed and managed.
- In Viet Nam there is no clear national policy position for many aspects of water management such as water allocation/sharing in dry times, environmental flows, and intact rivers. In contrast, Cambodia has a more comprehensive National Water Resource Policy of 2004 but even this has some gaps that still need to be addressed.
- Viet Nam and Lao PDR both have a Law on Water Resources (1998 and 1999 respectively) both of which already require revision and updating, whereas Cambodia has a more modern Law on Water Resource Management (2007) that is somewhat more comprehensive. Water User Rights, however, are not clearly defined in any of the three countries.
- Legal and policy frameworks for hydropower development need to be improved in all countries. Disclosure and dissemination of information, and involvement of affected stakeholders in decision-making processes needs to be improved in all cases.
- Although a National Water Supply and Sanitation Sector Policy (2004) do exist in Cambodia, an overall strategy to implement the Policy needs to be developed, and the Water Supply and Sanitation Law still needs to be passed.

- In Cambodia the Fisheries Law (2006) and Community-Fisheries Sub Decree provide a good basis for addressing management issues in inland fisheries, whereas in Lao PDR a draft Fisheries Law (2009) is being considered. The Fisheries law in Lao PDR will provide for the first time, a legal basis for fisheries co-management arrangements between communities and local government agencies. In Viet Nam, State Fisheries Enterprises are in urgent need of reform.

3. In many water-related sub-sectors roles and responsibilities of various ministries and agencies are not clearly defined, resulting in indefinite and vague accountability assigned to any of the agencies. Coordination between various ministries and agencies is also lacking, hence the implementation of policies, schemes and programs is ineffective.

- Coordination between government agencies and other actors such as NGOs, donor agencies, the private sector and communities is lacking.
- There is inadequate data collection and management, while information sharing as well as exchange is a complicated, cumbersome process. This is compounded by a serious shortage of skilled technical and scientific personnel and an urgent need for capacity building particularly in Lao PDR and Cambodia.

4. Participation of communities and affected stakeholders is limited and there is generally poor awareness regarding water management and governance issues amongst both communities and government officials.

- In irrigation, Farmer Water User Committees (FWUC) in Cambodia need to be strengthened to improve farmer participation, while in Viet Nam Irrigation and Drainage Management Company (IDMC) coordination and communication needs to be improved and incentives must be provided to encourage further development of Participatory Irrigation Management (PIM) schemes. In Lao PDR ways must also be found to involve farmers more in demand-driven planning and development of irrigation.
- In water supply and sanitation, roles and responsibilities of Water and Sanitation User Groups (WSUG) need to be clarified in Cambodia while similar groups need to be established in Lao PDR. In Viet Nam mechanisms for increasing community participation in water supply and sanitation also need to be developed.
- In hydropower, mechanisms to enable affected communities to be involved in decision-making processes, particularly in regard to projects that have transboundary impacts on downstream communities.
- In navigation and tourism, mechanisms need to be developed for consultation with communities affected by navigation improvement schemes, and benefit sharing arrangements need to be improved.

5.2 Recommendations for MRWD

The water-related challenges facing Cambodia, Lao PDR, and Viet Nam are diverse, though inextricably linked. Addressing these challenges requires not only improving decision making processes between the different state and non-state actors within countries, but also improving information flows across the Mekong Region and ensuring the decisions of individual countries take into consideration developments across the region more broadly.

From the status reports from each country, national consultants made the following initial recommendations for issues that MRWD should take up in 2009 and 2010:

For Cambodia, MRWD should focus on IWRM as an overall approach for equitable and sustainable water development and also conduct more detailed work on governance issues relating to:

- fisheries resource management;
- hydropower development and impacts management; and
- irrigation planning and management.

For Lao PDR it was proposed that MRWD should have an overall focus on supporting the current reform in the water sector where the process to improve water governance is being deliberated. Discussion on the national water policy and strategy which sets the direction for water resources development and management and recognizes the principles of integrated water resources management should be the first priority.
For Viet Nam the crucial issues recommended as MRWD priorities were:

- pollution - caused by handicraft activities in villages should be selected for in-depth evaluation and the dialogue process should focus on practical recommendations for mitigation measures;
- decentralization - MRWD can help to clearly define the responsibilities, rights and roles of authorities and stakeholders at different levels from central to grass-roots;
- equitable use of water - MRWD can help to facilitate and coordinate negotiations to resolve water use conflicts in some specific areas;
- water supply and sanitation - MRWD could help to mainstream the issue of sanitation and to mobilize the participation and investment from the private sector in this sub-sector; and
- promoting IWRM - through sets of case studies, dialogues and follow-up processes, MRWD could help to introduce innovative and effective IWRM approaches.

