

*Mekong (MK1) project on optimizing reservoir management for livelihoods, Challenge Program for Water and Food*

# POLICY REVIEW AND INSTITUTIONAL ANALYSIS OF THE HYDROPOWER SECTOR IN LAO PDR, CAMBODIA, AND VIETNAM

Final Report

May 2011

Prepared by Diana Suhardiman, Sanjiv de Silva (IWMI), and Jeremy Carew-Reid (ICEM)



**icem**  
Climate Change | Biodiversity  
Water | Integrated Assessments



CGIAR Challenge Program on  
**WATER & FOOD**

## CONTENTS

1. INTRODUCTION.....	5
1.1. Objectives .....	5
1.2. Methodology .....	5
1.3. Methods.....	8
1.4. Structure of the report .....	8
2. LAO PDR COUNTRY REPORT .....	8
2.1. Review of policy and legal frameworks .....	8
Policy cluster 1: General policy.....	8
Policy cluster 2: Energy-related policies .....	14
Policy cluster 3: Water resources management .....	20
Policy cluster 4: Environmental protection.....	22
Policy cluster 5: Land management .....	24
Policy cluster 6: Resettlement and compensation in development projects .....	25
2.2. Institutional analysis and the mapping of sectoral decision-making set up .....	27
Water Resources and Environment Administration (WREA).....	28
National Land Management Agency (NLMA) .....	30
Ministry of Energy and Mines (MEM).....	32
Ministry of Agriculture and Forestry (MAF).....	33
Ministry of Planning and Investment (MPI).....	35
Ministry of Finance (MoF).....	36
Electricité du Laos (EdL) .....	37
Lao Holding State Enterprise (LHSE) .....	38
Mapping of the decision-making landscapes.....	39
2.3. Operational decision-making set-up and procedure of hydropower development projects .....	40
3. CAMBODIA COUNTRY REPORT .....	44
3.1. Review of policy and legal frameworks .....	44
General policy .....	45
Energy .....	47
Water resources management .....	49
Environmental protection.....	50
Forestry.....	51
Fisheries.....	52

Land management .....	52
Resettlement and compensation in development projects .....	53
Discussion .....	54
3.2. Institutional analysis: Legislation, jurisdictions and sectoral decision making .....	55
Overall public sector decision making and planning.....	56
Environmental protection.....	62
Water resources management .....	65
Fisheries Management .....	69
Forestry Management .....	74
Land Management.....	79
3.3. Hydropower decision making .....	82
Discussion .....	90
Conclusions .....	92
4. VIETNAM COUNTRY REPORT .....	95
4.1. The natural resources management backdrop to hydropower development .....	95
Land Resources .....	96
Water Resources.....	96
Forest management.....	97
Energy .....	98
4.2. Hydropower planning in Vietnam.....	99
Hydropower Planning within the Energy Sector.....	100
The Vietnam Development Strategy up to 2020 Vision to 2050 .....	101
The National Power Development Plan.....	102
<i>The 6th National Power Development Plan</i> .....	102
<i>PDP Development Process</i> .....	106
<i>Operating, planned and proposed hydropower projects</i> .....	106
4.3. Hydropower Planning & Development Process.....	107
<i>Hydropower Master Plan Process</i> .....	108
<i>Provincial Master Plan</i> .....	109
<i>Plans for individual projects</i> .....	110
4.4. Linkages between hydropower planning procedures and related plans.....	111
Development Plans .....	111
Integration levels .....	112

4.5. Integration of environmental and social factors into the hydropower planning process .....	113
Environmental Impact Assessments .....	114
Environment Protection Commitments (EPC) .....	115
Strategic Environment Assessment (SEA) .....	115
National Assembly .....	116
Integration of environmental concerns in the 6th PDP .....	117
Social assessment and resettlement .....	117
4.6. Consideration of resettlement during hydropower planning process.....	121
4.7. Power development and purchase agreements.....	124
Power development agreements .....	125
Power Purchase Agreements.....	125
4.8. Hydropower project management .....	126
4.9. Hydropower as multiple use facilities.....	127
Conclusions .....	128
5.OVERALL SYNTHESIS .....	130
5.1. Obstacles.....	131
5.2. Opportunities.....	132
5.3. Recommendations .....	133
REFERENCES.....	134
Annex 1: National laws and other legal instruments related to resettlement (Vietnam) .....	139
Annex 2: Institutional arrangements of relevance to hydropower development.....	140
Ministry of Natural Resource and Environment (MONRE) .....	140
Vietnam Environment Administration .....	141
Ministry of Industry and Trade (MOIT) .....	143
Electricity of Vietnam (EVN) .....	144
The Institute of Energy .....	147
Power Engineering Consulting Joint Stock Company 3.....	148

## 1. INTRODUCTION

The report reviewed existing policies and legal frameworks relating to land-water-environment management with a focus on hydropower development and livelihood options in Lao PDR, Cambodia, and Vietnam. It described and analyzed the sectoral decision-making set up at national level. Later, this decision-making set up was linked with operational rules and procedures of hydropower projects in each of the three countries.

### 1.1. Objectives

The objectives of this policy review and institutional analysis are as follow:

- To identify the obstacles and opportunities which exist in the current policy, legal and organizational frameworks that regulate hydropower planning, development and management, and rural livelihoods development from the perspective of the project's goals.
- To be in a position to advice other project components on how the existing policy, legal and organizational frameworks can support or hinder the uptake of the preferred livelihood options which the project seeks to identify, test and promote.
- To provide recommendations on preferred/advised livelihoods options as part of the final project outputs.

### 1.2. Methodology

The overall analysis of this report comprises of three elements: the review of policy and legal frameworks; institutional mapping; and review of operational procedures with regard to hydropower development and livelihoods in each of the three countries (Lao PDR, Cambodia, Vietnam). This analysis follows an iterative process, rather than a step-by-step approach.

First, we summarized and reviewed national policies and legal frameworks on land, water, environment issue related to hydropower and livelihoods. Table 1 gives an overview of the reviewed policies and legal frameworks.

Lao PDR	Cambodia	Vietnam
The Seventh National Socio-Economic Development Plan (2011-2015)	The Rectangular Strategy for Growth, Employment, Equity and Efficiency (2003-2008)	National Socio-Economic Development Orientation (2001-2010)
National Growth and Poverty Eradication Strategy (NGPES)	National Strategic Development Plan (2006-2010)	Law on Electricity (2007)
Law on Investment Promotion (2009)	National Program for Sub-National Democratic Development (2010-2019)	National Energy Development Strategy up to 2020
Tax Law (2010)	Power System Development Plan	6 <sup>th</sup> Power Development Plan

	(2007-2022)	(PDP) (2006-2015)
Electricity Law (1997, 2010)	Renewable Energy Action Plan (2003)	7 <sup>th</sup> Power Development Plan (2012-2017)
Power System Development Plan (2004)	National Water Resources Policy (2004)	Development Plan for the Central Economic Focal Region (2010-2020)
National Policy on Sustainable Hydropower (2006)	MOWRAM Strategic Development Plan (2006-2010)	River Basin Master Plan
Renewable Energy Development Strategy (2010)	Law on Water Resources Management (2007)	Provincial Master Plan
Water and Water Resources Law (1996)	Land Law (2001)	Environment Protection Law (2005)
National Water Resources Profile (2008)	Land Policy (2009)	Decree no. 80/2006/ND-CP on Strategic Environmental Assessment (SEA)
Draft National Water Resources Policy (2010)	Master Plan for Fisheries (2001)	Circular 08/2006/TT-BTNMT on the required contents on an SEA report
WREA organization and staff arrangements for IWRM	Fisheries Development Action Plan (2005-2008)	National Hydropower Plan (2007)
Environment Protection Law (1999)	Law of Environment Protection and Natural Resources (1996)	Decree no. 197/2004/ND-CP on procedures for compensation
Decree on the agreement and endorsement of the National Strategy on Environment years 2020 and Action Plan for the years 2006-2010 (2004)	Protected Area Law (2008)	Decree and Circular no. 116/2004TT-BTC on the roles and responsibilities for implementation of resettlement projects
Land Law (2003)	Sub-decree on EIA process (1999)	
Decree on state land lease or concession (2009)	Sub-decree no. 19 on social land concessions (2003)	
Instruction as regards the implementation of decree on state owned land approval for lease or concession (NLMA, 2010)	Forestry Law (2002) and National Forest Policy (2002)	
Decree on Compensation and Resettlement of People Affected by Development Projects (STEA, 2006)	Sub-decree no. 79 on community forestry management (2003)	
Regulations for Implementing Decree on Compensation and Resettlement of People Affected by Development Projects (STEA, 2006)	Strategy for Agriculture and Water Resources (2006-2010)	
	Sub-decree on water pollution	

	control (1999)	
--	----------------	--

Table 1: Reviewed policies and legal frameworks in land-water-environment management with focus on hydropower and livelihoods

During the review process we discovered that land-water-environment management is not consistently defined legally. The existing legal frameworks resemble both conceptual and operational gaps in terms of land-water-environment management policy both horizontally (between the different government agencies at each administrative level) and vertically (between the same government agencies at different administrative levels). Our response to this inconsistency and policy gaps is that they exist not without reasons. So, rather than saying that there is a gap that needs to be filled, our approach is focused on trying to understand why this gap exists in the first place. To answer this question, we look at the rationale behind policy formulation, key assumptions behind this rationale, targeted policy outcome, and key indicators to measure this outcome.

Our hypothesis is that policy gap exists because each policy is defined and formulated based on a different set of (sectoral) rationales and variables, not necessarily linked to each other. We analyzed this policy gap and inconsistency from the perspective of legal pluralisms (Griffiths, 1986; Guillet, 1998). Moving beyond the normative approach towards policy making, policy recommendations from this study is focused on identifying policy entry points to improve existing linkages with regard to coexisting sectoral legal frameworks, from the context of hydropower development and livelihoods. So, rather than striving towards holistic and 100% policy consistency, which is desirable from the planning perspective, we took a more realistic approach to link the different policy rationale concerning land-water-environment management.

Second, we brought to light the sectoral decision-making set up at national level. We identified the agency responsible for the role/task defined in the legal frameworks and look for possible complimentary, overlapping and/or gaps and how this affects each agency’s actual involvement vis-à-vis their formal role and decision-making authority. This institutional mapping focuses on looking at the organizational structure of the relevant sector ministries, their tasks and formal mandate, and whether the current institutional set-up is conducive in enabling them to exercise their role effectively and how these influence what the project is trying to achieve. The link to provincial, district down to commune system will form an integral part of the in-depth field research planned from June to August 2011. The resulting report from this field research will be supplementary to this report.

For Laos, this institutional mapping includes Water Resources and Environmental Administration (WREA), National Land Management Authority (NLMA), Ministry of Energy and Mines (MEM), Ministry of Agriculture and Forestry (MAF), Ministry of Planning and Investment (MPI), Ministry of Finance (MoF), Electricité du Laos (EdL), and Lao Holding State Enterprise (LHSE). For Cambodia, it includes Ministry of Planning (MoP), Ministry of Rural Development (MRD), Ministry of Industries Mines and Energy (MIME), Ministry of Environment (MoE), Ministry of Agriculture Forestry and Fisheries (MAFF), Ministry of Water Resources Management (MoWRAM), Electricity Authority of Cambodia (EAC), and Electricité du Cambodge (EdC), among other key agencies at provincial, district and commune level. In Vietnam Ministry of Agriculture and Rural Development (MARD), Ministry of Natural Resources and Environment

(MoNRE), Ministry of Planning and Investment (MPI), Ministry of Industry and Trade (MoIT), Ministry of Science and Technology (MoST), Electricity Regulation Authority (ERA), Vietnam Electricity Group (EVN), Institute of Energy, are included in the mapping process.

In addition to the above institutional analysis, we looked at how sectoral ministries and private sector actors are involved (directly and indirectly) in hydropower development project operation, in terms of policy procedures to be followed, documents to be approved, agreement to be made, and related activities to be conducted in the field.

### **1.3. Methods**

Our research methods include secondary data analysis (legal documents and policy reports); key informant analysis and semi-structured interviews with government officials from relevant ministries in each of the three countries as well as other relevant actors (i.e. private sector, academics, international/national legal advisors, NGOs and civil society groups). The subject matter covered by the literature reviews and key-informant analysis/semi-structured interviews addressed the two strands of investigation of this report: a) hydropower development and related decision making with special attention on social and environmental impacts assessment, and b) the management of natural resources more broadly with an emphasis on the linkages to support local natural resources based livelihoods.

### **1.4. Structure of the report**

The report comprised of three individual country reports (Lao PDR, Cambodia, Vietnam). Following detail policy review and institutional analysis in each of the three countries, we synthesized our main research findings in the concluding section.

## **2. LAO PDR COUNTRY REPORT**

### **2.1. Review of policy and legal frameworks**

We defined six policy clusters in this review. The first five clusters include general country strategies, energy policy, water resources management, environmental protection, and land management, respectively. The last cluster is about resettlement and compensation in development projects in particular.

#### **Policy cluster 1: General policy**

*The Seventh National Socio-Economic Development Plan (2011-2015) Executive Summary (Ministry of Planning and Investment, unofficial translation from original Lao version)*

The plan highlights the GoL's objective to promote rapid economic growth (8% annually) and emphasizes the need to mobilize domestic and foreign funding to ensure the realization of the targeted



growth. Industry together with agriculture-forestry and services sector are major sectors where the government withdrawn its revenue. In the past 5 years industry sector increased by 12.5% annually, accounting for 26% of the gross domestic product (GDP); agriculture/forestry sector increased by 4.1%, accounting for 30.4% of the GDP; services sector increased by 8.4% annually, accounting for 37.2% of the GDP.

In line with this objective, development target in the energy sector is focused on the need to proceed with the implementation of hydropower projects (through construction and completion of important energy infrastructure such as dams and transmission lines) for revenue collection from the generated/exported electricity. The plan has the tendency to favor private investors' involvement in hydropower development as a means to address the problem of inadequate, unpredictable revenue collection and high reliance on foreign aid, which could hinder the government to achieve its targeted economic growth. As stated in the plan: *"While the budget balance appears to have improved, reliance on foreign aid is still high. Domestic revenue collection is unpredictable as revenues that are collected in some fiscal years are not as adequately collected in other fiscal years. This affects the utilization of domestic revenues for public spending"* (page 8).

The plan highlights the need to move toward quality and sustainability of development integrating the three elements of economic growth, social justice and modernization, and sustainable environmental protection (page 10). It identifies specific directions in rural development and poverty reduction targeting poor villages all over the country. These targets include decrease poverty to less than 19% of the total population and 11% of total households in the country by 2015; expand electricity and access to clean water in rural areas covering respectively 60% and 75% of the rural population. It does not elaborate, however, on the link between revenue collection from hydropower and poverty reduction program financing. The plan defines public expenditure at a level of 20-22% of GDP but does not elaborate on how the amount of expenditure will be channeled to the relevant sectors (health and education).

Similarly, while the plan target both national economic growth and ensure the preservation of natural resources and environmental protection, it does not clarify how these two targets are linked to each other and where the priority lies. In the energy sector, the GoL targets the construction of 10 more large dams to produce 5,015 MW power; ensures that the number of households who access electricity increases to 80% by 2015; and complete transmission lines (115 Kv) in the north, central and south regions to meet the power demand. Yet, it is unclear how revenue from electricity export is linked to rural electrification targets. In the environmental protection context, government targets are less concrete (i.e. the protection of the quality of the environment such as water, land, air). In addition, the plan mentions the need to develop spatial planning for land allocation, but not taking into account hydropower and mines as decisive factors that influence actual shaping of the plan.

In summary, the plan shows how hydropower development has become one of the government's development priorities to ensure economic growth and reduce poverty. The former is evident in the way the sector development was able to absorb foreign investments to the country. The latter has still to be

clarified in terms of how revenue collected from hydropower is redistributed or channeled to relevant poverty reduction activities/programs.

#### *National Growth and Poverty Eradication Strategy (NGPES)*

In line with the national socio-economic development strategies (NSEDS), the NGPES has dual objectives: enhancing growth and development; and reducing poverty. The NGPES defines economic growth, socio-cultural development and environmental preservation as the three pillars of the Lao PDR's development policy, but implies strong emphasis on economic growth, as this becomes evident in the GoL's dependency on private sector financing. As stated in the NGPES: *"The private sector, trade and domestic/foreign direct investment are expected to be prime factors in driving the economy and every effort must be made to ensure a positive business environment for them. Consultation with the private sector will be enhanced and licensing and other regulatory concerns streamlined"* (page 5). From the gross investment of approximately 26% of GDP, 16% of it will have to come from private investment. This highlights the government's tendency to favor power company (i.e. in case of land dispute as regard concession agreement shaping) as the main tax payer that contributes significantly to revenue collection as well as the important role played by hydropower sector development in providing the government with the needed revenue to achieve the targeted economic growth.

The NGPES operational framework defines four main sectors (agriculture/forestry, education, health, infrastructure with focus on rural roads) which will be the government's main focus. For this the GoL relies on supporting sectors or sectors with high potential for growth to achieve industrial development. These sectors are: energy and rural electrification, agro-forestry, tourism, mining, and construction material industries. The rationale behind hydropower development in Laos is rooted in the way the GoL positions the sector's development as a means to promote economic growth through both investment and revenue collection. As stated in the NGPES: *"Hydropower is already a major contributor to economic output, government revenues, and export earnings. However, only 623 MW of an estimated 18,000 MW of hydropower potential has so far been developed. The Lao PDR has one of the lowest levels of electrification in Asia as only 20% of all villages and 34% of households have access to electricity. The development of the country's hydro-electrical potential and rural electrification is thus integral to the national development framework"* (page 103).

The GoL's attempt to shape the revenue development sustainably following the logic: economic growth leads to increase in revenue collection and poverty reduction. This logic prompts the government to be very active in building up and strengthening the conditions for economic growth. It also determines GoL's strategy to eradicate poverty by ensuring sufficient investment from the private sectors, assuming that this investment will automatically ensure economic growth and reduce poverty.

The government in discussion with provincial authorities, line ministries and other stakeholders has reached an agreement that poverty reduction at the district level should be the priority focus. As stated in the NGPES poverty is defined as: *"the lack of ability to fulfill basic human needs such as not having enough food, lacking adequate clothing, not having permanent housing and lacking access to health, education and transportation services"* (Instruction no. 010/PM, 25 June 2001). District level was chosen

perceiving it as the most relevant and reliable level for data collection on poverty monitoring. As stated in the NGPES: *“Districts are the level where coordination, consultation and participation can best be achieved”* (page 4). A core group of the 47 poorest districts has been selected for priority investments between 2003 and 2005. The delineation of poor districts is conducted using six indicators: rice production per person, large livestock per person, forested area per family, use of roads, maternal/infant mortality rates, and the percentage of illiteracy. The first four indicators relate to income and food production and the remaining two relate to social development. The GoL intends to encourage ‘development funds’ for the poorest districts to enable them to engage in income generating activities. It is important to know and understand about how these funds are channeled and managed, by whom, through which mechanisms, and referring to which criteria.

The question remains, however, how economic growth, revenue collection and poverty reduction can be optimally linked. Like the NSEDS, the NGPES does not elaborate on how the targeted economic growth could eventually reduce poverty in terms of direct cash flow from tax/revenue from productive ministries such as MEM, MPI, MAF to for instance the Ministry of Education and the Ministry of Health. Within the context of energy sector, the NGPES emphasizes on targeting provision of domestic electricity supply and rural electrification. The question remains how this target is linked to revenue from hydropower plant which is developed mainly for export to neighboring countries (Thailand and Vietnam). Currently, MEM proceeds with rural electrification program supported mainly by funding from international donors (Government of Finland). In addition, the NGPES emphasizes the importance of electricity provision as a means to benefit the local population. Yet, the question remains whether EdL actually is able to use tax revenue from hydropower export to financially ensure domestic hydropower supply provision.

Moreover, the poverty assessment methods applied in the NGPES does not include any parameter on access to natural resources as a means to ensure food security (i.e. capture fisheries resources) to increase household income. Current evaluation on poverty shows that the vulnerability index is constructed using social and economic indicators as the key determinants of food insecurity and vulnerability, rather than consumption as a measure of poverty. This evaluation includes risk factors at the household and village level as well as the coping responses to these factors. Qualitative participatory approaches to poverty analysis, however confirms that in the minds of villagers poverty is an issue of livelihood. As long as they are able to meet their consumption needs, they do not consider themselves poor. Here poverty relates to people’s livelihoods and their access to natural resources as a means to ensure their food security (i.e. rice sufficiency, protein intake). This aspect of poverty analysis highlights the important role of agro-systems in either accelerating or undermining the GoL’s pace to reduce poverty. There is a need to develop actual poverty indicators which reflects people’s perception of poverty within the context of hydropower development. These indicators can be used to measure the role of hydropower in reducing/increasing poverty as well as starting points to improve rules and procedures on resettlement/compensation issues within hydropower projects.

The NGPES also states the need to be fully responsive to the needs of both public and private enterprise, as well as provide the policy and regulatory framework that conserves the environment and improves

the livelihoods of the local population. The government's policy on governance issues stressed four priority areas regarding the consolidation of public sector management. These areas are: public service improvement, central-local relations, legal framework and socio-economic management. As stated in the NGPES: *"The government is committed to ensure that the Lao people are closely consulted in all areas of decision-making and that they participate fully in the economic, social, cultural and political development of the country. To this end, the government is redefining central-local relations"* (page 48). According to the Instruction no. 01/PM (11/3/2000) the provinces are the strategic units, the districts are the planning and fiscal units, and the villages are the implementation units. Within this framework, each ministry is gradually defining the central, provincial, district and village levels of responsibility, as part of a fully integrated approach to improve the management and delivery of public services. Similarly, it is stated that the system of decision-making must be more community-based, transparent and accountable. These can be used as our entry point to provide policy recommendations on how to incorporate the chosen decision-making principles as an integral part of hydropower decision making both at project level (overall formulation of resettlement plan, compensation and grievance procedure) and national policy formulation with regard to national development plan such as integrated land use planning and management.

In addition, the NGPES shows that government has adopted an area focused development approach, which places a high priority on more sustainable land use and the identification and designation of agro-ecological classifications. Similarly, the NGPES mentioned the Agriculture Promotion Bank which function is to structure loans to meet farmers' needs and facilitate micro finance (page 59). Theoretically, these can be used as entry points for MK1's recommendations on the livelihoods options.

#### *Law on Investment Promotion (National Assembly, 2009)*

The law has the main objective to sustainably enhance the roles and benefits of investments for optimal contribution of the national socio-economic growth.

The law assumes both the existence of sectoral development plans as well as the incorporation of these plans as integrated parts of the overall existing national policy, strategy and other related socio-economic development plan. As stated in the law: *"The investment promotion shall be in line with the national policy, strategy, socio-economic development plan, the sectoral development plan, areas and the periodic socio-economic growth, the improvement of the living conditions of people in compliance with laws and regulations"* (article 5). In practice, when (cross-) sectoral development plans are absent, investment rules and procedures become the ad-hoc mechanisms that shape (cross-) sectoral development/management. Furthermore, in the absence of cross-sectoral coordination and a fine-tuned sectoral development master plan(s), the law indirectly delegates the responsibility to monitor and evaluate investment to sector ministries, provincial authorities, without emphasizing the need to coordinate each investment activities as part of the national development master plan.

The law assigns the MPI and Ministry of Industry and Commerce (MIC) as the investment administration authorities which have the rights to propose solutions to relevant authorities (sectoral ministries) for their consideration if they find any violations of the laws and regulations related to investment (article

93). This assignment brings to light how cross-sectoral development is regulated from different perspective by different government agencies (WREA in charge for regulating water resources management, NLMA assigned with the task to formulate integrated land use planning, MPI and MIC with the task to regulate investment). The law states that all activities of enterprises shall be managed, monitored and inspected by relevant sectors (Article 93). This inspection includes the inspection on the environmental protection based on the EIA. Theoretically, this inspection can act as an entry point for the local community to address their concerns about project development impacts.

The law defines three types of investment: general business, concession, and activities for development of special and specific economic zones. In the context of hydropower development (concession business), investors shall submit the application to the one-stop-service of the Planning and Investment authority for consideration and then the application will be proposed to the government or provincial authorities for further consideration (article 21). This procedure brings to light the important role of the planning and investment authority (MPI) in shaping the overall pattern of investments. Later, this selection is channeled to relevant sectoral ministries and provincial authorities for consideration. In theory both the investor and government authorities will formulate the concession agreement which shall define the objective, value, terms, conditions, rights and obligations of contracting parties. After agreement from both parties, and approval of the agreement from all government authorities (provincial, sectoral ministries), MPI will issue a concession registration certificate to the investors as formal approval of the investors' concession rights. The law also mentions the role of National Land Management Authority (NLMA) in the calculation of compensation costs of land use, but does not specify on NLMA's involvement in the overall negotiation processes.

The law mentions the investment calling list as a list of projects and activities that are considered important for national economy and have been officially approved by the government or provincial authorities, but still needed the capital to develop it (Article 29). The presence of this investment calling list in the absence of national master plan incorporating (cross-) sectoral development plans implies the government's tendency to pull in investment as a means to promote economic growth. The question remains whether the listed projects and activities are fine-tuned to each other, rather than being listed separately by different sectoral ministries/provincial authorities.

The law defines promoted zones for investment into three categories: zone 1 where there are insufficient socio-economic infrastructures favorable to facilitate investment; zone 2 where there are some infrastructures that are partially able to facilitate investment; zone 3 where there are good infrastructures available to support investment (article 50). Incentives related to profit taxes are defined in accordance with the zones categories (article 51). In the context of hydropower, power companies will have better incentives related to profit taxes as hydropower dams/infrastructures are usually built in areas classified under zone 1.

With regard to environmental protection, the law states: *"The investors are obliged to protect environment; investors must ensure that their business activities do not cause severe impacts to the public, national security, public order or health of employees. In the event of causing any environmental*

*problems, the investors have to undertake necessary measures to address these problems in a timely manner and in accordance with laws” (article 70: page 26). Like any other government regulations, decree, and technical guidelines on issues relevant for the environment (see policy cluster 5), the law formally states the investors’ duties and obligations to protect the environment but does not elaborate on how the government should/could control, monitor, and evaluate investors’ code of conducts in this regard. As stated in the law: “The sector or level that issues the registration certificate shall manage, monitor, inspect and evaluate the investment in collaboration with other relevant sectors and local authorities, and regularly report to higher levels” (article 83, page 30).*

In line with the NGPES, the law incorporates the principle of decentralization and gives provincial and local authorities greater role in shaping the overall investment activities (article 84). As stated in the law: *“Local administrative authorities are responsible to participate in the management of investments according to their own roles, of which the registration certificates were issued by the central authority, but operated in their locals” (page 31).* Local authorities’ decision-making power is limited, however, in terms of suspending, changing, canceling and terminating investment activities as these can only be done by those who issue the registration certificates.

#### *Tax Law (2010)*

The law defines the different types of tax, but does not link tax collection procedures and objectives with government’s revenue management. It does not elaborate on how tax collection from each sector development is related to government’s expenditure for each particular sector, and thus how the Ministry of Finance manage the overall process of revenue redistribution, and whether this is in line with the principles/approaches outlined in the NGPES. In the context of hydropower development the law does not clarify how revenue from electricity export could eventually be rechanneled to support the affected population in terms of health/education improvement, beyond the standard resettlement and compensation cost covered by the private investors.

## **Policy cluster 2: Energy-related policies**

#### *Law on Electricity (Ministry of Industry and Handicrafts, 1997)*

The Law on Electricity highlights the role of power generation as an integral part of the country’s national socio-economic development plan (Article 1). It promotes (foreign) investment in power generation and derives on the principle of economic efficiency as the basic foundation in hydropower development, as means to generate state revenues (Article 4 and 6).

In accordance with the rationale of hydropower development, the law places the responsibility to protect the environment in the hand of private developers operating the power plants. How does this responsibility link to different ministries’ (WREA and MEM) tasks and roles in environmental management remains unclear, as currently the GoL still lacks any strategic plan to regulate electricity enterprises or the so-called Independent Power Producers (IPP). It includes feasibility study and EIA as two separate components in hydropower development stages. The former concerns mainly with project socio-economic value, while the latter with potential social and environmental impacts. Thus EIA is not

incorporated as an integral part in the feasibility study, but rather as a side element upon which the project's feasibility is not referred to or based (Article 14). This separation/isolation is evident from the defined criteria for concession approval, which focuses mainly on the company's financial and technical capacity and their economic trustworthiness (Article 15).

With regard to poverty reduction, the law does not specify on how the revenue collected from hydropower will be channeled to the state's treasury and how this will be later redistributed by the Ministry of Planning and Investment (MPI) and Ministry of Finance (MoF) into development funding allocation for different sector ministries and government agencies.

*Law on Electricity (Ministry of Energy and Mines, 2010)*

In line with the focus of the previous law on the role of private/foreign investment in Laos' energy sector, the new Law on Electricity focuses on the formulation of rules and procedures for electricity enterprise and electricity business. As stated in the law, the operation of electricity enterprise and business must follow the principle of efficient, economic and sustainable development in line with the GoL's socio-economic development plan; the need to protect the environment (forest and water resources) in accordance with security assurance. The way the law refers to the GoL's national socio-economic development plan indicates the sector's importance for the government to achieve its defined goal towards poverty reduction and the country's removal from the list of the least developed country by 2015. Achieving the latter objective will be indicated by the country's increased GDP. In line with this objective, GoL uses hydropower sector as one of its means to attract foreign/private sector investment to increase the country's economic growth, as this is crucial for achieving GoL's development target. Again, the question remains, how the GoL would link economic growth with poverty reduction, through for instance optimization of revenue collection.

The law states the need to formulate electricity development plan which includes strategic plan, long-term, intermediate, and short-term work plan (see also PSDP, 2004). It assigns MEM with the task to prepare strategic master plan, electricity development plan and to disseminate the plan. In contrast with NGPES and NSEDS which encourage decentralized decision making, the law promotes the establishment of centralized planning in electricity development (Article 65). It assigns the MEM with the leadership in electricity development planning including coordination and cooperation with NLMA and other government agencies with regard to land use planning in the concession zone. In practice, MEM is in charge for hydropower development from its early stage (feasibility study) up to power generation (see decision-making flowchart and procedure in hydropower development in section 2). The question remains whether centralized planning can be materialized within the context of erratic financial supply vis-à-vis GoL's lack of financial sources to conduct hydropower development (see also PSDP 2004).

The law divides electricity business into 2 categories: 1) general electric business which includes planning, survey and data gathering, design, construction, installation, supply and general services; 2) electric business by concession which includes production and electricity distribution by private sector. This distinction assumes that electric business by concession was conducted and regulated based on the existing master plan. Hence, it can focus mainly on electricity production and distribution, without much

emphasis on planning, survey, data gathering as such. In practice, the absence of such a master plan raise question whether current rapid hydropower development by private sector financing is conducted in the most strategic way (economically, socially, and environmentally) for optimal benefit of the GoL and its population.

The tasks and responsibilities in hydropower development are divided referring to the size of each project's installation capacity as follow:

- Electricity project with installation capacity less than 100 KW is approved by the Office of Planning and Investment with agreement of major of district or head of municipality.
- Electricity project with installation capacity from 100 KW to 5 MW is approved by the provincial Service of Planning and Investment with agreement of governor of the province.
- Electricity project with installation capacity from 5 to 100 MW is approved by government with suggestion of the MPI.
- Electricity project with installation capacity over 100 MW or with reservoir covering more than 10,000 ha or with so much impact on environment, society and nature, the government suggests to National Assembly standing committee for agreement.

Referring to the above distinction, the spatial distribution of existing, planned hydropower projects can be identified (see BDP1 data base report). Consequently, this spatial distribution will determine key actors/decision makers in hydropower development landscape in Laos.

Rights, duties, obligations of producer, supplier and consumer of electricity are defined referring mainly to electricity service provision, not directly linked to how the construction of service provision infrastructure could potentially impact the environment. