

MEKONG PROJECT 4 ON WATER GOVERNANCE
Challenge Program for Water and Food Mekong

INSTITUTIONAL ARRANGEMENTS: POLICIES AND ADMINISTRATIVE MECHANISMS ON WATER GOVERNANCE IN THE KINGDOM OF CAMBODIA

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ACRONYMS AND ABBREVIATIONS

3SPN	3S Rivers Protection Network
ADB	Asian Development Bank
ADF	Asian Development Fund
AFD	Agence Française de Développement
ASEAN	Association of the South East Asian Nations
AusAID	Australian Agency for International Development
BOT	Build-Operate-Transfer
CANTA	Cambodian National Tourism Authority
CARD	Council for Agricultural and Rural Development
CARDI	Cambodian Agricultural Research and Development Institute
CARERE	Cambodia Resettlement and Reintegration Programme
CBOs	Community-based Organization
CDC	Council for the Development of Cambodia
CDCam	Conservation and Development in Cambodia
CDRI	Cambodian Development Research Institute
CEP	Core Environment Programme
CEPA	Culture and Environment Preservation Association
CETIC	Centre d'Excellence en Technologies de l'Information et de la Communication
CFDO	Community Fisheries Development Office
CG	Consultative Group
CLV	Cambodia-Lao-Vietnam
CMDG	Cambodian Millennium Development Goals
CNMC	Cambodia National Mekong Committee
COM	Council of Ministers
CPWF	Challenge Program on Water and Food
CSIS	Cambodian Irrigation Scheme Information System
CSOs	Civil Society Organizations
CVS	Cambodian Volunteers for Society
DANIDA	Danish Association for International Cooperation
DFID	Department for International Development
EAC	Electricity Authority of Cambodia
EDC	Electricité Du Cambodge
EIA	Environmental Impact Assessment

EMP	Environmental Management Plan
ESMF	Environmental and Social Management Framework
FACT	Fisheries Action Coalition Team
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
FiA	Fishery Administration
FS	Feasibility Study
FWUC	Farmer Water Users Community
GDCC	Review Government-Donor Coordination Committee
GDP	Gross Domestic Product
GIZ	Deutsche Gessellschaft für Internationale Zusammenarbeit
GMS	Greater Mekong Sub-region
GWP	Global Water Partnership
IEIA	Initial Environmental Impact Assessments
IFAD	International Fund for Agricultural Development
IFReDI	Inland Fisheries Research and Development Institute
ILO	International Labor Organization
ITC	Institut de Technologie du Cambodge
IWRM	Integrated Water Resources Management
JICA	Japan International Cooperation Agency
LMB	Lower Mekong Basin
LS2	Lower Sesan 2
MAFF	Ministry of Agriculture, Forestry and Fisheries
MDGs	Millennium Development Goals
MEF	Ministry of Economy and Finance
MFI	Micro-Finance Institution
MIME	Ministry of Industry, Mine and Energy
MLMUPC	Ministry of Land Management, Urban Planning & Construction
MOC	Ministry of Commerce
MOE	Ministry of Environment
MOH	Ministry of Health
MOI	Ministry of Interior
MOP	Ministry of Planning
MoT	Ministry of Tourism
MoU	Memorandum of Understanding

MoWA	Ministry of Women Affairs
MOWRAM	Ministry of Water Resources and Meteorology
M-POWER	Mekong Program on Water, Environment and Resilience
MPWT	Ministry of Public Works and Transport
MRB	Mekong River Basin
MRC	Mekong River Commission
MRCs	Mekong River Commission Secretariat
MRD	Ministry of Rural Development
NAPA	National Adaptation Programme of Action to Climate Change
NCDD	National Committee for Decentralization and Deconcentration
NDF	Nordic Development Fund
NGO	Non-governmental Organizations
NGOF	NGO Forum on Cambodia
NPRD	National Programme to Rehabilitate and Develop Cambodia
NPRS	National Poverty Reduction Strategy
NSDP	National Strategic Development Plan
NWRP	National Water Resources Policy
ODA	Official Development Assistance
OFID	OPEC Fund for International Development
OPEC	Organization of the Petroleum Exporting Countries
PDAFF	Provincial Departments of Agriculture, Forestry and Fisheries
PDLMUPC	Provincial Department of Land Management Urban Planning and Construction
PDOE	Provincial Department of Environment
PDWRAM	Provincial Department of Water Resources and Meteorology
PFS	Pre-Feasibility Study
PIMD	Participatory Irrigation Management and Development
PPWSA	Phnom Penh Water Supply Authority
PRASAC	Programme de Rehabilitation au Secteur Agricole du Cambodge
RCC	Rivers Coalition in Cambodia
RETP	Rural Electrification and Transmission Project
RGC	Royal Government of Cambodia
SAW	Strategy on Agriculture and Water
SAWG	Sub-Area Working Group
SEDP I	First Socio-economic Development Plan (1996-2000)
SEDP II	Second Socio-economic Development Plan (2001-2005)

SNEC	Supreme National Economic Council
Sub-BDP	Sub-Basin Development Plan
TWG	Technical Working Group on Agriculture and Water
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
USD	United States Dollar
VDC	Village Development Committee
WB	World Bank
WCD	World Commission on Dams
WFP	World Food Programme
WSUGs	Water and Sanitation User Groups

1.0 INTRODUCTION TO MEKONG WATER GOVERNANCE

Development of the unexploited hydroelectric potential of the mainstream Mekong River and its tributary systems has become a significant strategic issue in the Greater Mekong Sub-region (GMS). The Mekong River Basin (MRB) has an estimated hydropower potential of 30,000 MW, which could meet a significant portion of the region's energy demand, expected to increase by 7 percent per year over the next 20 years (MRC 2010). The demand for electricity is coming mainly from China, Thailand and Vietnam to support their industries. Thus, the hydropower sector is expected to drive growth in industries and national economies in the region.

Recognizing the high revenue-generating potential of hydropower, countries in the Lower Mekong Basin (LMB) have committed to the development of their vast water resources. Lao PDR has signed more than 60 Memorandums of Understanding (MoU) for the mainstream Mekong and tributary hydropower projects. The Master Plan Study of Hydropower Development in Cambodia has identified 14 projects with a total electricity generating capacity of 5,300 MW (JICA 2007). Vietnam's Hydropower Master Plan envisages generation of 2,500 MW of electricity in the next decade. These countries have oriented their investment regimes to facilitate increased involvement of private sector in the energy industry with the aim to augment GDP growth and economic development. During the past decade, many private investors from China, Thailand, Vietnam, Malaysia and Russia have also become involved in hydropower development in the region.

The process of building large dams in the MRB, however, is complicated by the high interdependence of natural resources and livelihoods with the Mekong River system. The costs and benefits of dam construction on livelihood options, agriculture, fisheries, biodiversity, transportation and other sectors have not been comprehensively evaluated to date. It is estimated that over 65 million people in the region depend on the Mekong River system and its tributaries for livelihoods (MRC 2010). In such a context, the construction of dams for electricity generation can have a profound and lasting impact on environment, fisheries and people's livelihoods in the Lower Mekong Basin¹.

As a result, hydropower development in the MRB has become a contentious issue, attracting the attention of the public and academic communities as well as the media. Many actors consider the water and hydropower decision-making, planning and implementation in the region as ineffective. Efforts of regional organizations such as the Mekong River Commission (MRC) to facilitate dialogue and inform local governments of the likely impacts of dams have had a minor impact on the patterns of dam development in the Mekong region.

The situation puts the focus on water governance, which refers to the range of political, social, economic and administrative systems that are in place to regulate the development and management of water resources and provision of water services at different levels of society, both formal and informal (Global Water Partnership 2002). Further, it refers to the way in which power is organized, shared, and negotiated in society; interactions and decision-making processes involved in how water resources are to be developed and utilized; and the distribution of benefits and involuntary risks from doing so. Thus, water governance is very much related to political issues that operate at bioregional scale (Huitema et al 2009).

¹ Please refer to MRC Initiative on Sustainable Hydropower (www.mrcmekong.org)

Water governance also considers the processes of shaping agendas, institutional designs, and the implementation of policies and practices for the day-to-day management of water. It is a multi-disciplinary and cross-sectoral agenda, spanning across several sectors: irrigation, fisheries and aquaculture, hydropower and energy, tourism and navigation, water supply and sanitation and others (Turner et al 2009). Lately, there has been increased focus on: multi-level interactions—global, national, regional and local level; role of non-state actors; and the interaction between governance modes (bureaucratic hierarchies, networks, markets).

The impact of upstream development on the downstream areas has always been one of the contentious issues in the MRB. The effect of reservoir development, especially on the mainstream Mekong, on the river flow, sediment and the fisheries has often created tensions among the riparian countries.

Not only hydropower, irrigation expansion is also taking place at a rapid pace in the region, often with the talk of inter-basin water transfer, which could alter water availability situation in future. The main issues of concern due to the current development in the Mekong region are: (i) impacts of upstream hydropower development and water diversions; (ii) changes in river morphology due to the riverbank erosion in the Mekong mainstream and changes in sediment loads in streams and tributaries; (iii) degradation of fishery resources due to changing hydrology, declining water quality, loss of wetlands, forest degradation, and illegal fishing; (iv) increasing pollution of both surface and groundwater due to pesticide and fertilizer use, population pressures, disposal of liquid wastes and mine exploitation activities; and (v) changes in watershed and river hydrology caused by deforestation, variations in rainfall, loss of wetlands, land use changes, urbanization and climate change (Hirsch and Wyatt 2004).

The inequitable development of water resources in the Mekong Region has the potential to threaten livelihoods of the people. Large-scale investment in water infrastructure, such as hydropower and irrigation, can generate large profits for private firms at the expense of livelihood and resource security of the majority of the region's population. In particular, limited interest and accountability of the public sector can lead to the marginalization of women, ethnic groups and other vulnerable populations, creating insecure and uncertain futures.

Water resource development and management in the Mekong region is being increasingly contested (Molle et al 2009). Diverse, and often antagonistic, ideologies and interests are contesting for legitimacy in the region. The distribution of decision-making, political, and discursive power influences the future of waterscapes, including the issues related to benefits, costs and distribution of risks. These issues are crucial for the transformation of waterscapes and sustainable water governance. Likewise, there is growing competition for water across different sectors as a result of urbanization and industrialization (ADB 2000, 2001; Rijsberman 2006; and de Fraiture and Wichelns 2007) making the issue of water governance even more significant. The importance of informed policy guidance in sustainable governance and management of water resources has been finally realized due to the conflicting and competing demand for and uses of these resources in the changing economic context in Asia.

2.0 WATER GOVERNANCE IN CAMBODIA

Water resource management in Cambodia is driven by the needs of multiple sectors, such as irrigation, fisheries and aquaculture, hydropower energy and navigation, as well as the need for integrated management (Figure 1). The Royal Government of Cambodia

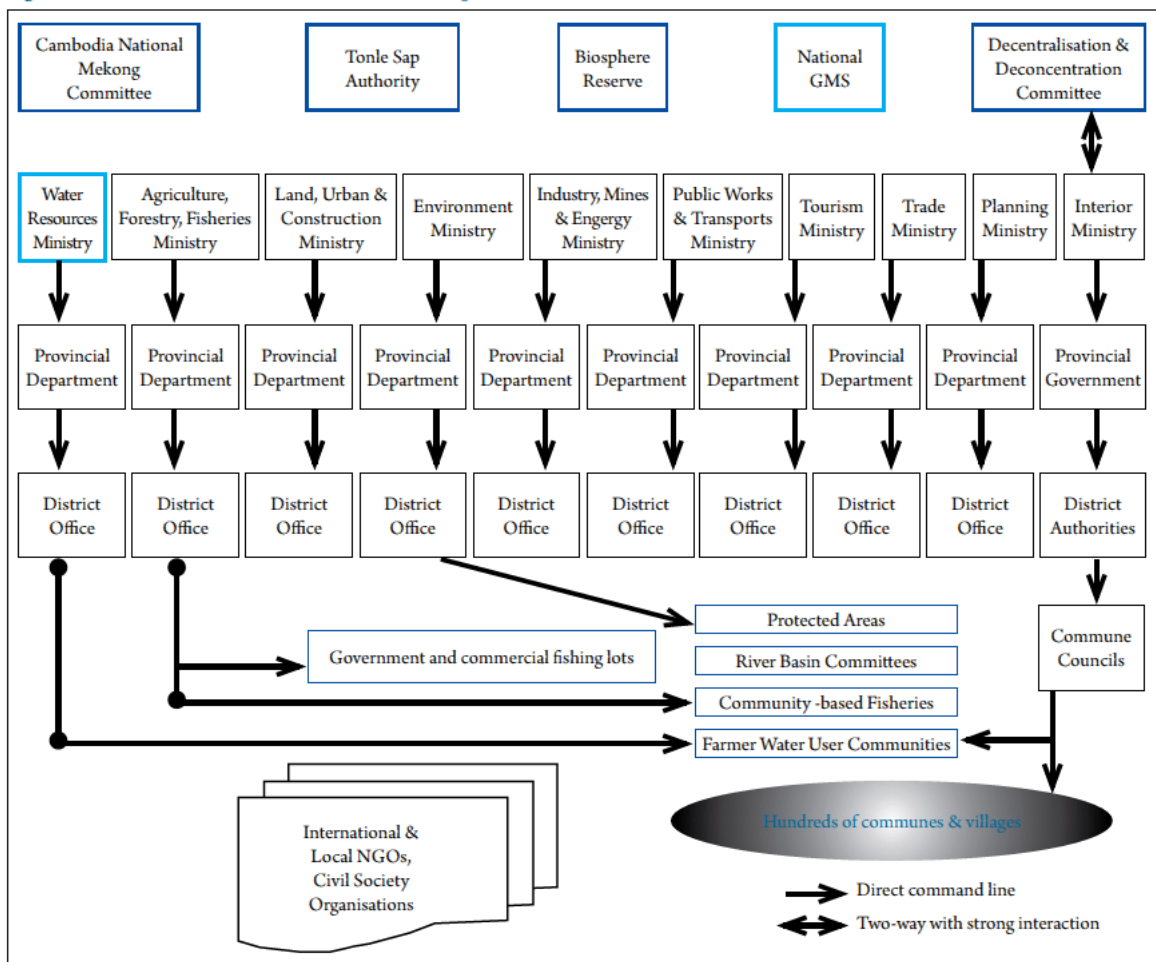
(RGC) has initiated policies and legal frameworks in many areas. Ministry of Water Resource and Meteorology (MOWRAM) introduced Participatory Irrigation Management and Development (PIMD) in 2000 that aims to increase the involvement of local communities in irrigation system management². The National Water Resource Policy and the National Water Supply and Sanitation Sector Policy were established in 2004. The Fisheries Law was promulgated in 2006 and the Law on Water Resource Management came into existence in 2007.

Turner et al. (2009) noted that Cambodia has an abundance of freshwater resources – rivers, streams, lakes, and aquifers – but variability in their stream-flows and droughts in parts of the country have increasingly affected the food security, livelihoods and the economic prosperity of the Cambodian people. Similarly, the changes in hydrological regime potentially threaten the country’s water resources due to the variations in rainfall and manmade development impacts, as well as the activities of other upstream countries (Hirsch and Wyatt 2004). The main issues of concern due to the current development in the Mekong region and in Cambodia are as follows (Hirsch and Wyatt, 2004):

- Impacts of upstream hydropower development and water diversions;
- Changes in river morphology due to the riverbank erosion in the Mekong mainstream and changes in sediment loads in its 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 both surface and groundwater due to pesticide and fertilizer use, population pressures, disposal of liquid wastes and the 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.

² MOWRAM's declaration (Pracas) 309 issued June 2000.

Figure 1 National and Local Stakeholder Landscape in Water Governance in Cambodia



Source: Pech 2010

3.0 ADMINISTRATIVE AND LEGISLATIVE FRAMEWORK

This section evaluates the existing legal framework, administrative processes, organizational structures, respective mandates of relevant agencies and implementation of the policies and practices covering the issues of livelihoods, water valuation and dam cascades in Cambodia. It highlights the strengths and weaknesses of legislative and administrative structures and mechanisms in water governance.

3.1 LAWS AND POLICIES RELEVANT TO WATER GOVERNANCE IN CAMBODIA

In principle, the Ministry or Departments related to a particular issue formulate a policy. Once drafted, the policy is sent to the Secretary of State in charge of the Ministry. After the approval of the draft policy by the Secretary of State, it is referred to the Minister who, if he/she concurs with it, gives it his formal approval and it becomes a government policy.

The Constitution of Cambodia is the supreme source of law in Cambodia and as such, it guides the content of all other laws, which must conform to it.³ Next in the hierarchy are laws (*Chhab*) passed by the National Assembly and Senate. These are followed by Royal

³ Article 131, Constitutional Law of Cambodia.

Decrees (*Reach-Kret*) and Sub-Decrees (*Anu-Kret*). Under the Constitution of the country, a Royal Decree is signed by the King (or Head of State as the case may be) for a list of specific tasks proposed by the Council of Ministers. Sub-decrees are drafted by a single ministry, or in collaboration with other ministries; they implement and further clarify laws and are signed by the Prime Minister and the Minister/s in charge of implementation upon approval by the Council of Ministers. Following the sub-decrees are Declarations (*Pracas*), which also clarify and set out the implementation guidelines for laws. In the same way as the sub-decrees, ministries draft Declarations with competence over the subject matter. However, they are far more limited in scope. *Pracas* are easier to bring into effect than sub-decrees as the ministers in charge can sign them into effect without having to go through the Council of Ministers. Next in hierarchy is the Circular (*Sarachor*). This is an instrument that a Ministry or higher authority uses to clarify a point of law, or to provide instructions. A circular is only an advisory mechanism and does not have the authority of the law. Finally, there is the *Deika*, which is an order given by provincial governors or commune councils and is effective only within the geographical region under their authority. Additionally, policy speech is also largely adopted and effectively implemented. Therefore, in practice, Cambodia's hierarchy of legal instruments can be complicated (Ear 2009). Remarkably, international laws are not subjected to this hierarchy in the Cambodian legal instruments.

The hierarchy of Cambodian legal instruments⁴ is as follows:

- 1. The Constitution:** The Constitution is the supreme source of law in Cambodia
- 2. Laws (Chbab):** A law is adopted by the National Assembly and the Senate, and promulgated by the King or the acting Head of State. A law must be in strict conformity with the Constitution.
- 3. Royal decrees (Reach-Kret):** A Royal decree is issued by the King in the exercise of his constitutional powers. A Royal decree must be in strict conformity with the Constitution.
- 4. Sub-decrees (Anu-Kret):** A sub-decree is adopted by the Council of Ministers and signed by the Prime Minister. A sub-decree must be in strict conformity with the Constitution and conform to the Law to which it refers.
- 5. Proclamations (Pracas):** A proclamation is a ministerial or inter-ministerial decision signed by the relevant Minister(s). A proclamation must conform to the Constitution and to the law or sub-decree to which it refers.
- 6. Circulars (Sarachor):** A circular is an instrument that a Ministry or higher authority uses to clarify a point of law or to provide instructions. A circular is only advisory mechanism and does not have the authority of law.

The Rectangular Strategy is the master document of the RGC in the 4th Legislature Government. It focuses on continuation of the reforms in order to strengthen good governance and stimulate high economic growth, which it deems the most important factors to ensure sustainable development and poverty reduction. Under the Rectangular Strategy Phase I, the third legislature initiated decentralization and de-concentration (D&D – named as Organic Law). The evidences from this phase show that Cambodia has integrated itself into the region and the world, and now plays a dynamic role on an equal footing and with equal rights in various regional and international organizations.

⁴ http://cambodia.ohchr.org/klc_pages/klc_section14.htm, accessed on 15 August 2011

Good governance through state reform, especially the civil services reform, legal and judicial reforms and armed forces reforms, has been strengthened to ensure that all government activities are increasingly more transparent, accountable, effective, and efficient. Meanwhile, the private sector has emerged as the true engine of economic growth and has made an impressive contribution to the socioeconomic development. The key achievement of the 3rd Legislature has been the creation of job opportunities for youth. This has been realized through the development of the industrial sector and the building of a rural economic base.

The RGC has acknowledged the importance of partnership with all stakeholders, especially official development partners, the private sector and civil society as the achievement of its 3rd legislature. As a result, several effective mechanisms have been established. On 10 September 2004, Samdech Hun Sen, Prime Minister of Cambodia, in his speech at the Pre-Consultative Group meeting (CG Meeting) announced the restructuring of these mechanisms, outlining the basic principles for the new establishment called Joint Technical Working Groups (TWGs). At present, there are 19 TWGs covering all the priority sectors of RGC.

The 4th Legislature has realized that the judiciary has not yet gained the full confidence of the public. Agricultural development has not yet reached its potential. About 30 percent of the country's GDP comes from agriculture that employs around 60 percent of the population. The gap between the rich and the poor, especially urban-rural inequality remains a challenge. Land concentration and growing number of landless people is an emerging concern. Large areas that come under economic land concessions have not been used as efficiently as targeted. Thus, strict government measures are required to tackle them. Illegal claims of state land and protected areas as being privately owned are still taking place, as is the trend of unlawful logging. At the same time, poverty and internal migration have increased the pressure on natural resources, placing them at the risk of destruction. Cambodia still lacks legal recourse, as many laws are still in draft form while others have not yet been drafted. Therefore, policies, strategic guidelines, and laws are continuously being developed. At the national level, a total of 11 policies, related directly or indirectly to the water and related sectors, have been developed till now (Table 1).

Table 1 **Institutions responsible for various sectors and national policies**

National Policies	Institution responsible and supporting agencies
National Policy for Agriculture and Water	MAFF and MOWRAM – AFD and AusAid
Decentralization and De-concentration (D&D)	MOI – DFID
Fisheries Policy	Fisheries Administration [MAFF] – DFID
Food Security and Nutrition Policy	CARD, MOP – WFP and FAO
Forestry Policy	FA [MAFF] – DANIDA
Gender Policy	MoWA – UNDP, JICA
Land Policy	MLMUPC – GTZ
Planning and Poverty Reduction Policy	MoP – UN Systems and WB
Private Sector Development Policy	MOC, MOEF, MIME – WB, ADB
Rural Water Supply, Sanitation and Hygiene	MRD – UNCEF
Public Financial Management Policy	MOEF – WB

3.2 HIGHLIGHTS OF LEGISLATIVE DEVELOPMENT RELATED TO HYDROPOWER AND ITS IMPACTS

Cambodia has substantial hydropower potential. In 1995, its hydropower potential was estimated at about 10,000 MW (excluding small streams), which could play a significant role in the country's long-term energy development. At present, only four hydropower plants are in operation: O Chum, (1,000 kW), Kirirom I (12 MW), Kirirom III (18MW), and Kamchay (193MW). In the Northern provinces, there are some privately owned micro-hydropower plants with installed capacity ranging from 1 kW to 50 kW, but these units are imported from Vietnam or China.

Potential projects	MW
Battambang I	24
Battambang II	36
Battambang III	13
Kamchay	180
Middle St.RC	125
St. Atay	110
Lower Sesan 2	207
Lower Srepok 2	222
St. Chay Areng	260
Kirirom III	13

There are some indications of oil, gas, and coal deposits in the country. Cambodia also has an urgent need to assess the extent of these energy resources. Meanwhile, other renewable energy sources such as biomass, solar power, and mini-hydro are available and are being used at a small scale. The main challenge is to diversify the sources of energy supply, intensify exploration of natural gas, and develop renewable energy resources.

Table 2 Hydroelectric projects installed and identified

Hydropower Project Type	Number of Projects	Total Installed Capacity (MW)	Annual Generating Potential (GWh/year)	Potential Annual Greenhouse Gas Abatement (ton CO2 equiv)
Installed Projects				
Large (5 MW to 465 MW)	1	12.00	53.00	36,941.00
Mini-hydro (500 kW to 5 MW)	1	1.00	2.50	2,250.00
Micro-hydro (10 kW to 500 kW)	1	0.04	0.14	126.00
Identified Projects				
Large (5 MW to 465 MW)	20	1,788.30	8,839.97	6,161,462.00
Mini-hydro (500 kW to 5 MW)	9	23.05	108.50	97,650.00
Micro-hydro (10 kW to 500 kW)	10	0.68	1.78	1,605.60
Total	42	1,825.07	9,005.90	6,300,035.00

Source: <http://www.recambodia.org/nationaldata.htm#Key Indicators>

Importance of hydropower in the policy agenda of Cambodia

The Master Plan on Rural Electrification by Renewable Energy in Cambodia, 2006, has set a goal that by 2020, all villages will have access to some form of electricity. The main components of the Rural Electrification Strategy are: 1) Grid expansion, 2) Diesel stand-alone and mini-utility systems, 3) Cross-border power supply from neighboring countries, and 4) Renewable energy. By 2030, 70 percent of the rural households will

have access to grid-quality electricity. Current access to electricity in rural areas is still limited and at higher tariffs as compared to neighboring countries.

The Cambodian government has acknowledged that private sector is the true engine of economic growth. However, lack of adequate electricity and its high tariffs keep companies from building a competitive advantage over those in neighboring countries. The situation has a negative impact on investments, which in turn makes it difficult to improve livelihoods. Thus, developing hydropower is a strategy of the government to support national economic growth for 2009-2013 and to attract foreign investment.

Table 3 The four development phases of Cambodia

<ul style="list-style-type: none">▪ Rehabilitation phase, 1993-1998: Foreign Direct Investment (FDI) and Official Development Assistance (ODA) for economic rehabilitation. During 1993-1998, Cambodia was both at peace, and at war. The Win-Win Policy was introduced for peace building in Cambodia.▪ The reconstruction phase, 1999-2003: The Triangular Strategy focused on: (i) restoration of peace and security; (ii) integration of Cambodia into the region and the world; and (iii) promotion of socio-economic development. SEDP-I and SEDP-II were developed and implemented.▪ The economic take-off phase, 2004-2008: Efforts were on for rehabilitating and building the rural irrigation systems and the provincial and rural roads network. Introduction of Rectangular Strategy and NSDP Phase I.▪ Macro-economic management phase, 2009-2013: Growth, Employment, Equity and Efficiency as explained in the Rectangular Strategy.

Source: National Strategic Development Plan, 2009-2013

Impacts of water-related legislations on rural livelihoods and water sector

Hydropower is a newly emerging sector in Cambodia, particularly the medium and large-scale hydropower plants. This has created an uncertainty for rural livelihoods. Some determinant factors are:

Resettlement and compensation: In case of Lower Sesan 2 (LS2), the draft law on resettlement and compensation was released only in January 2013. However, there are no clear criteria to define the “affected people”. For example, downstream people are not authorized to receive direct compensation. They will probably receive an indirect compensation from the project in the post-hydropower construction phase, by being beneficiaries of the development project.

Knowledge gap, political interests and technical expertise: In Cambodia, there are many unofficial debates over hydropower projects among government officials, civil society officers (NGO officers) and academic communities. The important aspect is the difference in understanding of both the positive and negative aspects of hydropower. It is mainly due to the diverse interests of the stakeholders concerned that range from local interest and national interest to environmental interest and economic interest. Since there is no independent forum to discuss hydropower issues in Cambodia, many people are still doubtful about the positive and negative impacts of hydropower development.

3.3 SUMMARY OF RELEVANT LAWS, REGULATIONS, POLICIES AND PLANS RELATED TO WATER GOVERNANCE

Since the late 1990s, the Royal Government of Cambodia has introduced reforms aimed at supporting the sustainable and equitable management of water resources. These reforms, in policies, infrastructure, and outlook, have been important milestones in the process of improving water governance in Cambodia. The related laws and policies are as follows:

- **Regional framework:**

In 1995, the governments of Cambodia, Lao PDR, Thailand and Vietnam signed the Agreement on Sustainable Development in the Mekong River Basin for cooperation and promotion of sustainable development, for utilization, conservation and management of the Mekong River Basin water. The agreement led to the establishment of the Mekong River Commission (MRC), which provides the framework for regional cooperation on this development initiative.

- **Country-specific frameworks:**

The Law on Environment Protection and Natural Resources Management (1996) is the main legal instrument for governing environmental projects and natural resource management in Cambodia. The Law includes the requirement to undertake Environmental Impact Assessment (EIA) of every project and activity. Private or public investment companies need to submit EIA report for review to the Ministry of Environment (MOE). MOE has also prepared additional guidelines for the preparation of EIA documentation. However, the panel of experts for conducting the reviews is not clear – there are no specifications about the qualifications of the reviewers, and whether the experts from civil society organizations can join the review committee or the review panel. Likewise, there is no clarity about the responsibility of the EIA Department staff in conducting the EIA and/or evaluating of the quality of EIA produced by the EIA department.

The National Water Resources Policy (NWRP) was developed and approved by the Council of Ministers in January 2004. NWRP is one of the key frameworks for water resource management and use in Cambodia for all sectors. The Law on Water Resource Management (2007) supports implementation of the NWRP and the NSDP. It 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.

Since 2000, MOWRAM has implemented Participatory Irrigation Management and Development in 11 provinces around the Tonle Sap Lake and the Mekong River. The National Strategic Development Plan for 2006–2010 and 2009–2013 aims to rehabilitate and reconstruct the irrigation and drainage systems, especially along the border areas and in areas with high levels of poverty. It also aims to promote investment by the private sector in irrigation, drainage and other aspects of agricultural water management.

Table 4 Key global and regional policy instruments relevant to water, hydropower development and livelihoods in Cambodia

Policy Instruments/Sectors	Title of legal documents	Laws	By-law	Policy	Strategy	Guidelines
1	The Rio Declaration on Environment and Development (1992), UN 1992			✓(a)		
2	Kyoto Protocol, UNFCCC 1998			✓		
3	GMS Regional Indicative Master Plan on Power Interconnection 2004-2020, GMS 2004				✓	
4	Master Plan for Socio–Economic Development in Cambodia-Laos-Vietnam Development Triangle Area up to 2020, 2010				✓	
5	IWRM-based Basin Development Strategy for the Lower Mekong Basin, MRC 2011			✓		
6	Association of the South East Asian Nations (09 June 2004): ASEAN Plan of Action for Energy Cooperation (APAEC) 2004 – 2009			✓		
7	Procedures for Water Quality, MRC					✓
8	Environment Policy, ADB 2002			✓		
9	Regional Power Trade Agreement GMS, 2002				✓	
10	ASEAN Power Grid, 1997			✓		
11	1995 Mekong Agreement, MRC 1995			✓		
12	Procedures for Notification, Prior Consultation and Agreement, MRC 2003			✓		

Table 5 Key national policy instruments relevant to water, hydropower development and livelihood in Cambodia

No.		Laws	By-law	Policy	Strategy	Guidelines
1	Constitutional law of the Kingdom of Cambodia, 1993	✓				
2	National Programme to Rehabilitate and Develop Cambodia (NPRD), 1994			✓		
3	Rectangular Strategy for Growth, Employment, Equity and Efficiency, Phase II, 2008			✓		
4	National Strategic Development Plan (NSDP) Update 2009-2013			✓		
5	The National Program for Sub-National Democratic Development 2010-2019				✓	
6	Cambodia's Millennium Development Goals, 2010					✓

Table 6 Key sectoral policy instruments relevant to water, hydropower development and livelihood in Cambodia

Policy Instruments/ Sectors		Laws	Royal-decree/ Sub-decree	By-law	Policy	Strategy	Guidelines
Agriculture and Irrigation	Land law, 2001	✓					
	Sub-decree on contract farming		✓				
	Declaration of the Royal Government on Land Policy, RGC 2009				✓		
	Declaration of the Royal Government on Land Policy, 2009				✓		
	Policy Document on Promotion of Paddy Rice Production and Export of Milled Rice, RGC 2010					✓	
	Gender Mainstreaming Policy and Strategy in Agriculture, 2006						✓
	Strategy for Agriculture and Water (SAW) 2010-2013				✓		
	Master Plan for National Agricultural Research 2006-2015, MAFF					✓	
	Program Design Document for Strategy for Agriculture and Water 2010-2013, MAFF & MOWRAM, April 2010					✓	
Fisheries and Livelihoods	Law on Fishery, RGC 2007	✓					
	Law on Bio-safety, RGC 2008	✓					
	Natural Protected Area Law, RGC 2008	✓					
	Royal Decree on the Establishment of Community Fisheries 2005		✓				
	Sub-decree on Endangered Fishery Product, 2006		✓				
	Sub-decree on the Legal Procedures on Investments, Public Bidding, Contractual Leasing, and Payment of Fishing Fees, 1995		✓				
	Statement of the Royal Government of Cambodia on the National Fisheries Sector Policy, RGC 2005				✓		
	First Three-Year-Rolling on Fishery Sector Development Action Plan, 2009-2011					✓	
						✓	

Policy Instruments/ Sectors		Laws	Royal-decree/ Sub-decree	By-law	Policy	Strategy	Guidelines
Energy and Hydropower Development	Electricity Law of Kingdom of Cambodia, RGC 2001	✓					
	Sub-decree on EIA Process, RGC 1999		✓				
	Renewable Energy Action Plan, MIME 2003					✓	
	Power System Development Plan, 2007				✓		
	The Declaration on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, MoE 2009						✓
Public and Private investment	Law on Investment, RGC 2001	✓					
	Law on Mineral Resources Management and Exploitation, 2001	✓					
	Sub-Decree on the Mortgage and Transfer of the Rights over a Long-Term Lease or an Economic Land Concession, 2007		✓				
Water-resource Management	Law on Water Resources Management, RGC 2007	✓					
	Law on Environmental Protection and Natural Resources Management, 1996	✓					
	Draft Law on Water Supply and Sanitation of Kingdom of Cambodia	✓					
	Draft of Sub-Decree on Establishment of Farmer Water User Community (FWUC), MOWRAM (28 Oct 2009)		✓				
	Sub-decree on Water Pollution Control, 2009		✓				
	National Water Resources Policy, 2004				✓		
	National Policy for Rural Water Supply & Sanitation Sector, 2001				✓		
	National Adaptation Programme of Action to Climate Change (NAPA), MoE 2006					✓	
	Drinking Water Standard, 2004						✓

Policy Instruments/ Sectors		Laws	Royal-decree/ Sub-decree	By-law	Policy	Strategy	Guidelines
Vulnerable Communities and Ethnic Minorities	Sub-Decree on Community Forestry Management, RGC 2003		✓				
	Draft Sub-Decree on the Procedures of Registration of Land of Indigenous Communities, RGC 2008		✓				
	National Policy on Development of Indigenous People, MRD 2009				✓		
Resettlement and Compensation	Expropriate Law, RGC 2010	✓					
	Resettlement Policy Gaps, ADB				✓		
	Cambodia: Resettlement Policy Framework (RPF), November 2010				✓		
	Draft law on Lower Sesan 2 compensation, January 2013	✓					
Cross-sectoral issues	Five Year Strategy Plan 2009-2013 Neary Ratanak III, MWA 2009				✓		
	RGC's Action Plan on Harmonization, Alignment and Results: 2006-2010				✓		
	Guidelines on the Role and Functioning of the Technical Working Groups, 2010						✓
	Review Government-Donor Coordination Committee (GDCC) and Technical Working Groups (TWGs) in Cambodia, 2006						✓

4.0 INSTITUTIONS AND ACTORS

Water governance in the Mekong is not the responsibility of the State alone, nor is it confined to the political administrative boundary. National governments and agencies, banks and financiers, politicians, rent-seeking businessmen, technical consultants, infrastructure operators, consumers, organized civil groups, academics and international NGOs all demonstrate a strong interest in the Mekong water politics. Within the current context of potential hydropower development in the LMB, these actors interact dynamically in various roles, either facilitating or impeding dam construction, the evaluation of its impacts and dissemination of information. At the regional level, the Mekong River Commission (MRC) facilitates cooperation among riparian countries and their water-based and water-related projects. Such projects are development-based large-scale projects in irrigation and hydropower and are initiated by the national line ministries. But often the more powerful among the riparian states can undermine the suggestions from MRC as most of them are not legally-binding suggestions (Dore and Lazarus 2009).

In Cambodia, various actors are involved in water projects at various levels. The United Nations (e.g. UNHCR, UNDP, and FAO) and other international organizations are involved in various projects, which are mostly related to conservation and protection of water resources. It is important to understand that the UN and International Conventions (e.g. Save the Mekong, International River) aim to protect natural resources in the public interest. Therefore, they have formulated mechanisms to regulate signatory countries' policies and implementation processes to achieve the common interests.

At the field level, these international organizations have worked in collaboration with local organizations (NGOs, Government Projects, CBOs and others) predominantly focusing on livelihoods and conservation-related projects.

4.1 MULTI-LATERAL AGENCIES

Mekong River Commission

The Mekong River Commission (MRC) was established in 1995 (MRC 2006). The basis of MRC cooperation fundamentally lies in the 1995 Agreement (Sokhem 2006), which sets out the common interest in jointly managing the shared water resources and developing the economic potential of the river. The MRC supports a joint basin-wide planning process called the Basin Development Plan, with the four LMB countries. At the national level, the project is coordinated by the National Mekong Committees, while the MRC develops tools in support of planning and management processes. At the larger basin level, the MRC is one of the main stakeholders applying basin-wide integrated water resource management (IWRM) in the Mekong River basin (Kummu et. al. 2006) while at national level, particularly in Cambodia, MOWRAM is the chair of IWRM.

Asian Development Bank

Another key stakeholder in the region is Asian Development Bank (ADB), a multilateral development financial institution owned by 66 members; 47 from Asia and 19 from other parts of the world (ADB 2006). In 1992, it launched the Greater Mekong Sub-

region Core Environment Programme (CEP) in order to enhance economic relations among all the six Mekong countries. The program has contributed to the development of infrastructure to enable the development and sharing of the regional resource base and promote the free flow of goods and people in the sub-region. ADB acts as a financier, providing technical and advisory support as well as loans (ADB 2006). The ADB has provided funds for Special Rehabilitation Assistance Projects that include irrigation. For instance, it financed the Stung Chinit Water Resources Development Project, a large-scale irrigation scheme in Kampong Thom.

United Nations and World Bank

The United Nations (UN) acts through its six bodies as well as specialized agencies and programs. In the past, the UN has impacted the Mekong region, first by supporting the creation of the Mekong Committee in 1957 and then by facilitating the Cambodian peace process and assisting in the establishment of a coalition government in the early 1990s. Its latest action is to facilitate the arrangement of the Khmer Rouge tribunal. Conversely, the World Bank concentrates on global poverty reduction. It provides financial and technical assistance to developing countries in the form of low-interest loans, interest-free credit and grants. Sokhem (2006) reported that the World Bank has large projects in the Mekong Region related to the activities of ADB and the MRC. Since 1992, the World Bank has provided Cambodia with technical expertise, loans and grants in excess of USD 659.2 million and about USD 99.7 million in trust funds to support efforts to reduce poverty and promote economic growth (UN 2006). The World Bank is extending a technical assistance grant of USD 2 million to increase the capacity of MOWRAM staff.

Table 7 Cambodia: Cumulated ADB lending as of 31st December 2010.

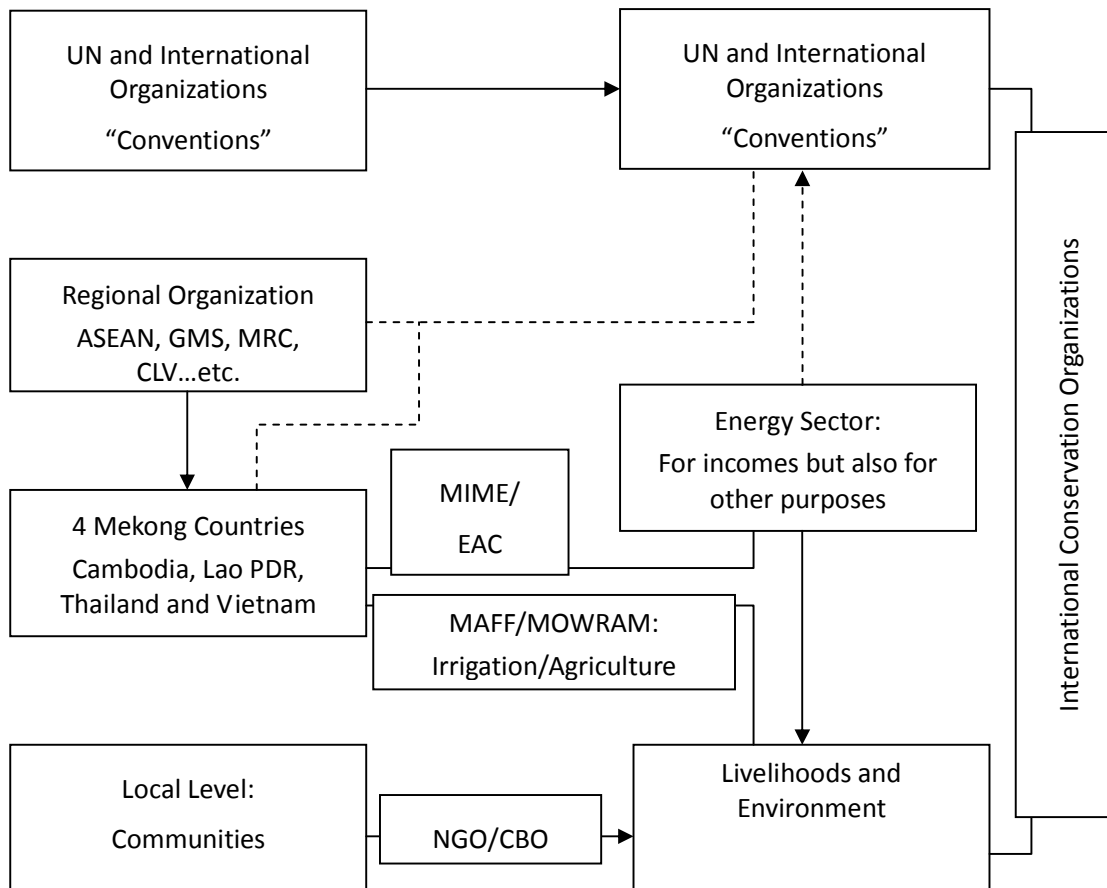
Sector	Loans (no.)	Amount (\$ million)	%^a
Agriculture and Natural Resources	11	192.81	16.51
Education	6	123.00	10.53
Energy	6	120.77	10.34
Finance	8	90.30	7.73
Health and Social Protection	2	40.00	3.43
Industry and Trade	2	35.60	3.05
Public Sector Management	4	50.00	4.28
Transport and ICT	10	321.26	27.51
Water Supply and Other Municipal Infrastructure and Services	4	46.26	3.96
Multisector	3	147.80	12.66
Total	56	1,167.80	100.00

ICT = information and communication technology.

^a Total may not add up because of rounding.

Source: ADB (December 2010): Asian Development Bank and Cambodia: Fact Sheet, Cumulative ADB Lending as of 31 December 2010

Figure 2 Outline of the key actors involved in water sector decision-making in Cambodia



Source: Seang Phylom, Chay Keartha & Suon Seng, (2011).

4.2 BILATERAL DONORS

Many bilateral donors have substantially assisted in development of the irrigation sector in Cambodia. The key bilateral partners in the water sector in Cambodia are OFID, AusAID, NDF, JICA, FAO and GIZ:

- Co-financing is being provided⁵ by (i) the OPEC Fund for International Development (OFID), through a USD 12.00 million loan for an investment project; (ii) the Government of Australia, through the provision of AUS 5 million (USD 4.55 million equivalent) for the capacity development TA on a grant basis via the Australian Agency for International Development (AusAID); and (iii) the Nordic Development Fund (NDF), through €3.0 million (USD 3.75 million equivalent) for the capacity development TA on a grant basis. The program loan

⁵ Cambodia: Water Resource Sector Development Program, ADB, Sept. 2011

agreement and the project financing agreement were declared effective on 3 June 2011.

- Japan's International Cooperation Agency (JICA) provides USD 10 million for floodplain area development and rehabilitation. The Food and Agriculture Organization (FAO) funded a pilot project on water control technologies. The European Union, as part of the Programme de Rehabilitation au Secteur Agricole du Cambodge (PRASAC I and PRASAC II), is developing local capacities and building Farmers' Associations in the provinces close to Phnom Penh. GIZ has been providing support for investigation and studies into small- and medium-scale irrigation schemes in Kampot and Kampong Thom provinces.
- Similarly, the Netherlands is funding the rehabilitation of canals and minor structures under the Bavel (Battambang) and Barai (Siem Reap) schemes.

4.3 PRIVATE SECTOR DEVELOPERS

Many private companies have invested in the hydropower and irrigation projects in Cambodia. They include Chinese, Korean, Vietnamese, Indian, Kuwaiti, Thai, Malaysian and Russian companies.

Table 8 Large-scale hydropower generation projects

No	Project Developer	Project	Province	Installed Capacity (MW)	Status	Capital Cost (USD) million	Price per Unit (USCent/kWh)
1	Sinohydro Corporation (China)	Kamchay	Kampot	193.2	U/C 2006-2010	280	8
2	China Electric Power Technology Import Export Corporation	Kirirom III	Kampong Speu	18	A/C 2008-2010	47	N/A
3	China Datang Corporation Cambodia Hydropower Development Cambodia Power Grid Company	Stung Atay	Pursat	120	U/C 2008-2012	199 (+133M for T/L see Table 2)	N/A
4	China National Heavy Machinery Corporation	Stung Tatay	Koh Kong	246	A/C 2008-2013	540	7.45
5	(China) Michelle Corporation	Lower Ruessey Chrum	Koh Kong	174 164	A/C 2008-2014	495.7	7.35
6	Vietnam Urban and Industrial Zone Development Investment Corporation	Bokor	Kampot	18	A/C March 08	25	N/A
7	China Southern Power Grid Company	Sambor	Kratie	2600	FS	N/A	N/A
8	Russian company	Stung	Stung	980	FS	N/A	N/A

No	Project Developer	Project	Province	Installed Capacity (MW)	Status	Capital Cost (USD) million	Price per Unit (USCent/kWh)
		Treng	Treng				
9	China Southern Power Grid Company	Chhay Areng	Koh Kong	260	FS	200	N/A
10	Electricity of Vietnam Cooperation	Lower Sesan 2	Stung Treng	420	Drilling started Jan 09 Constr. date 2009 /early 2010	662.62	N/A
11	Korean company	Lower Sesan 3	Rattanakiri	375	PFS	N/A	N/A
12	Electricity of Vietnam Corporation	Lower Sesan 1	Rattanakiri	90	FS	90	N/A
13	Korean company	Prek Liang 1	Rattanakiri	64	LP/FS	N/A	N/A
14	Korean company	Prek Liang 2	Rattanakiri	64	LP/FS	N/A	N/A
15	Guangxi Guiguan Electric Power Company (China)	Srepok 3	Rattanakiri	300	FS	N/A	N/A
16	Guangxi Guiguan Electric Power Company (China)	Srepok 4	Mondulkiri	100	FS	N/A	N/A

No	Project Developer	Project	Province	Installed Capacity (MW)	Status	Capital Cost (USD) million	Price per Unit (USCent/kWh)
17	Chinese company	Stung Pursat 1	Pursat	100	FS	N/A	N/A
18	Chinese company	Stung Pursat 2	Pursat	17	FS	N/A	N/A
19	Korean company	Stung Battambang 1	Battambang	24	PFS	N/A	N/A
20	Korean company	Stung Battambang 1	Battambang	36	PFS	N/A	N/A

A/C = Approved for Construction; FS = Feasibility Study; LP = Letter of Permission;

MoU = Memorandum of Understanding; N/A = not available;

PFS = Pre-Feasibility Study; T/L = Transmission Line; U/C= Under Construction

Source: *NGO Forum (Oct.2009): Powering 21st Century Cambodia with Decentralized Generation.*

4.4 STATE ACTORS

Multiple state actors are involved in water resources development and management. The main roles, responsibilities and mandates of these state actors in different sectors related to water are presented in the table below.

Table 9 Institutional arrangements in Cambodia

Sector	Institution
Irrigation sector	<ul style="list-style-type: none"> ▪ The Department of Irrigation Agriculture in Directorate General of Technical Affairs, MOWRAM, is in charge of the irrigation sector in Cambodia. ▪ The Ministry of Agriculture, Forestry and Fisheries (MAFF); the Ministry of Rural Development (MRD); the Ministry of Environment; the Ministry of Economy and Finance (MEF); the Provincial and District Departments of Irrigation; the Commune Development Council and the Village Development Committee (VDC) are also related to irrigation. ▪ Establishment of FWUCs commenced in 1999 to manage, repair, and improve the existing irrigation systems and to promote and guide the development of new ones.
Fisheries sector	<ul style="list-style-type: none"> ▪ The Fishery Administration (FiA), established under MAFF, is responsible for the management of fisheries and fishery resources based on the National Fishery Policies and Laws. It 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 by working closely with civil society. ▪ The Inland Fisheries Research and Development Institute (IFReDI) is in charge of conducting fisheries' research and databases. ▪ The respective Provincial and District Fisheries Administrations operate under the FiA. ▪ Commune Development Council and the Village Development Committee (VDC) are also involved in fishery activities at the community level. They help in implementation of the Community Fisheries projects.
Hydropower and Energy sector	<ul style="list-style-type: none"> ▪ MIME is responsible for the 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, the Cambodia National Mekong Committee (CNMC), CDC and the Council of Ministers for sector integration. ▪ The Electricity Authority of Cambodia (EAC) is responsible for regulating and monitoring the electric power sector throughout the country. ▪ Electricité Du Cambodge (EDC) is responsible for generating, transmitting and distributing electric power throughout Cambodia.

Sector	Institution
Tourism and navigation sector	<ul style="list-style-type: none"> ▪ The Ministry of Tourism (MoT) is the lead ministry for the tourism sector. ▪ The Cambodia National Tourist Authority (CANTA), the Department of Tourism, and the Tourism Development Committee are also important policymaking and coordinating bodies. CANTA is currently being developed and will eventually include nine departments on various aspects of tourism. ▪ Department of Waterways of Ministry of Public Work and Transport is responsible for the navigation sector.
Water supply and sanitation sector	<ul style="list-style-type: none"> ▪ 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. MIME is accountable for urban water supply, while MRD heads rural water supply. ▪ 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 the MRD, the Ministry of Public Works and Transport, the MOWRAM, the Ministry of Health (MOH), the MOE, the Council of Ministers, CDC, MEF, MAFF and Phnom Penh Municipality. ▪ Phnom Penh Water Supply Authority (PPWSA) is responsible for the provision of a reliable, convenient, and potable water supply in the urban areas of Phnom Penh.

4.5 FUNCTIONAL ANALYSIS OF RELEVANT ACTORS

4.5.1 Government Agencies

As presented in Table 9, many actors are engaged in water governance from project appraisal to implementation, from local level to the national level. The key roles and mandates of the public agencies involved are as follows:

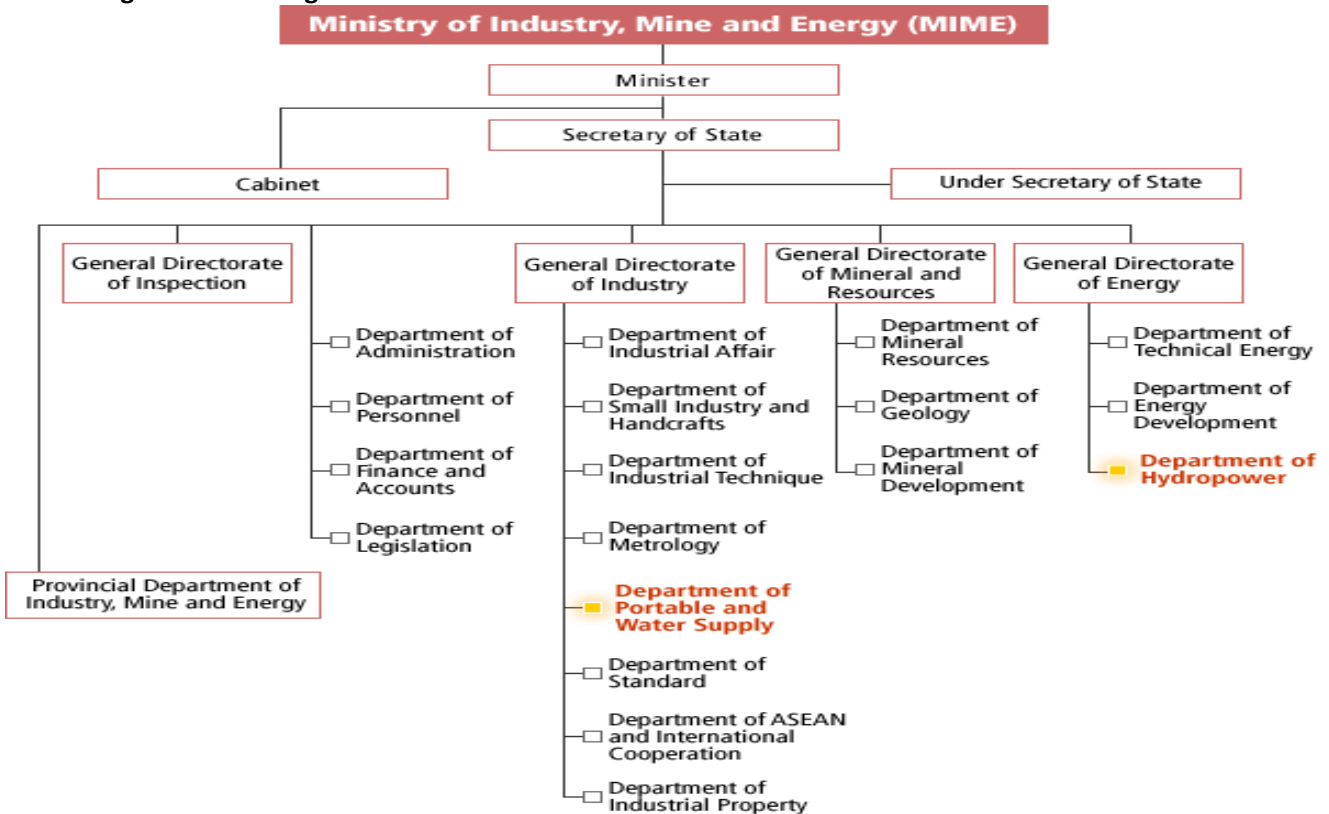
4.5.1.1 Ministry of Industry, Mines and Energy (MIME)

MIME plays important role in relation to hydropower generation and urban water supply. MIME is responsible for setting and administering government policy, strategies and planning on the power sector. It has the mandate to make decisions on energy development and investment; identify energy sources; imports and exports; and the promotion of electricity supply and usage. MIME is also responsible for urban water supply and for providing clean water to people.

The Department of Hydropower is also tasked with supporting socioeconomic development and protection of the environment. It studies, develops, and implements the government's hydropower policies and plans.

Likewise, the Department of Energy is the principle government agency working with other ministries for sustainable energy, with a focus on hydropower and renewable energy.

Figure 3 Organizational Structure of MIME

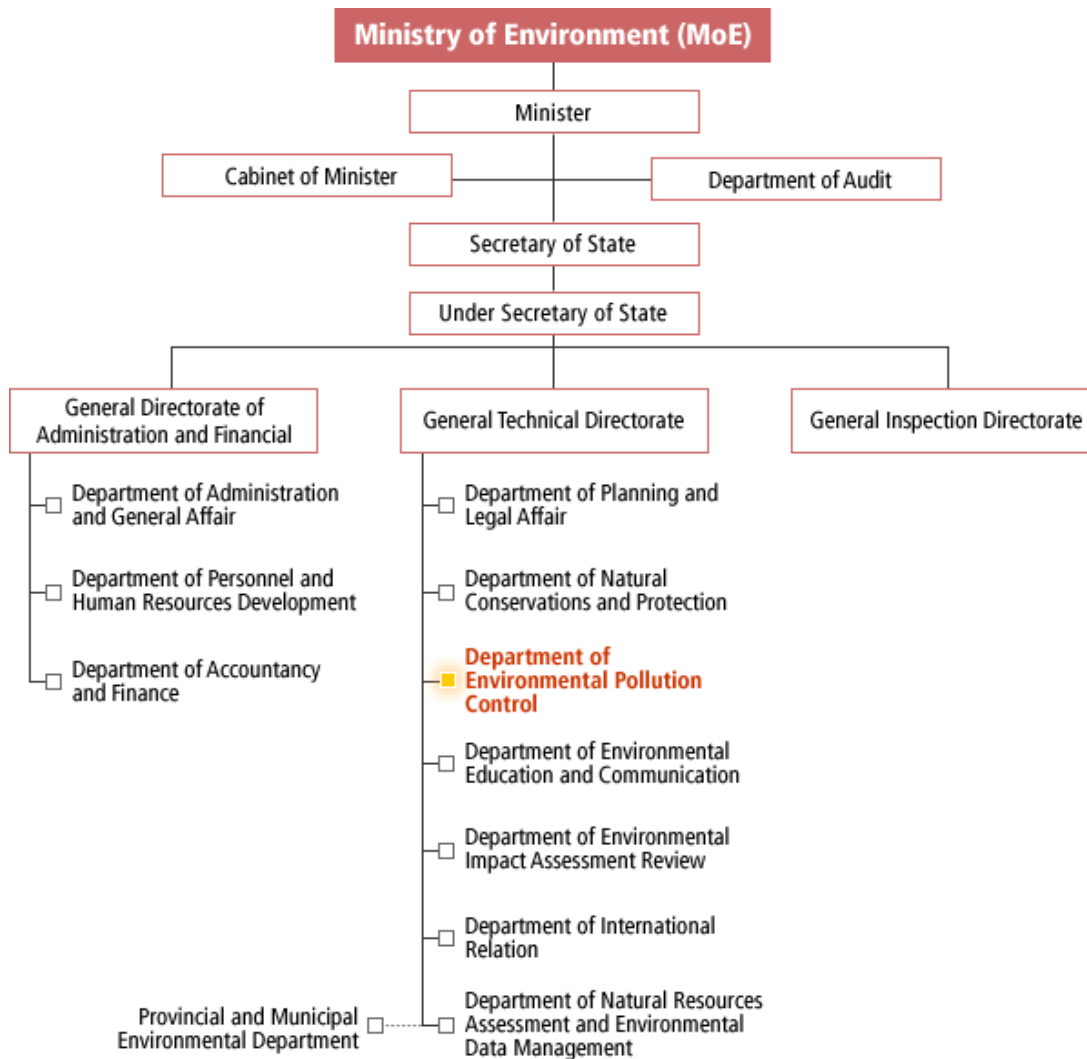


Sources: <http://www.wepa-db.net/policies/structure/chart/cambodia/mime.htm>: Page accessed on July 2011.

4.5.1.2 Ministry of Environment (MoE)

MoE is mandated to manage, lead, and supervise the environment sector in Cambodia. Its functions include developing and implementing environmental policies, providing guidelines for the protection of natural resources, creating new protection areas, promoting investment in the environment sector, collecting information about environment and preparing proposals for government and international organizations. The Department of Environmental Impact Assessment Review is responsible for reviewing EIAs for development projects, preparing and scoping EIAs, drafting requirements for conducting EIAs, preparing guidelines for EIA, promoting public participation in the EIA process, and monitoring the implementation of projects to mitigate the negative impacts on the environment.

Figure 4 Organizational structure of MoE



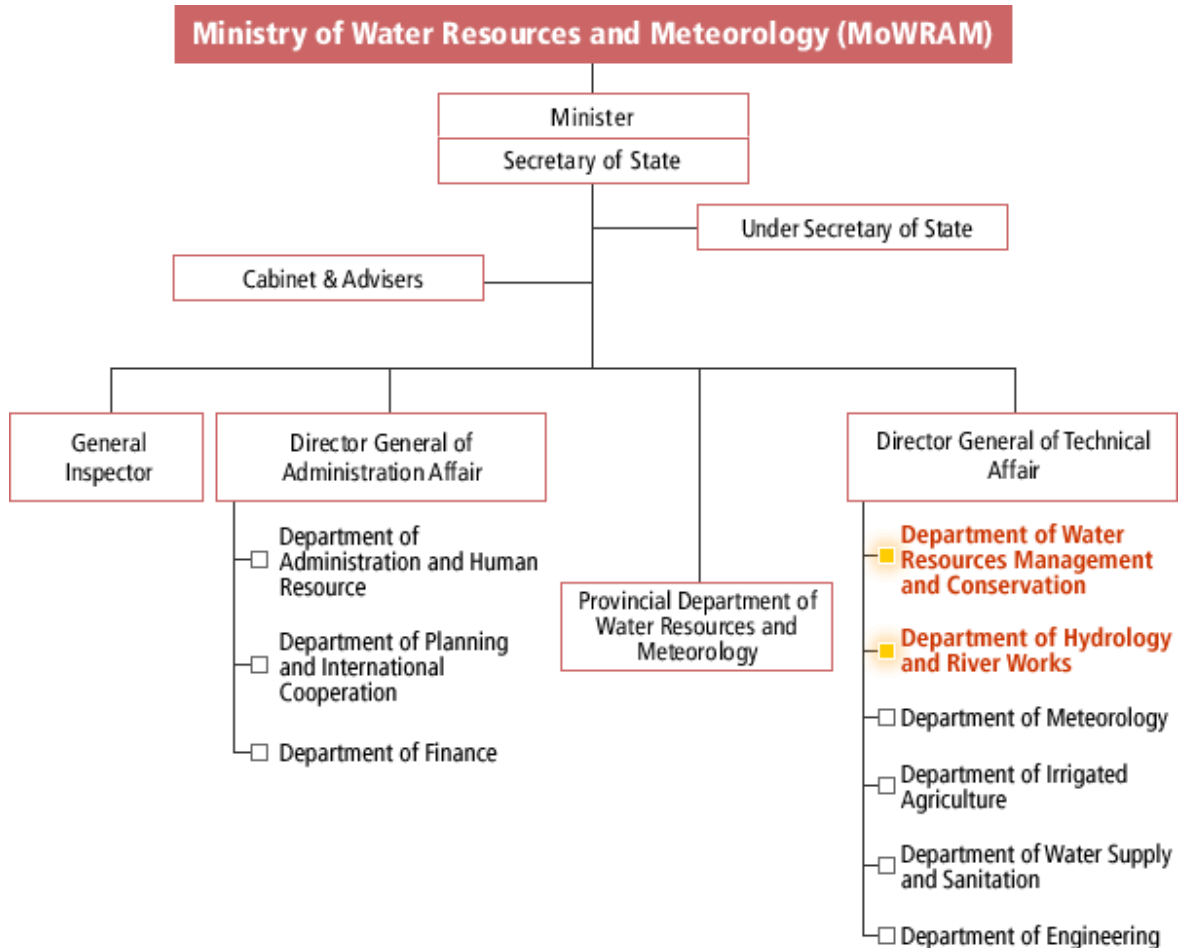
Source: <http://www.wepa-db.net/policies/structure/chart/cambodia/moe.htm>: Page accessed on Date, Sept. 2011.

4.5.1.3 Ministry of Water Resources and Meteorology (MOWRAM)

The MOWRAM is mandated to manage, lead, and supervise the implementation of current laws related to water resources. It conducts consultations with other ministries and, when necessary, participates in joint commissions for addressing and coordinating work and activities among those ministries, at the behest of the RGC. It may declare any basin, sub-basin, or aquifer a water law implementation area when, within that basin, sub-basin, groundwater, or aquifer, there is likely to be conflict among water users, problems of water pollution or watershed degradation. MOWRAM ensures that sustainable and pro-poor management of water resources, water management facilities,

water-related hazards and land resources are integrated, and carried out in the river basin context.

Figure 5 Organizational Structure of MOWRAM



Source <http://www.wepa-db.net/policies/structure/chart/cambodia/mowram.htm>: Page accessed in August 2011.

At the provincial level, the ministry has Deputy Governor, PDWRAM, Provincial Department of Agriculture, Forestry and Fisheries (PDAFF), Provincial Department of Environment (PDOE), Provincial Department of Land Management Urban Planning and Construction (PDLMUPC). The minister of MOWRAM remains the chairperson for any irrigation project. But for a hydropower project, MOWRM is only a starting point for decision-making.

4.5.1.4 Ministry of Agriculture, Forestry and Fishery (MAFF)

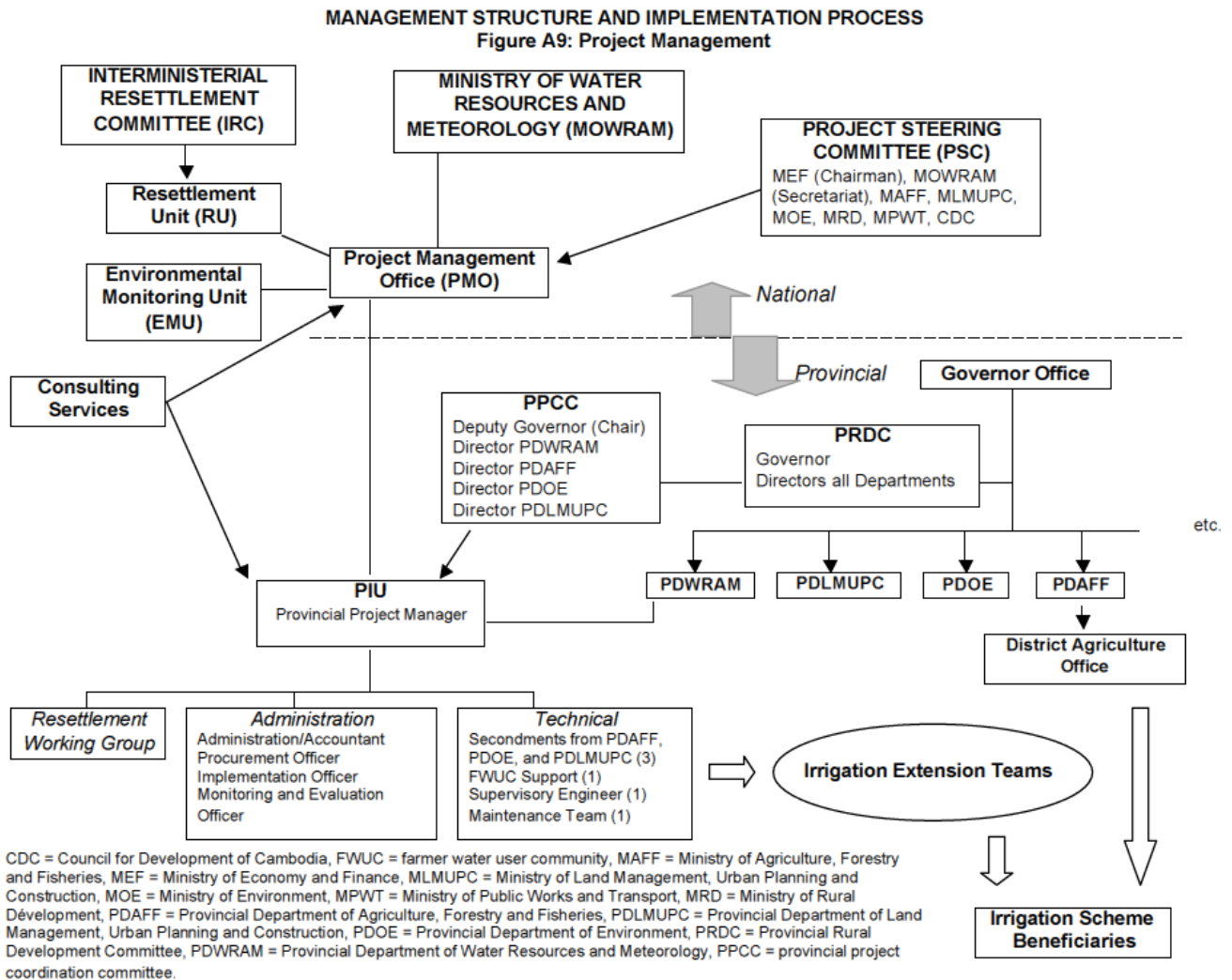
MAFF works on updating the agriculture sector strategy and overseeing support to implement the strategy through sector-wide programs. The Forestry Administration is

organized into a streamlined structure, divided into several hierarchical levels: central, regional inspectorates, cantonments, divisions and districts. The Fishery Administration prepares, regulates, plans and conducts research for the protection and promotion of aquaculture.

4.5.1.5 Ministry of Rural Development (MRD)

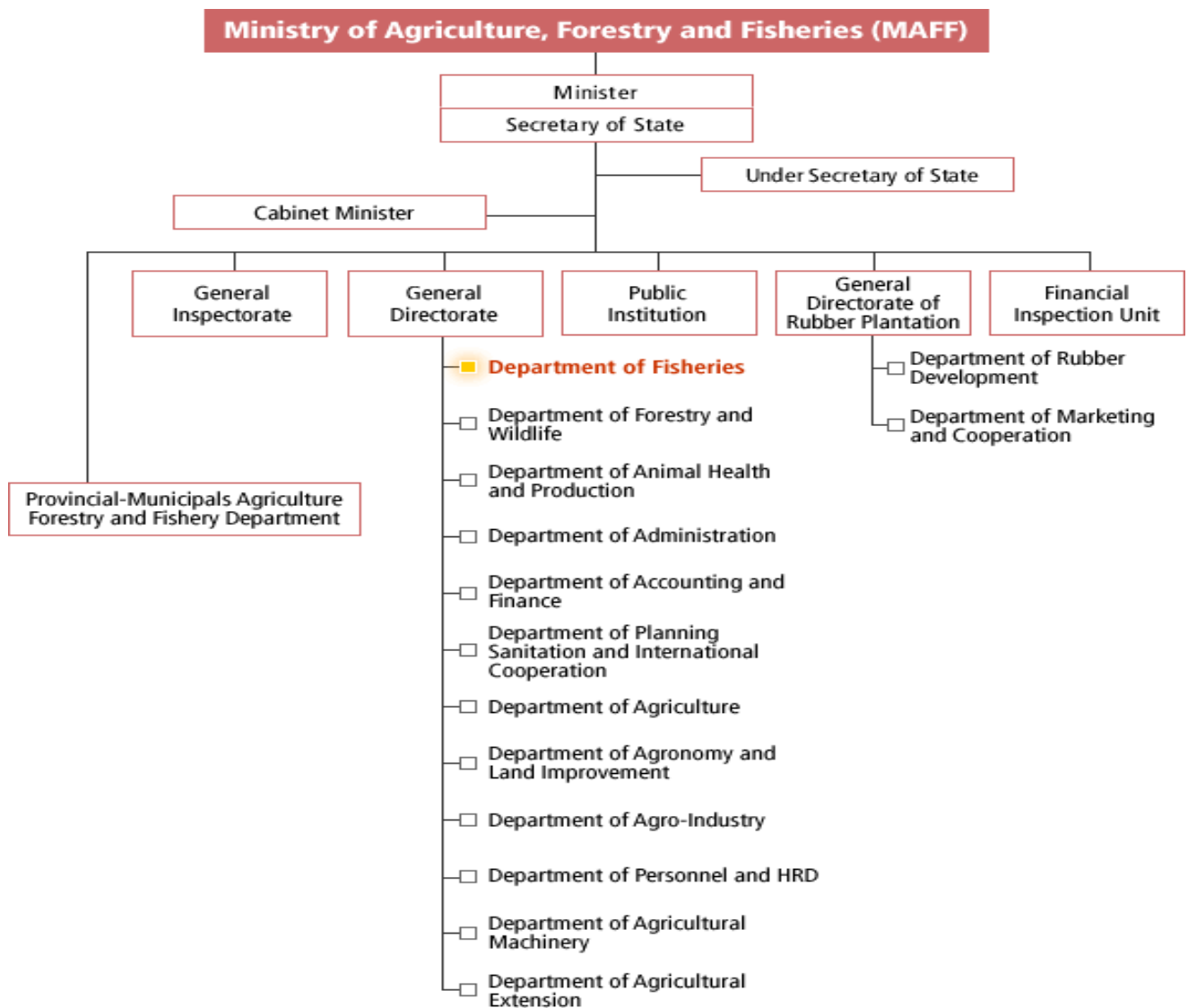
MRD demonstrates the Government's dedication to improving the living standards and alleviating the poverty of rural people by cooperating, implementing, monitoring and evaluating the rural development projects and programs. The ministry also coordinates the operational efforts of various line ministries and assistance programs. MRD actively conducts independent research initiatives to develop the rural areas of Cambodia by liaising widely to assess the perceived needs and investigate possible solutions that would maximize the identified opportunities.

Figure 6 An example of the management structure and implementation process of the irrigation project funded by ADB in Cambodia



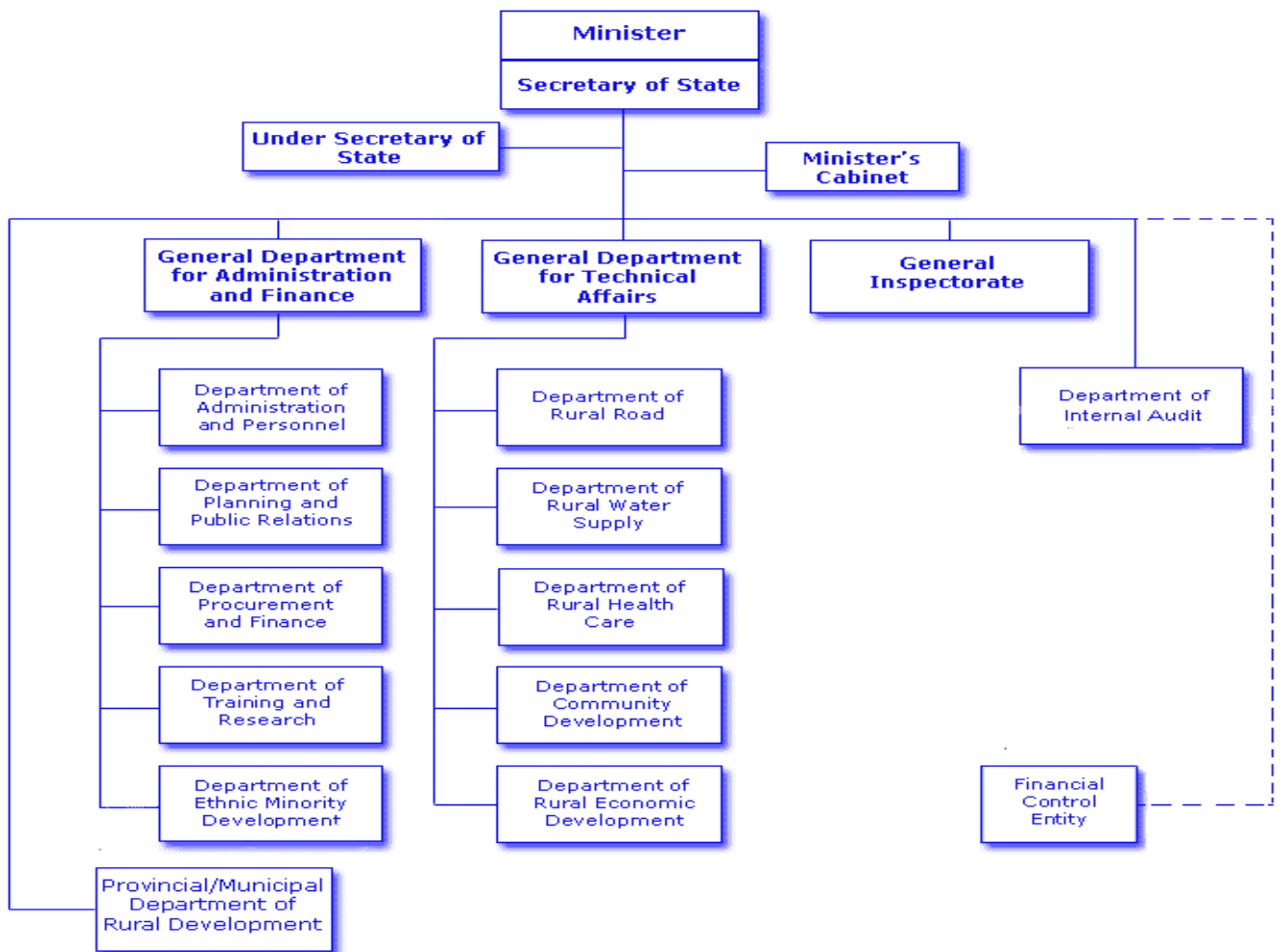
Source: ADB, 2003: Report and recommendations of the president to the board of directors on a proposed loan to the kingdom of Cambodia for the northwest irrigation sector project.

Figure 7 Organizational structure of MAFF



Source: <http://www.wepa-db.net/policies/structure/chart/cambodia/maff.htm>: Page accessed in June 2011.

Figure 8 Organizational structure of MRD



Source:

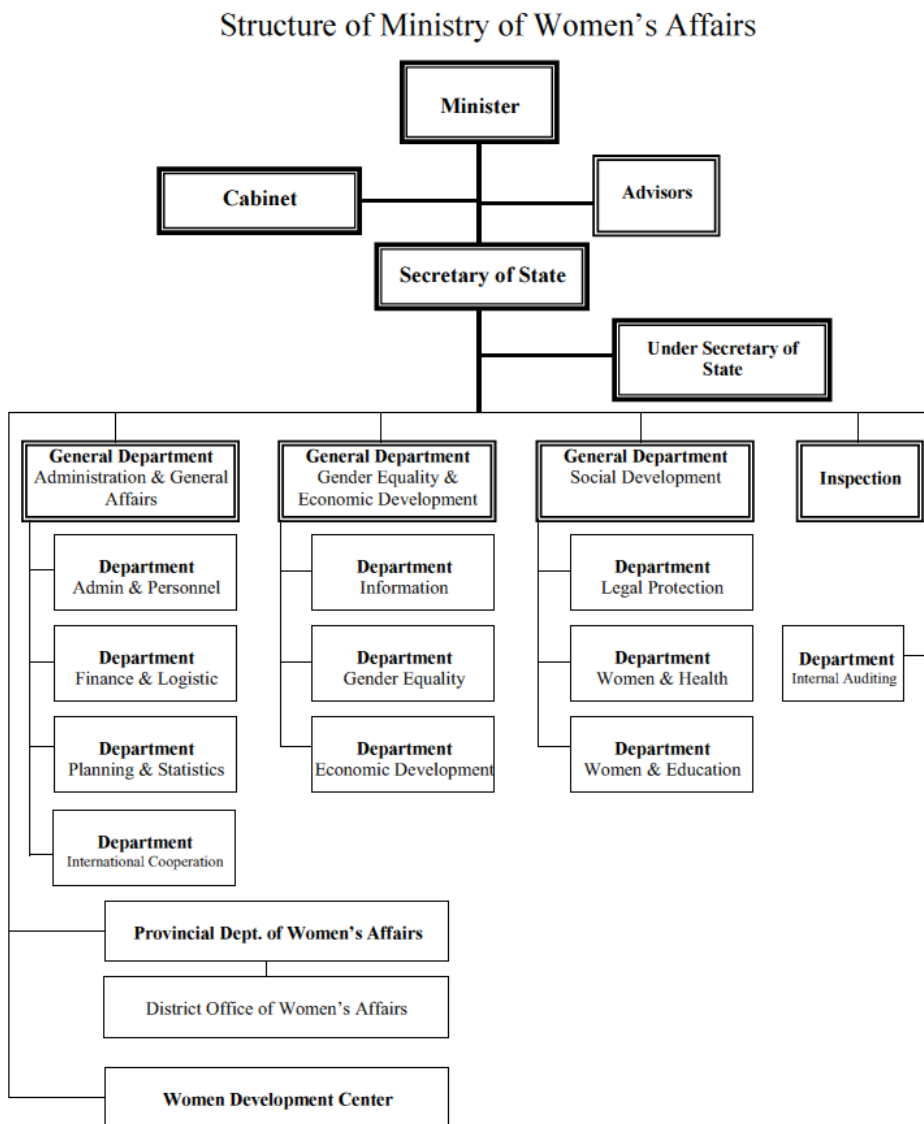
http://www.mrd.gov.kh/index.php?option=com_content&view=article&id=101&Itemid=74&lang=en

Page accessed in July 2011.

4.5.1.6 Ministry of Women Affairs (MWA)

MWA has the mandate to ensure that women and girls have equal access to services and control of resources with an equal opportunity to fully participate in national life and enjoy protection against all forms of discrimination and violations of their human rights. Gender-mainstreaming is the current program of MWA.

Figure 9 Organizational Structure of MWA

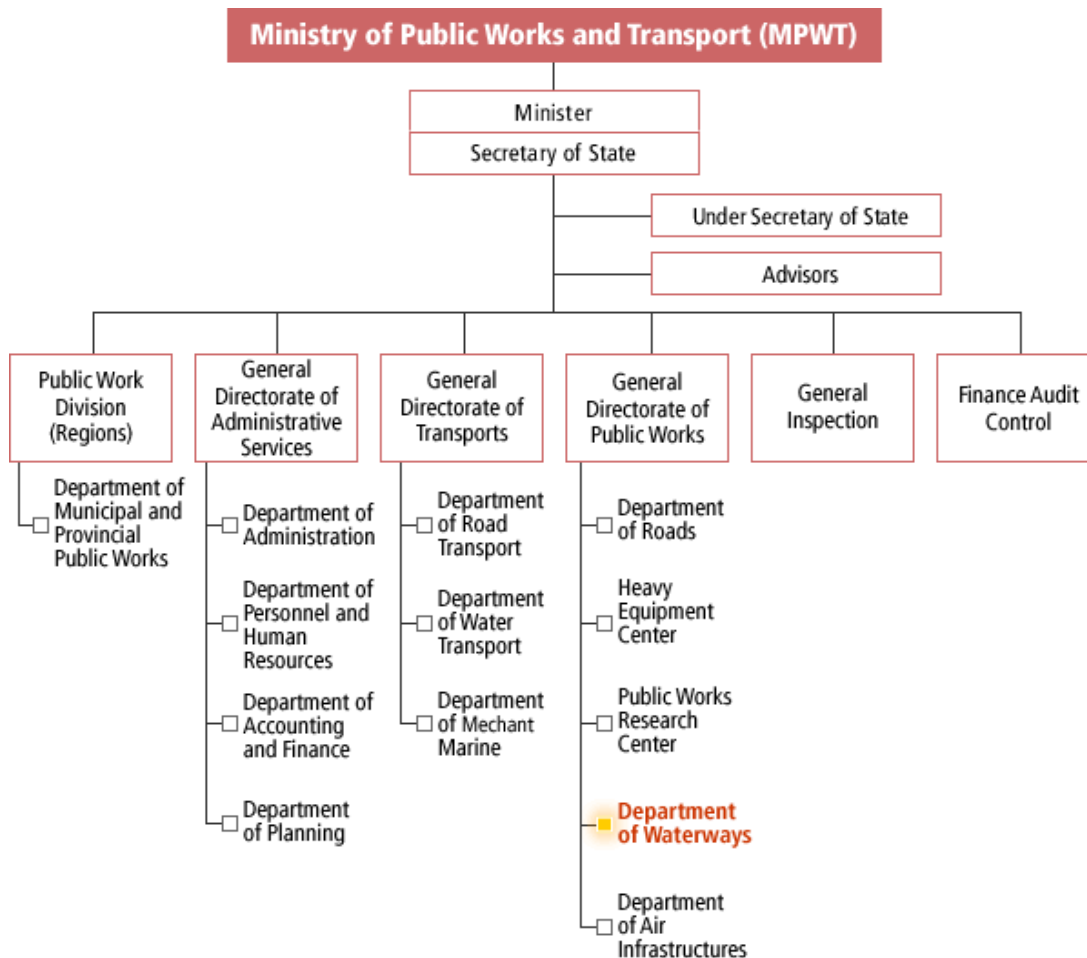


Source: <http://mwa.gov.kh/en/orgnizational-structure>: Page view in June 2011.

4.5.1.7 Ministry of Public Works and Transport (MPWT)

MPWT is decreed by the RGC to lead and manage the public works and transport sector in the Kingdom of Cambodia. MPWT is mandated to build infrastructure and develop regulations and controls to monitor it. The ministry also conducts performance analysis for infrastructure.

Figure 10 Organizational Structure of MPWT

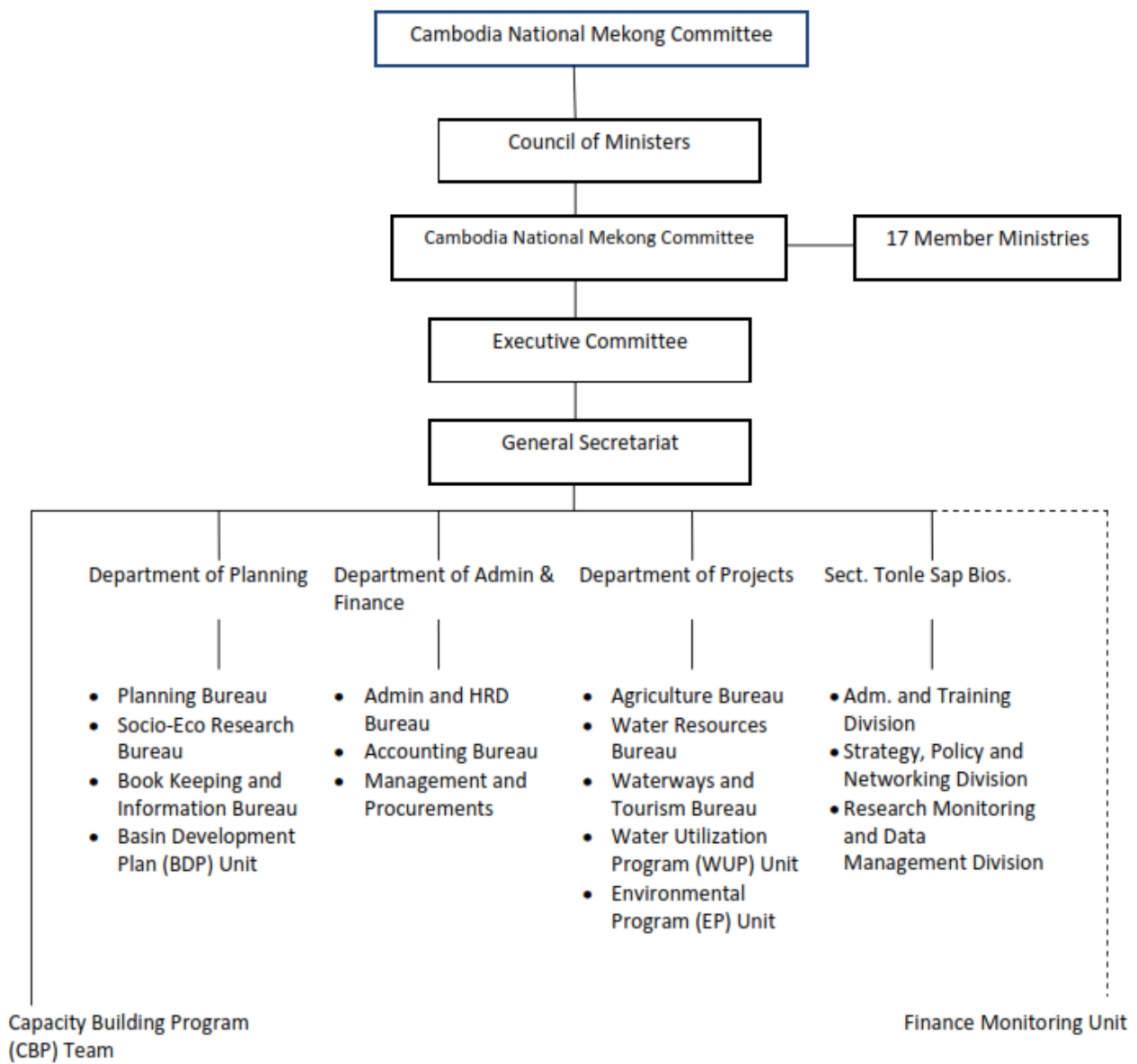


Source: <http://www.wepa-db.net/policies/structure/chart/cambodia/mpwt.htm>: Page accessed in June 2011.

4.5.1.8 Cambodian National Mekong Committee (CNMC)

The CNMC is an inter-ministerial coordination body. It operates directly under the RGC. It assists and advises the latter in all matters relating to the formulation of water policy, strategy, management, preservation, investigation, planning, restoration and development of water and other related natural resources of the Mekong River Basin. By doing so, it contributes to the sustainable development of the national economy and infrastructure for the benefit of the country and people.

Figure 11 Organizational Structure of CNMC



Source: Speech of H.E. WattBotkosal, Deputy Secretary General of General Secretariat of CNMC, Chairperson of CamboWP, July 2011.

Cambodia is a member of the MRC. The Basin Development Plan (BDP) of MRC is a tool to facilitate development in the riparian countries. With the involvement of international and regional experts, the BDP develops Basin Development Strategy. At the national level, the MRC works closely with the National Mekong Committee (NMC), a sub-BDP committee, as an implementer. Line ministries and local authorities are members of the NMC.

Figure 12 Organizational structure of the MRC's BDP

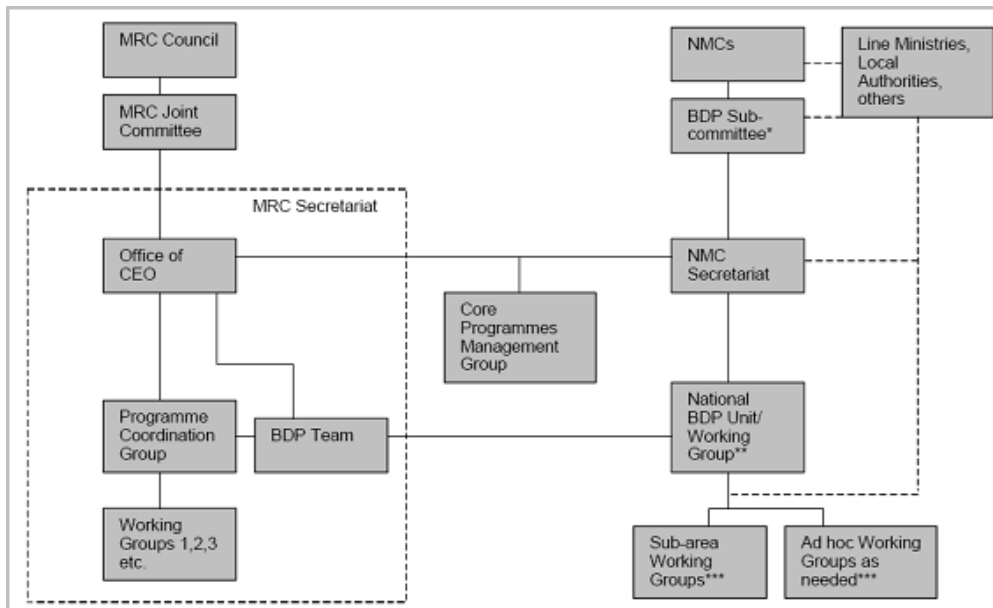
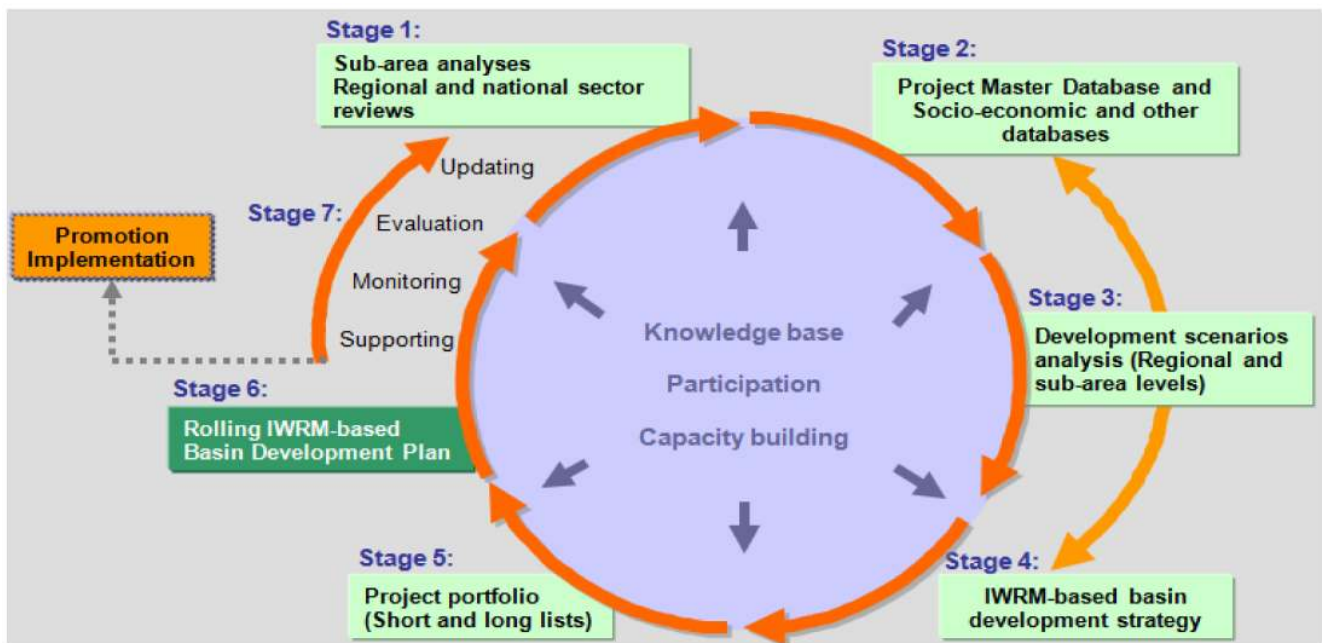


Figure 13 Basin development planning cycle

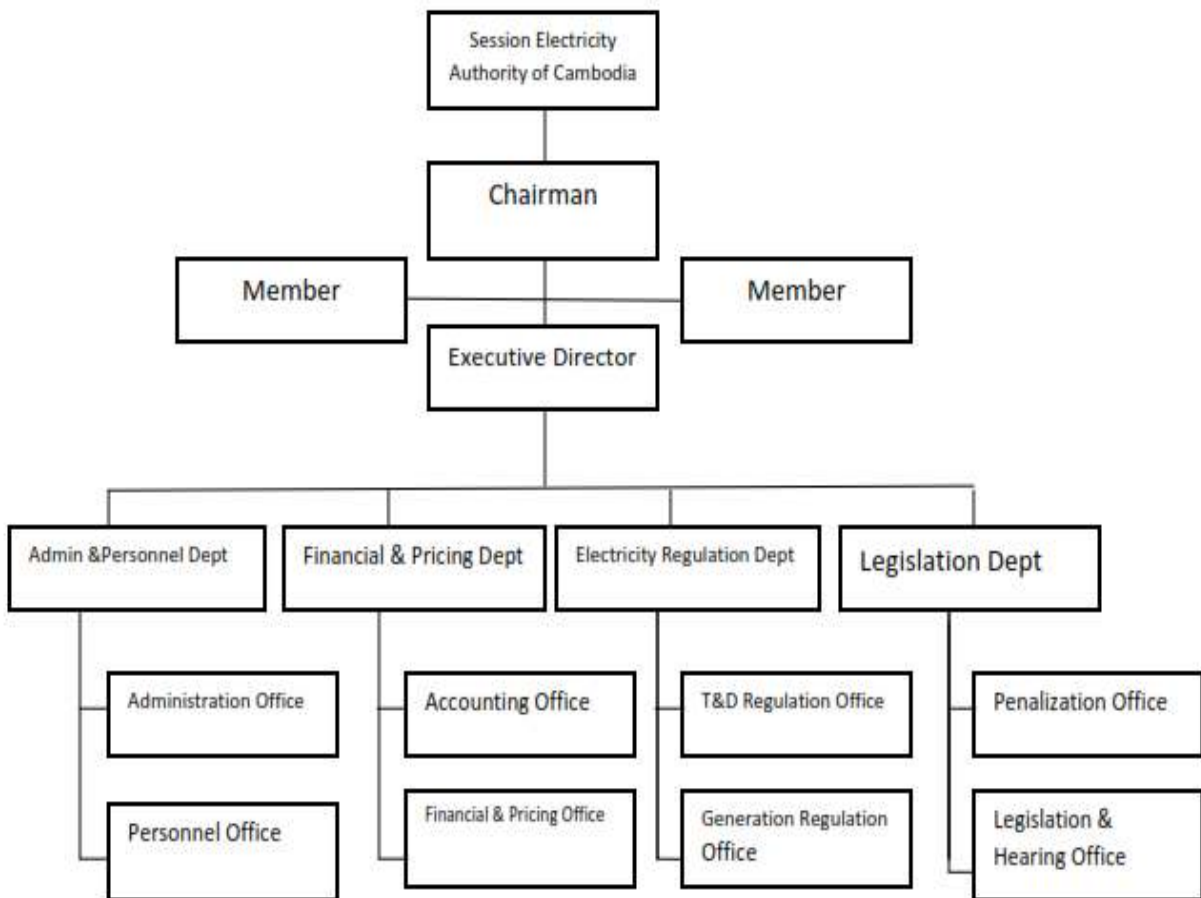


Source: IWRM-based Basin Development Strategy for the Lower Mekong Basin, MRC, January 2011

4.5.1.9 Electricity Authority of Cambodia (EAC)

EAC controls the electric power services and uses within Cambodia. Its role includes issuing, revising, revoking or suspending licenses for electric power services; approving tariffs; issuing regulations; imposing penalties and resolving disputes related to electric power services and uses.

Figure 14 Organizational Structure of EAC



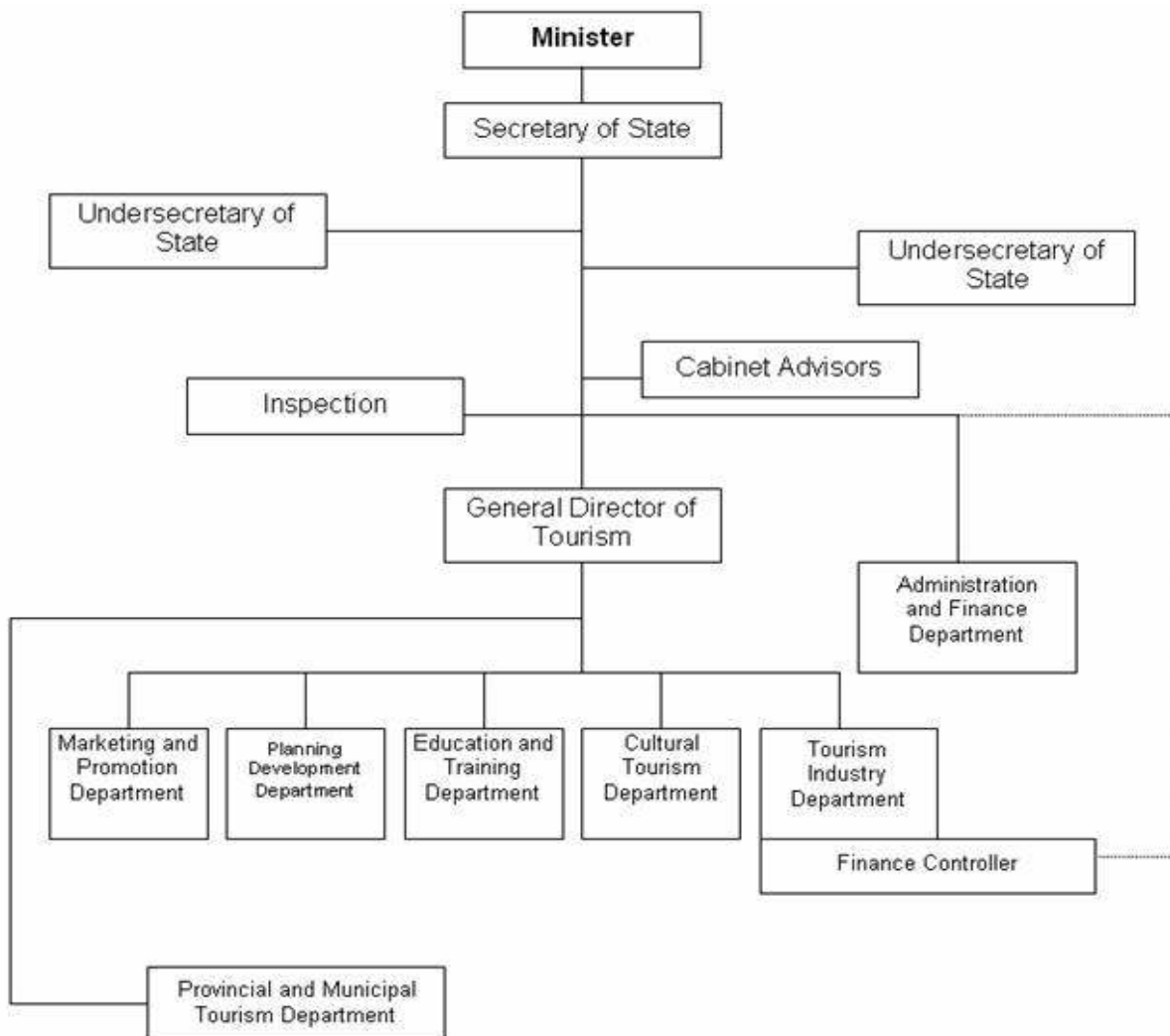
Source: <http://www.eac.gov.kh/pdf/structure/orqanization%20chart%20of%20eac.en.pdf>
Page viewed and reconstructed base on the origin model in September 2011.

4.5.1.10 Ministry of Tourism (MoT)

The Ministry of Tourism is responsible for leading and administering the tourism-related issues in the country. The duties and responsibilities of the ministry include:

- Determining policies and strategies for tourism planning and development;
- Promoting and encouraging investments in tourism on the basis of the development strategies of the nation;
- Planning and administering the tourism industry;
- Guiding and supervising all types of tourism services;
- Directing, controlling and maintaining natural resorts, man-made resorts, tourist centers, and tourist development regions throughout the country;
- Issuing licenses for vocational training schools and monitoring the affairs of tourist vocational training;
- Promoting and marketing Cambodian tourism, both domestically and internationally;
- Monitoring tourism publications and information, and undertaking corrections where necessary;
- Setting up foreign representative offices in collaboration with the Ministry of Foreign Affairs and International Cooperation, and in cooperation with persons and organizations in other countries;
- Signing implementation contracts relating to tourism projects after guidelines have been issued by the Royal Government of Cambodia;
- Issuing operating licenses to tourism companies, agencies, tour guides, hotels, casinos, restaurants, guesthouses, massage parlors, karaoke bars, bars, discotheques, resorts, tourist spots, means of transport and other tourist services;
- Establishing, improving and maintaining standards and quality of the tourism industry and services;
- Grading hotels and restaurants;
- Regularly inspecting the tourism domain;
- Pursuing international cooperation to enhance tourism.

Figure 15 Organizational Structure of MoT



Source: <http://www.tourismcambodia.org/> Page viewed on July 2011.

4.5.2 Administrative Processes: Decision Making and Policy Development

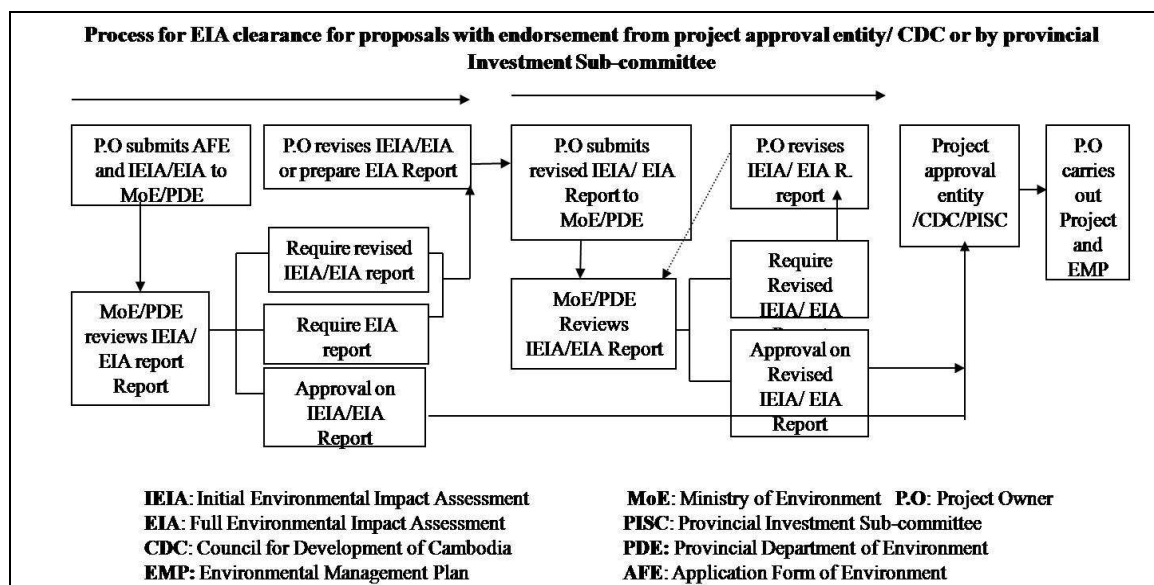
In general, the first step in the decision-making process in Cambodia is screening and ranking of potential hydropower projects. After this some of the projects may be selected for further study, while others are included in the national power generation expansion plan. Projects in the national plan are then opened to public/private investment. Any project proponent company first presents a proposal to the Prime Minister, Deputy Prime Minister, the Minister of Economics and Finance or another member of the Council of Ministers. The project proposer must then either sign an MoU with MIME, or receive a Letter of Permission from MIME, which grants the proposer of

the project two years of time to prepare feasibility studies that should include EIAs (initial and full) and an Environmental Management Plan (EMP) (EIA Sub-decree, Art 24).

The project proposer’s technical staff prepares a feasibility study together with MIME, arranging access to relevant government staff, data and the necessary approval permits. The project proposer typically self-finances the study, but once completed it then becomes the joint property of the project proposer and MIME. Upon satisfactory completion of the feasibility study, the project proposer is entitled to enter into discussions with MIME on the possibility of developing the hydropower project (Middleton, 2008). According to the Sub-Decree on the Environmental Impact Assessment Process (1999), the project proponent is also required to submit the feasibility study to the MoE for review. As provisioned in the Article 8 of Sub-decree on EIA, if MoE deems the project to have a “serious impact on natural resources, ecosystems, health, or public welfare” it may then be required to submit a full EIA.

The EIA process is governed by three enactments according to the current framework of rules and processes. These are: 1) The Law on Environmental Protection and Natural Resources of 1996; 2) The Sub-Decree on Environmental Impact Assessment Process, 1999; and 3) The Declaration on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports made by MoE in 2009.

Figure 16 Process for EIA clearance



Source: Declaration on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, 2009.

4.6 CRITICAL ANALYSIS OF LEGAL AND ADMINISTRATIVE SYSTEMS RELATED TO WATER RESOURCE DEVELOPMENT

This section provides an overview of gaps and weaknesses in the existing institutional arrangements, policy and legal frameworks in Cambodia to regulate and control hydropower development projects and their impacts.

4.6.1 Issues with institutional mandates

A numbers of ministries and authorities have the institutional mandates in water governance. Some ministries and authorities have core responsibilities and interests in water governance, while other ministries and authorities have a coordination role and consider water as a related issue only.

- MIME and EAC are interested in using water flow for producing energy/electricity. MoE is interested in using water for protection of natural resources, biodiversities and maintaining the ecosystem services. Similarly, MoT and MPWT have an interest in using natural water or flow to develop tourist sites and for navigation.
- MOWRAM, MAFF, MoWA, and MRD are interested in using water for improving livelihoods and agricultural productivity. However, improvement of livelihoods also hinges on energy supply to the local people.
- CNMC's main role is that of coordinating water-related issues in Cambodia with the MRC socially for the Mekong river basin. More than having a specific role as a member of MRC, CNMC coordinates the different interests in water management and development. At present, CNMC is a member of the Global Water Partnership and a chair of Cambodian Water Partnership (CamboWP). IWRM is a core agenda of CNMC and CamboWP. However, CNMC has no political power in decision making. It has a very limited capacity in balancing the different interests of water sector development since other institutions, such as MIME and MOWRAM are at a higher level in the hierarchical arrangement of the government.
- The decision-making on hydropower development is done by the Council of Ministry, and is not a ministry-level exercise.
- The Council of Ministry plays a key role in arriving at a unanimous decision, especially on hydropower, while keeping the different interests of various ministries in mind. Therefore, decisions on hydropower development don't result in institutional conflicts over mandates of different institutions, but are an exercise in coordination and consensus in the national interest.

Table 10 The issues with institutional mandates: interests and conflicts of interests

	MIME	MoE	MOWRAM	MAFF	MRD	MoWA	MPWT	CNMC	EAC	MoT
MIME		D	D/S	D/S	N	N	D	N	S	D/S
MoE			S	D/S	N	N	S	N	D	D/S
MOWRAM				S	S	N	S	N	D/S	N
MAFF					S	N	S	N	D/S	S
MRD						N	S	N	S	S
MoWA							S	N	N	N
MPWT								N	D	N
CNMC									N	N
EAC										S
MoT										

S: The same line of interest/parallel interest, N: Neutral, D: Different line of interest, D/S: Some similarity and some difference of interests

4.6.2 Weaknesses in human resources and capacities

The weaknesses in human resources and capacities are presented below by the sectors:

- **Irrigation Sector:** Officers in this sector are given limited opportunity to use their knowledge of irrigation development and management. Key informants from MOWRAM reported that the existing internal experts have enough capacity/ability to run a project by themselves. But the high-ranking officers do not provide enough opportunity to the staff to showcase their capacity. The top officers trust external experts more than the internal experts. The internal officers get a chance to show their expertise only when their seniors are unable to find an external expert. For example, senior officers let the internal experts operate the irrigation project at Kampong Tuol in Kantuot commune, Kandal Stung district, Kandal province, only when the external experts sought a higher budget. But, the high-ranking officer confided that he was still not confident about the acumen of own staff⁶.
- **Fishery and Aquaculture Sector:** Informants from Fisheries Administration think that their existing human resources have enough capacity to work in this sector. However, the sector lacks financial support and has limited financial resources of its own for implementing the projects. A large number of officers in the Fishery Administration have graduated from various universities abroad, but they get limited opportunity to demonstrate their newly-acquired knowledge for want of financial resources.

⁶ The project was operated by internal experts using only USD 3 million, but the international experts had proposed a budget of about USD 21 million to carry out the same work.

- **Hydropower and Energy Sector:** Lack of national human resources with expertise in hydropower is the main issue here. Key staff in MIME also reported that it is difficult to find well-trained personnel in the hydropower field⁷.
- **Water Supply and Sanitation Sector:** In the water supply and sanitation sector, in Phnom Penh there are enough human resources at present. Most of these experts are from the Institute of Technology in Cambodia (ITC). A majority of them decided to pursue higher education and graduated from universities abroad.

Overall, even though there is lack of well-equipped and fully competent national experts, the existing human resources are capable of performing most of the activities efficiently with some guidance. However, there are still some shortcomings that affect their performance.

On the one hand, some well-trained staff members are deprived of a chance to work due to financial interests and nepotism. On the other hand, when the decisions are taken at higher levels, the staff members are not assigned tasks that they are capable of executing. This is due to the top-down nature of bureaucracy where the mid-level staff doesn't take any decisions without consulting their bosses, who are unaware of the capabilities of the junior staff. Therefore, staff members at lower levels feel that they are excluded from opportunities as a result of "nepotism".

4.6.3 Problems associated with science/technology and adoption of best management practices

The problems associated with science/technology and adoption of the best management practices in different sector are presented as below:

- **Irrigation Sector:** In this sector, the ministry lacks modern equipment required for its projects. As a result, the officers who have acquired new knowledge and skill on irrigation from abroad have no opportunity to apply that knowledge.
- **Fishery and Aquaculture:** There is no time or opportunity to practice new knowledge or test new technologies because the Fisheries Administration does not have enough budget and material support to encourage experimentation in new projects.
- **Hydropower and Energy Sector:** In Cambodia, no large hydropower or energy plant has been completed as yet. The human resources and technology of this sector are heavily dependent on foreign investment.
- **Water Supply and Sanitation:** They employ modern equipment in the water supply sector. A new filter, for instance, was imported. They have been able to make other equipment by themselves in Cambodia.

⁷ Personal communication with staff of MIME in August 2011.

Overall, when discussing the problem associated with science/technology, key informants expressed more concern about equipment than scientific /technical knowledge. They felt that if their departments were to have enough financial resources, the well-trained staff would be able to perform their work efficiently.

4.6.4 Availability of financial resources for mitigating impacts and improving livelihoods

In almost all sectors, the availability of financial resources was found to be a major constraint for mitigating impacts and improving livelihoods.

- **Irrigation Sector:** This sector lacks own budget for operating the projects. The projects are dependent on donors, and if there are no donors, there are no projects.
- **Fishery and Aquaculture:** Presently, the Fisheries Administration uses budget from donors and some from the government. The total annual budget received from the government was USD 2.5 million in 2011 against the total requested budget for USD 5 million.
- **Hydropower and Energy Sector:** Financial resources depend on the investors. All of the hydropower projects planned are being funded by private investors and have no government investment.
- **Water Supply and Sanitation:** The water supply sector is autonomous. Thus, it has its own financial resources to carry out its work.

Key informants expressed concern about the limited financial resources allocated by the government and the dependency on external funding. Even if their institutions have been granted a project, staff members mostly consider it a private project of their boss. Therefore, some individuals have built and operationalized projects without using the government structure.

4.6.5 Sectoral performance and challenges

A. Irrigation sector

The Circular on the Implementation Policy for Sustainable Irrigation Systems passed in 1999 recognizes Farmers' Water User Committees (FWUC) as a legal entity with the rights to make rules, enforce sanctions, open bank accounts, lend money and enter into legal contracts. In June 2000, MOWRAM issued a Policy for Sustainability of Operation and Maintenance of Irrigation Systems, which seeks to achieve effective and sustainable management of irrigation systems with a view to increasing farmers' participation and successively reducing the role of government. The policy also seeks to build the capacity of FWUCs, to create awareness among farmers, and to encourage donor agencies to support participatory irrigation systems.

Guided by the RGC's PIMD policy (based on Circular No.1, 2000) to encourage farmers to take up irrigation management, from 2001 to 2005, MOWRAM implemented PIMD in 11

provinces around the Tonle Sap Lake and the Mekong River. At present, the main challenges faced by the irrigation sector include:

- Limited participation of farmers in planning and management of irrigation systems;
- Lack of strong rural institutions and service providers;
- Weak legal status of FWUC;
- Non-approval of water rights; unclear rights, roles, and responsibilities of the state and the users; and
- Limited awareness and understanding of water resource management policies and laws among government officials and stakeholders.

B. Fisheries and aquaculture sector

The reforms in the Fisheries and Aquaculture sector aimed to: 1) enable community-based development by empowering local communities to participate in fishery plans, programs, and management; 2) transform fishing lots with expired concession contracts into fish sanctuaries, thereby helping to increase natural fish stocks and to conserve endangered species; and 3) expand community-based fishing lots and promote aquaculture conservation in response to the increasing need for fish, and to reduce the pressure on fishery resources.

The National Fisheries Law, 2006, provides a comprehensive legal framework for the establishment and management of community fisheries and lays down the legal basis for establishing fishing lots and allocating the lots through a system of public auction. The community fisheries sub-decree provides directions for laying down rules and establishing legal procedures for co-management of community fisheries throughout Cambodia. The roles and responsibilities of community fisheries, the MAFF, and the Department of Fisheries are clearly established in the sub-decree, in which MAFF has general jurisdiction over community fisheries management. The sub-decree has five objectives: 1) to manage inland fisheries and related ecosystems; 2) to manage fishery resources in a sustainable and equitable manner; 3) to increase understanding and recognition of the benefits of fisheries through participation in protection and management; 4) to provide legal frameworks to establish community fisheries; and 5) to improve the standard of living and reduce poverty.

Under the reform that provides the basis for the establishment of community fisheries, about 538,522 hectares of freshwater fishing grounds were released for establishing Fisher Communities. This move has partially checked the escalating levels of conflict 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.

Fisheries sector contributes significantly to livelihoods and national income, but it is increasingly at risk from proposed hydropower developments in Cambodia and its neighboring upstream countries. The main challenges faced by the fisheries sector include:

- Fair access to fish and fisheries for the Cambodian poor;
- Control of illegal fishing and mindless exploitation of resources;
- Poor institutional arrangements for managing fishing lots and limited enforcement of fisheries' regulations;
- Degradation of fisheries, 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 favorable flooding and ecological functions.

C. Hydropower and energy sector

Although it does not focus specifically on hydropower, the objectives of the Cambodia Power Sector Strategy 1999-2016 include: 1) to provide an adequate supply of electricity throughout Cambodia at a reasonable price; 2) to ensure a reliable, secure electricity supply at prices that facilitate investment in Cambodia and development of the national economy; 3) to encourage exploration and environmentally and socially acceptable development of energy resources needed for supply to all sectors of the Cambodian economy; and 4) to encourage efficient use of energy and minimize detrimental environmental effects resulting from energy supply and use.

Based on the Cambodia Power Sector Strategy 1999-2016, the Cambodian Government approved the Master Plan on 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 in order to increase the access to electricity in rural areas. This Master Plan provides the guiding principles for the implementation of projects and programs under this policy.

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 hydropower sector, in cooperation with international and national institutions and agencies.

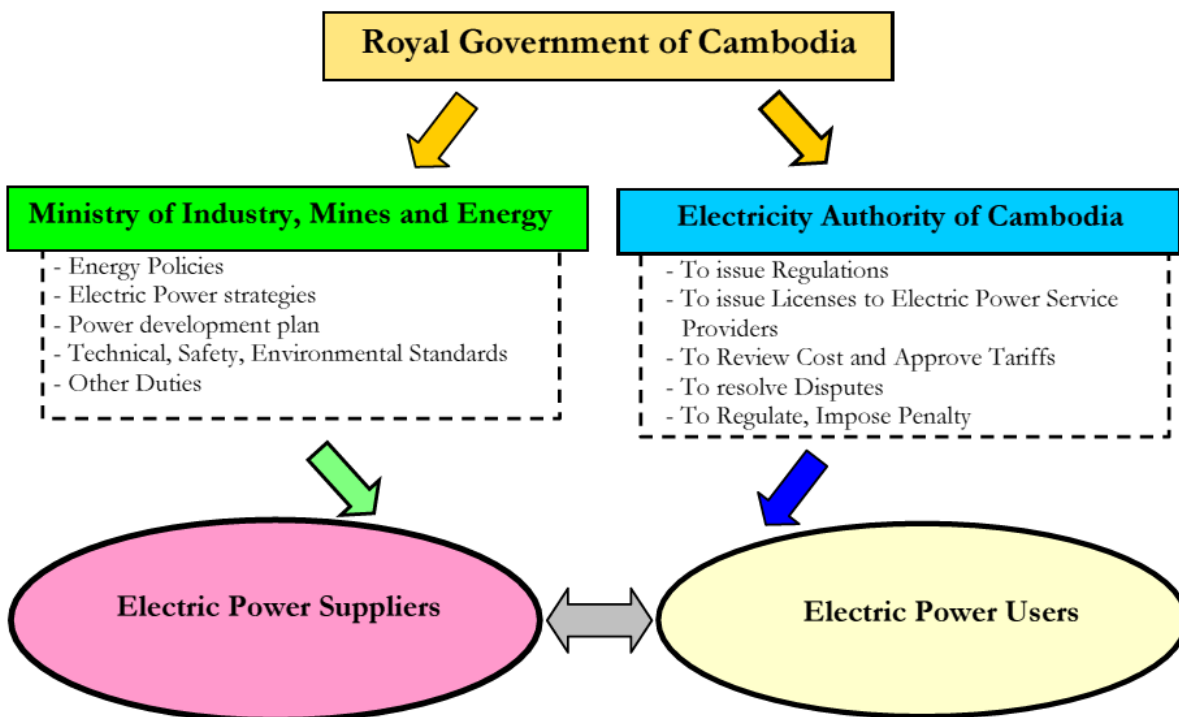
Currently, 29 percent of Cambodia households have access to electricity. This includes around half of the urban households and about 13 percent of the rural households (Cambodia Outlook CDRI and ANZ, 2011). At present, electricity is supplied by 22 small isolated power systems, which are operated by fossil fuels. To meet the increasing demand for electricity and to reduce dependency on imported fuel, hydropower

development has been deemed necessary. But hydropower development is a very controversial topic in the area of water governance due to its potential impacts on people, the environment and water resources (Middleton and Sam Chanthy 2008; 3S Rivers Protection Network 2007; Sam Chamroeun 2006; NGO Forum 2005). The hydropower development in Cambodia is still at an early stage of development, so clear governance and decision-making processes are necessary to ensure that all issues are reported and considered.

The Hydro-Electricity Department of MIME is responsible for developing policy and strategic plans for the hydropower sector in Cambodia. The MOE has developed several policies, including the Law on Environment Protection and Natural Resource Management (1996), which requires every project and activity, private or public, to undertake EIAs and submit them for review to the MOE.

The roles of the two organizations in governing the power sector in the Kingdom of Cambodia are presented in the diagram below:

Figure 17 Separation of roles between MIME and EAC



Sources: EAC (2010): Report on Power Sector of the Kingdom of Cambodia 2010 Edition.

D. Tourism and navigation sector

Cambodia has an extensive network of rivers and lakes, particularly in the central plain, which allows navigation for at least some part of the year. However, changes in the hydrological regime, morphology and sedimentation of rivers, streams and lakes may have an impact on navigation, tourism and water transport. RGC has adopted the following policies to address these issues:

- Promote the use of water courses, 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 making efforts to protect and conserve natural water bodies and waterways for navigation and tourism.

E. Water supply and sanitation sector

Though Cambodia has an abundance of freshwater resources, only 30 percent of rural households have access to safe drinking water, while only 12 percent households have access to improved sanitation facilities.

National Water Supply and Sanitation Sector Policy 2003 aims to provide complete coverage by 2025 and acknowledges the need for stakeholder participation, including the private sector. The policy is guided by four principles: 1) social and economic value of water; 2) promotion of safe behavior; 3) importance of sustainable management of rural water resources; and 4) participation of local communities in decision-making. Based on the policy, the MRD began developing and adapting guidelines for informed choice and private sector participation, but an overall implementation strategy is yet to be developed.

The Water Supply and Sanitation Regulatory Law was drafted by MIME, but it is yet to receive official approval. The draft law covers all the activities related to Water Supply and Sanitation Systems within Cambodia.

Water supply and sanitation sector still face many challenges. In the dry season, some provinces experience water shortages. Water quality degradation is another factor, as is the lack of water-quality testing and treatment facilities and inadequate knowledge of water supply and sanitation issues in rural Cambodia.

Table 11 Key challenges and agenda for improved governance, Cambodia

Sector	Key agenda for improved governance
Irrigation	<ul style="list-style-type: none">▪ Clarification of rights, roles and responsibilities of the state and of users (including the approval of water rights).▪ Strengthening the legal status of FWUCs and building them as strong local institutions.▪ Facilitating greater participation of farmers in irrigation planning and management.
Fisheries and aquaculture	<ul style="list-style-type: none">▪ Improving coordination between different agencies.▪ Improving enforcement of laws and regulations.▪ Improving regional mechanisms for decision-making processes about upstream developments that will have transboundary impacts.
Hydropower and energy	<ul style="list-style-type: none">▪ Developing policies, guidelines, and legal framework for hydropower development.▪ Increasing cooperation and coordination among 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 risk.▪ Providing opportunities for public discussion of key issues and measures.
Water supply and sanitation	<ul style="list-style-type: none">▪ Approval of the Water Supply and Sanitation Regulatory Law.▪ Development of an overall strategy to implement the National Water Supply and Sanitation Sector Policy.▪ Clarification of the 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	<ul style="list-style-type: none">▪ Approval of the National Ecotourism Policy.▪ Approval of the Tourism Law.▪ Further institutional development of CANTA, improving institutional and policy coordination, and clarifying the 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.

4.6.6 Coordination/conflicts between government departments

Social and environmental impacts of development projects can be disregarded or neglected due to weak communication and coordination among different levels of the government, as well as among different sector agencies in multi-sectoral projects. Poor coordination can cause significant delays in policy/program implementation. Additionally, power relations between ministries can often lead to the powerful ministries overriding the mandates of the less powerful ones, thus diluting laws and policies that govern their responsibilities.

The RGC has adopted Integrated Water Resources Management (IWRM) as a means to sustainable development for achieving the Cambodian Millennium Development Goals (MDGs). This holistic approach directly supports implementation of the Rectangular Strategy, putting into practice the laws and regulations in natural resources development and management, with full participation of local communities and direct stakeholders. The river basin approach is one of the policies to be developed for IWRM application in the country (MOWRAM 2007).

The Cambodia National Mekong Committee (CNMC) in its capacity as a national coordinating agency, promotes IWRM and its implementation in the country. In 2006, CNMC became the host institution of CamboWP and conducted national dialogues, workshops, and meetings. The CamboWP is a network of agencies, institutions, businesses, social entities, professional associations, scientists, NGOs and water users in the water sector and related management areas in the country. CamboWP collaborates with other Southeast Asian Water Partnerships and with GWP. Its first pilot project established the 4-Ps Basin Functional Water Partnership in Kratie province. For institutional arrangements of 4 Ps, the 4-Ps Basin Coordinating Committee for Development and Management (BCCDM) has been established as an IWRM-based committee, headed intermittently by two provincial governors to assemble different stakeholders and provide a framework for IWRM promotion and implementation at the local level.

This framework reflects strong political will and support to the IWRM process at the basin level because the two provincial authorities and other agencies concerned are working together for participation and decision making in the development planning. Clear and shared development vision and objectives were formulated together.

The following aspects were found to be important determinants of successful IWRM-based development planning in the 4-Ps basin,:

- Political will is a necessity, notably at the provincial level, but also at the national level for a legal framework, institutional arrangements and the allocation of budgets.
- Local knowledge and new scientific knowledge shall be encouraged and applied in support of each other for decisions and management.
- Community involvement is the basis for management of natural resources in the 4-Ps Basin. Local communities use, protect and manage natural resources by

themselves and their involvement must be encouraged and promoted in any investment project or program. The existing 4-Ps Basin Functional Water Partnership in Kratie Province (developed in 2007 under a pilot project) is recognized by the Kratie Provincial Authority as a development partner and should be replicated and strengthened in Mondulkiri Province as well.

- Effective partnerships must be maintained and should encourage involvement of local communities in each Prek (Prek Community Councils) to build strong networks for coordinating initiatives by different communities/stakeholders.

The following indications of effective partnerships were observed:

- Stakeholders share views by setting up a common vision and long-term development objectives for the basin;
- Stakeholders agree to apply IWRM for adaptive management (considering local knowledge as a starting point) to achieve mutual benefits for all;
- Shared commitment from all to provide inputs and to facilitate a participatory approach to decision-making;
- Agreement on an approach for the development of a roadmap, allowing all stakeholders to come together to share views regarding different aspects of a problem, to identify issues related to that problem, and to identify better options for solutions.

However, one ADB study (ADB, 2009) has pointed out the limitations in coordination and conflicts in the following areas:

- **Lack of shared information due to conflict of interest:** It is observed that most often the collaboration is only lip service. Officials often talk about information sharing in the meetings, but when approached for any documents they insist on fulfilling many formalities, such as getting a letter from the Minister, making it difficult to obtain such documents in time. It shows lack of proper access to information.
- **Political interests and dispensation of favors:** In Cambodia, it is quite easy for a senior official to either promote or dismiss a junior staff from his/her position without providing any justification/reason. While senior officials enjoy many perks, the junior staff members have to struggle to survive on their meagre salary. In making any decision, senior officials are very careful and prefer to wait for advice from higher levels. Even though they may not agree with the decision from the top, they follow it and tell others that this is a matter of “political interest, we are technical staff, and could not understand the political interest”. Companies also understand that if they get the support of senior officials or the government, their work will be done smoothly. Therefore, they often approach top government officers directly for approvals instead of routing the documents through the junior officers as required, and this practice is seldom challenged by junior staff.

- **Primary or secondary mandate:** Often, a “coordinating committee” is formed for coordination. The member representative in coordinating committee is usually of a rank lower than the chairman of the committee. The member’s role in the committee is mainly to gain access to information or to be informed. He/she does not actively debate any action. Also, the member can be replaced any time, leading to lack of continuity and ineffective work.

Table 12 The different uses of water and their relations in Cambodia

Water uses	Main interests	Impact on water management	Conflicting interests with
Agriculture	Regular and adequate rainfalls and flooding, irrigation	Construction affects fishing; fertilizers and pesticides affect water quality; land use changes affect crops	Large-scale structures and cutting of forests, fishing
Fishing	Diverse and abundant fish species (additional livelihoods)	Some fishing tools destroy forests and increase sedimentation	Victim in relation in others
Forestry	Wood for trade and household energy;, other natural products from forest vegetation	Indiscriminate cutting of forests increases erosion and decrease rainfall and habitats	Agriculture and fishing
Navigation	Tourism and trade	Pollution and waves increase erosion and frighten away the fish	Agriculture and fishing
Hydropower	Energy	Change in water levels and the share of sediment; new structures affect fishing and flood control	Agriculture and fishing
Industry	Water	Pollution	Agriculture and fishing
Tourism	Income	Need for conservation, increased navigation	Local culture

Source: Water Management in Cambodia – Resources and Relations by Satu Muukkonen, January 2007

5.0 NON-STATE ACTORS

Various non-state actors play a key role in water governance, including hydropower development issues. These actors mainly include academics, research institutions, networks, non-governmental organizations, civil society groups, international development organizations and technical consultants. While some operate on a regional scale, others are based in individual countries and localities, and are involved in providing a range of services, from research and technical studies to advocacy consulting and information dissemination. In the wake of hydropower projects proposed for the Mekong region, these non-state actors have stepped up their role by increasingly

becoming involved in assessing natural and human resource systems in the region, and facilitating collaboration among key decision-makers to realize the impacts of dams.

5.1 SOCIAL ACTIVISM ON HYDROPOWER ISSUE

The Rivers Coalition in Cambodia (RCC) is a network of national and international organizations that work together on rivers, environment and human rights issues. The RCC focuses on hydropower development projects. Initially, it worked on issues related to the Sesan River and later started focusing on the Sekong and Srepok rivers as well. Recently, the RCC has extended its work on hydropower development projects to include such plants throughout the country.

Between 2003 and 2005, the RCC was named as the Sesan River Working Group. It was established with the collaboration of the 3S River Protection Network (3SPN), the NGO Forum on Cambodia, and the Culture and Environment Preservation Association (CEPA) in order to support communities affected by dam construction on the Sesan River Basin.

In 2005 and 2006, the coalition extended its sphere of work and included more NGOs as members, while simultaneously changing its name to the 3S River Working Group. Recently, the coalition changed its name again to the Rivers Coalition in Cambodia (RCC) to work on issues related to hydro-power development in Cambodia, following the collaboration of six organizations: the NGO Forum on Cambodia (NGOF), the Fisheries Action Coalition Team (FACT), the Culture and Environment Preservation Association (CEPA), the 3S Rivers Protection Network (3SPN), Conservation and Development in Cambodia (CDCam), and Cambodian Volunteers for Society (CVS).

The RCC seeks to ensure that hydropower construction projects, which are built and will be built in the future, respect human rights, ensure the sustainability of ecosystems and improve the livelihoods of people. The RCC believes that public participation in planning and decision-making is essential to ensure that the needs of the affected people are respected.

Before changing the name to the Rivers Coalition in Cambodia, the Sesan River Working Group focused only on transboundary impacts of the Yali Dam on the Cambodian people living in the 3S zone, particularly along the Sesan River Basin. In 2003, the Yali Dam caused serious floods that killed people and animals, destroyed homes and properties, and sank farmland along the Sesan River. At that time, Cambodia had no hydropower development on the Mekong River or its tributaries (the 3SRivers) as plans remained on hold due to political instability. However, in 2006, the economic growth in Cambodia and the Mekong region enabled the RGC to place hydropower development back on the national agenda. The Sesan River Working Group changed its name to the 3S River Working Group and then to the Rivers Coalition in Cambodia. While the RCC concerns itself with hydropower dams throughout the country, its priority areas are the 3S River (Sesan, Sekong and Srepok) tributaries of the Mekong. Additionally, the RCC works as an advocacy organization and calls for upholding the basic rights of the people impacted by dam construction and those who will be impacted in the future.

5.2 NON-STATE ACTORS IN IRRIGATION SECTOR

NGOs have been providing assistance to the agricultural sector since the early 1980s. Currently, many NGOs are involved in improving irrigation in Cambodia by providing material, equipment and/or technical assistance. Their work has focused on rehabilitation of the existing irrigation systems, including repair of reservoir bunds and outlets works; provision and repair of pumps; rehabilitation of canal networks; and minor control structures. But schemes were not selected in conformity with the national plan, and treated as isolated entities, often neglecting complex hydrological features. As a result, the performance of the facilities created has often been unsatisfactory.

NGOs have also been involved in organizing and promoting farmers' organizations, in particular the water users groups, since 1991. The main purpose was to encourage farmers' participation and involvement in the planning, operation and maintenance of irrigation systems.

6.0 CONCLUSION AND RECOMMENDATIONS FOR FURTHER FOLLOW-UP

The findings and discussions presented in previous sections show that in the recent decades Cambodia has developed extensive policies related to water-based and water-related sectors. Such policies are aimed at ensuring equitable and sustainable development of the nation. Many external players (bilateral partners and multilaterals partners) have facilitated the RGC in developing these policies and legal instruments. However, due to insufficient financial resources, the government institutions in Cambodia are still largely dependent on donor support for implementing development projects. Thus, some policies and legal instruments are not yet fully implemented owing to lack of financial resources. Some of the legal instruments are also in draft forms, which will be tested and finalized at a later stage.

The grants for developmental projects are mostly for public interest, and specifically target certain vulnerable groups. Hydropower is an income-earning project, and is thus not in a condition to receive financial support from donors. Being a new development field in Cambodia, it still lacks specific policies to address issues related to its development. The performance of the hydropower sector rests mainly in the hands of private companies whose mandate is to "construct dams to generate electricity". In terms of political governance, government staff often hesitate to discuss hydropower projects due to the fact that the companies investing in hydropower projects tend to approach the top echelons of government decision-makers, thereby neutralizing expert inputs at the lower levels. The involvement of civil society and NGOs has also not yet been effective in influencing any decision-making related to hydropower. They cannot focus much on sensitive issues, or they will be requested to stop.

In this situation it is difficult to say that such water governance conforms to the proposition that *"power is organized, shared, and negotiated in society, and interactions and decision-making processes involved in how water resources are to be developed and utilized, and the distribution of benefits and involuntary risks from doing so"*. Since the

decisions are taken at the top-most level in the government and bureaucratic hierarchy, it is difficult for lower-level officers to challenge the weaknesses of such decisions.

Under the framework of CPWF project (MK Project), it is important to have a public or academic debate on hydropower. It is expected that public will gain better understanding of the trade-offs between development (poverty reduction) and conservation (livelihood improvement) from such forums. The public, including government officials, policy-makers, decision-makers and civil society as an individual as well as an organization, will be able to understand the information and make sense of their positions and beliefs about hydropower development and its associated impacts and benefits if they take part in such forums. The factual evidence about the impacts and benefits of hydropower development, and the reflection on the multiple dimensions of interests will also be helpful in such a situation.

The inputs from this research project and academia should be strategically introduced to an appropriate platform for the purpose of improving water governance. This should be done tactfully to avoid confrontation between the decision-makers and the academia.

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Appendix 1 Summary Statement of Loans/Credits/Grants as of 31 Aug, 2011 – Cambodia

Project		Amounts in USD			Approval Date	Closing Date
ID	Description	Principal	Available	Disbursed		
P004030	KH-ROAD REHAB	45310000	0	44469136	23-Mar-99	30-Sep-06
		350000	0	0	23-Mar-99	30-Sep-06
		590000	0	588597.5	23-Mar-99	30-Sep-06
P004032	PHNOM PEHN POWER REH	40000000	0	35127552	28-Sep-95	30-Jun-00
P004033	KH-AGRICULTURAL PRODUCTIVITY IMPROVEMENT	4781172	0	4288535.5	28-Feb-97	31-Dec-05
		27000000	0	19509556	28-Feb-97	31-Dec-05
		61222.44	0	50691.9	28-Feb-97	31-Dec-05
P004034	KH-DISEASE CONTROL & HEAL	30400000	0	26798036	24-Dec-96	31-Dec-02
		1500000	0	0	24-Dec-96	31-Dec-02
		412000	0	391954.75	24-Dec-96	31-Dec-02
		248695.66	0	232916.31	24-Dec-96	31-Dec-02
P004035	ECONOMIC REHAB. CR.	40000000	0	36913920	28-Sep-95	30-Jun-97
		6041383.5	0	6057852.5	28-Sep-95	30-Jun-97
P004036	EMERGENCY REHAB	62700000	0	64857368	26-Oct-93	31-Dec-96
P034227	REHAB ASSISTANCE	500000	0	499924.91	NA	19-Jul-95
P034755	KH - Technical Assistance Project	17000000	0	15975307	6-Dec-94	31-Dec-01
P037088	KH-SOCIAL FUND (Project closed)	20000000	0	18422618	8-Jun-95	30-Jun-00
		216773.17	0	262502.97	8-Jun-95	30-Jun-00
P045510	KINGDOM OF CAMBODIA	295000	0	287805.69	20-Jul-95	30-Sep-97
P045629	KH-URBAN WATER SUPPLY	30960000	0	30102994	17-Feb-98	31-Mar-04

Project		Amounts in USD			Approval Date	Closing Date
ID	Description	Principal	Available	Disbursed		
P050601	KH-SOCIAL FUND II	25000000	0	23221706	23-Mar-99	31-Mar-05
		10000000	0	10611142	23-Mar-99	31-Mar-05
		400000	0	0	23-Mar-99	31-Mar-05
P052006	KH bio & prot area m	2750000	0	2743198.5	8-Feb-00	31-Dec-07
P058544	KH - Cambodia SAC	30000000	0	30363888	29-Feb-00	31-Dec-03
		4104290	0	4502451	29-Feb-00	31-Dec-03
P058841	KH-Northeast Village	5000000	0	4679382	18-May-99	30-Jun-04
		702000	0	248653.94	18-May-99	30-Jun-04
P059971	KH-Education Quality Improvement	5000000	0	4873411	31-Aug-99	31-Mar-04
P060003	KH-Forest Concession Mgt & Control Pilot	4820000	0	4680272	5-Jun-00	31-Dec-05
		240000	0	167880.12	5-Jun-00	31-Dec-05
P064844	KH-Rural Electrification & Transmission	40000000	16670434	26437906	16-Dec-03	31-Jan-12
		290840	0	0	16-Dec-03	31-Jan-12
		190000	0	190000	16-Dec-03	31-Jan-12
P065798	KH-Bio & Protec Areas M	1910000	0	1995563	8-Feb-00	31-Dec-07
P067280	Conflict Prevention	564367	0	462689.69	30-Jun-03	22-Sep-03
		1681800	0	1553724.75	30-Jun-03	22-Sep-03
P068053	KH-Cambodia IDF Governance Study	200000	0	199917.06	17-Jun-99	30-Jun-02
P068338	Cambodia Financial Accountability Development	270000	0	266899.59	10-May-99	5-Oct-02
P070542	KH-Health Sector Support Project	17200000	3416952.5	16458965	19-Dec-02	31-Dec-11
		7800000	0	8965578	19-Dec-02	31-Dec-11

Project		Amounts in USD			Approval Date	Closing Date
ID	Description	Principal	Available	Disbursed		
		2000000	0	2247816.75	19-Dec-02	31-Dec-11
		150300	0	64680.23	19-Dec-02	31-Dec-11
		2099020.5	0	1330840.62	19-Dec-02	31-Dec-11
P070668	KH-Cambodia Education Sector Support	8000000	0	8142810.5	12-May-05	30-Sep-11
		20000000	2679120.25	17421934	12-May-05	30-Sep-11
		386600	0	369520.62	12-May-05	30-Sep-11
		1827424	0	1827424	12-May-05	30-Sep-11
		1800291	0	1800289.88	12-May-05	30-Sep-11
P070875	KH-Land Management and Administration	24300000	0	19227216	26-Feb-02	31-Dec-09
		350000	0	347929.25	26-Feb-02	31-Dec-09
		2354806.5	0	909049.56	26-Feb-02	31-Dec-09
P071103	KH-Poverty Reduction and Growth-1 (DPL)	15000000	0	15494878	17-Jul-07	15-Apr-08
		480000	0	286628.12	17-Jul-07	15-Apr-08
		496000	0	453998.22	17-Jul-07	15-Apr-08
P071146	KH- Rural Investment & Local Governance	22000000	0	23975774	22-Apr-03	31-Dec-10
		36250000	1998126.88	34592300	22-Apr-03	31-Dec-10
		470500	0	460131.56	22-Apr-03	31-Dec-10
P071207	KH-Provincial & Rural Infrastructure	20000000	5155472	13998334	11-Sep-03	31-Dec-11
		206230	0	0	11-Sep-03	31-Dec-11
		114000	0	0	11-Sep-03	31-Dec-11

Project		Amounts in USD			Approval Date	Closing Date
ID	Description	Principal	Available	Disbursed		
		731000	0	689661.44	11-Sep-03	31-Dec-11
		450300	1407	448893	11-Sep-03	31-Dec-11
P071247	KH - Eco. & PS Capacity Building Project	5500000	0	1623973.38	25-Jun-02	31-Dec-07
P071445	KH - Demobilization and Reintegration	18400000	0	675668.19	23-Aug-01	31-Dec-04
		400000	0	304881.53	23-Aug-01	31-Dec-04
		325000	0	320128.69	23-Aug-01	31-Dec-04
		310000	0	288098.62	23-Aug-01	31-Dec-04
		2000000	0	1340786	23-Aug-01	31-Dec-04
P071591	KH-GEF Rural Electrification & Transmission	75000	0	73010.66	16-Dec-03	31-Jan-12
		5750000	4744301.5	1005698.56	16-Dec-03	31-Jan-12
P072264	KH-Creation of a Legal & Regulatory	252200	0	235639.19	21-Jun-00	31-Mar-03
P073210	KH-Capacity Building in Poverty Reduction.	260000	0	259820.34	8-Nov-00	30-Jun-03
P073311	KH-PROV & PERI-URB WATER	16900000	6615122	11618365	22-Apr-03	30-Jun-11
		3000000	1555307.38	886308.12	22-Apr-03	30-Jun-11
		540000	0	539903.38	22-Apr-03	30-Jun-11
		773900	0	716182.81	22-Apr-03	30-Jun-11
P073394	KH-Flood Emergency Rehabilitation Project	35000000	0	36411012	13-Mar-01	30-Jun-05
P073725	KH Basic Education. Reconciliation	1575000	0	1575000	21-Jun-01	30-Jun-03
P076242	KH-Project Management Capacity Building	374000	0	295429.16	31-Dec-01	25-Feb-05

Project		Amounts in USD			Approval Date	Closing Date
ID	Description	Principal	Available	Disbursed		
P082356	Strengthening the Civil Service	310000	0	157622.09	18-Dec-02	31-Mar-07
P084066	KH IDF Gender for Implementation of NPRS	300000	0	300000	20-May-03	24-Mar-07
P084787	KH-Land Allocation for Soc. and Eco. Dev.	2800000	2302503.25	201884	20-May-08	30-Jun-13
		8700000	5885187	2320607.5	20-May-08	30-Jun-13
		510000	0	245329.42	20-May-08	30-Jun-13
		1756900	0	1721442.25	20-May-08	30-Jun-13
		469218	154881.47	314336.53	20-May-08	30-Jun-13
		415267	247330.05	167936.95	20-May-08	30-Jun-13
		1483603	1093206.12	390396.84	20-May-08	30-Jun-13
P085657	Cambodia PRSP Follow-up	499980	0	454270.16	9-Sep-04	31-Dec-06
P087945	Cambodia - Public Fin. Mgmt. & Account.	14000000	8226632.5	6955613	27-Jun-06	15-Jan-12
		7035000	521050.44	7513949.5	27-Jun-06	15-Jan-12
		492700	0	24137.59	27-Jun-06	15-Jan-12
P088298	KH IDF:Impr Fin Account in Private Sector	256000	0	255726.75	12-May-04	30-May-07
P089196	KH- Trade Facilitation & Competitiveness	10000000	4311534	5772153	2-Jun-05	1-Jun-12
		580000	0	0	2-Jun-05	1-Jun-12
P092190	KH Improve Efficiency of Public Proc	100000	0	72844.5	30-Jun-04	14-Nov-07
P093114	Cambodia NIS Capacity Building	310000	0	126369.37	20-Oct-04	18-May-08

Project		Amounts in USD			Approval Date	Closing Date
ID	Description	Principal	Available	Disbursed		
P094314	Cambodia Land Admn Management Distribution Program	700000	0	0	30-Mar-05	30-Jun-08
P095659	KH-Institute of Project & Program Management Function	200000	0	113600	22-Mar-05	17-Jul-08
P096785	Cambodia Statistical Development	168500	0	155918.91	14-Sep-05	31-Mar-08
P097082	KH Livelihood Enhancement & Asso. the Poor	965000	703305.88	261694.11	15-Sep-11	NA
		990000	0	989287.12	15-Sep-11	NA
P099111	KH-IDF for Strengthening Environment Management Capacity	235000	0	90055.52	18-Mar-05	2-Jan-09
P099488	KH: Strengthening National Audit Authority	211000	0	111979.98	2-Sep-05	13-Feb-09
P100084	KH-Avian Influenza Emergency Project	6000000	3205608.5	2685306	24-Mar-08	31-Dec-11
		3000000	1945920.62	1054079.38	24-Mar-08	31-Dec-11
		2000000	1109898	890101.94	24-Mar-08	31-Dec-11
P101156	KH-Demand for Good Governance	20000000	14589134	5323617.5	2-Dec-08	31-Mar-13
		1100000	0	0	2-Dec-08	31-Mar-13
		897240	0	0	2-Dec-08	31-Mar-13
P102184	KH - IDF for Civil Society	280000	0	40963.75	29-Jun-06	18-Sep-09
P102284	KH-Second Health Sector Support Program	30000000	16690065	11580427	19-Jun-08	30-Jun-14
		52092676	29754752	22337922	19-Jun-08	30-Jun-14
P102475	GPOBA: Cambodia Improved Access Telecom	2500957	0	0	2-Jan-09	30-Sep-11

Project		Amounts in USD			Approval Date	Closing Date
ID	Description	Principal	Available	Disbursed		
P105329	KH - GMS Power Trade Project	18500000	18305580	991838	5-Jun-07	31-Dec-11
P105397	Cambodia Environment & Protect Areas Management Project	551000	0	241065.03	12-Aug-09	NA
		410000	0	115240.33	12-Aug-09	NA
P106603	KH - Road Asset Mgmt (ADB/AusAID)	30000000	27606952	338562.56	20-May-08	30-Sep-13
		240000	240000	0	20-May-08	30-Sep-13
P106605	KH-HE Quality and Capacity Improve Project	11500000	11847265	500000	5-Aug-10	31-Dec-15
		11500000	11847265	500000	5-Aug-10	31-Dec-15
P109648	KH - Trade Development Support Program	12350000	11522609	827390.81	7-Jan-09	31-Mar-12
P109925	KH-EFA-FTI Catalytic Trust Fund	57400000	36900632	20499368	10-Apr-08	30-Jun-12
P111075	KH-Improving Corp. Financial Reporting	249918	88732	161186	30-Apr-08	26-Dec-11
P113529	KH PECSA - The Asia Foundation	578659	0	548596.31	28-Aug-08	30-Jun-10
P115459	DM2008 6275	100000	0	100000	18-Sep-08	1-Oct-11
P117203	KH-Smallholder Ag & Social Protection Support	5000000	0	5285214	9-Jul-09	31-May-10
		8000000	0	8000000	9-Jul-09	31-May-10
P117642	KH –Community-Based Agricultural Productivity	780000	639957.44	140042.55	2-Jan-12	NA
P121075	KH-Typhoon Ketsana Emergency Operation	20000000	20548572	0	2-Nov-10	31-Jul-14
		20000000	20548572	0	2-Nov-10	31-Jul-14
P121809	KH Agribusiness Access to Finance	2500000	2455328	0	16-Dec-10	31-Dec-18

Project		Amounts in USD			Approval Date	Closing Date
ID	Description	Principal	Available	Disbursed		
		2500000	2455328	0	16-Dec-10	31-Dec-18
P122975	KH -Pilot Prog for Climate Resilience I	1500000	1350000	150000	29-Dec-11	NA
P124942	Mekong IWRM Project APL Phase 2	340000	194483.06	145516.94	28-Feb-12	NA

Source:<http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/0,,countrycode:KH~menuPK:64820017~pagePK:64414648~piPK:64414956~subTitle:All+Loans~theSitePK:40941~pageNo:1~pageSize:Show%20All,00.html>.