The consultants' initial recommendations were further discussed in national stakeholder meetings in Hue (Viet Nam) in December 2008, Pak Se (Lao PDR) in January 2009 and Siem Reap (Cambodia) in February 2009. These stakeholder consultations endorsed the consultants' recommendations. In the case of Lao PDR, the stakeholders specifically identified the need to work on irrigation and hydropower within the overall focus on water sector reform.

Hydropower, and in particular governance aspects relating to transboundary impacts were identified as a priority in the Cambodian consultants report, and as mentioned in the Lao stakeholders' consultation. Presently Mekong River mainstream proposed hydropower projects are receiving significant attention from the international development community, and throughout the second half of 2009 and early 2010, the Mekong River Commission is conducting an SEA study of mainstream hydropower. Implementing this SEA with expert consultant assistance, will also provide opportunities to help build the capacity of national agencies in conducting SEAs. The best approach for MRWD is to be involved in and to provide input/ add value to this process, and at the same time to learn from the experience of this SEA, rather than to conduct separate stand-alone studies on hydropower. Lessons learned from this SEA could be applied to other large transboundary rivers in the Mekong Region including the Red River and the Nu-Salween River.

In all three countries, stakeholder consultations helped to prioritise the top two issues for each country for 2009. Drawing on the recommendations from the three situational analysis studies and the three national stakeholder consultations, key activities under MRWD for 2009 and 2010 include the following:

- a review of application of IWRM approaches in development and implementation of programme and project activities around the Tonle Sap Basin in Cambodia, and the role of the Tonle Sap Authority in coordinating activities and involving local stakeholders; followed by a National Dialogue on IWRM approaches to Tonle Sap management;
- assessment of fisheries resource management issues amongst local communities around the Tonle Sap followed by a Dialogue of fisher-folk for improved fisheries management;
- a detailed case study on irrigation in Lao PDR, with a focus on the Nam Khan Basin followed by a National Dialogue on irrigation in Lao PDR;
- assessment of the impact of the Craft Village Sector in Viet Nam on water quality and a National Dialogue on recommendations for improved governance and reduced pollution; and
- a Writeshop with the "knowledge community" to develop a "State of Knowledge" publication and policy brief on Decentralisation and Governance in the Mekong Delta, followed by a Policy Dialogue meeting to encourage adoption of recommendations.

In parallel to the above, IUCN has also identified the following priority activities for MRWD in 2009:

- publication of a photo-essay book on Siphandone in English, Lao and Thai and policy dialogue on potential Ramsar, World Heritage or Man and Biosphere status for this area;
- review on the Phnom Penh Water Supply Authority in Cambodia, highlighting lessons learned from this successful model that can be applied elsewhere;
- regional case study on Irrigation practices in Thailand, Viet Nam, Cambodia and Lao PDR; and
- development of a Publication on Wetlands Management and Governance in the Mekong Region with chapters contributed by invited authors.

MRWD, in its work plan for 2009 and 2010 will continue to facilitate greater dialogue between the different state and non-state actors within the participating countries of the Mekong region as they work toward improving water management and governance processes, taking into consideration their continued economic growth, while maintaining the ecological value of the river systems and aquatic resources. Finally, looking beyond the already impressive list of MRWD priority activities emanating from this status review, there is still a need to assess and articulate if and how MRWD will in future focus on governance aspects related to the additional critical topics of ground water management, environmental flows, and climate change adaptation.

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About this report

This report is the second in a series of publications to be brought out under the Mekong Region Water Dialogues project funded by the Ministry for Foreign Affairs of Finland, and facilitated by the Regional Water and Wetlands Programme, IUCN, Asia office. We believe that water governance is linked to sustainable livelihoods and to ecosystem conservation. This synthesis report presents key issues in water governance in Cambodia, Lao PDR and Viet Nam, including issues specific to individual countries, as well as issues shared in common by the countries. Recommendations for change are provided together with suggestions for priority topics for future country and regional dialogues.

Through this series of publications we could like to get stakeholders to start thinking about strategies and work towards a just and sustainable management of water resources in the Mekong Region.

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IUCN, the International Union for Conservation of Nature brings together states, government agencies, and a diverse range of non-governmental organizations in a unique partnership. As a Union of members, IUCN seeks to influence, encourage and assist societies around the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.

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About the Mekong Region Water Dialogues

The Mekong Region Water Dialogues aim to facilitate transparent decision-making in the Mekong Region by enabling wider stakeholder involvement in processes associated with water resources governance.

IUCN is dedicated to facilitating equitable water governance in the region through sustainable mechanisms that:

- improve decision-making processes around water-related investments in the Mekong Region;
- provide opportunities for business, government and civil society actors in the Mekong Region to participate in dialogues; and
- enable different perspectives on Mekong Region water-related development to be considered in decision-making.

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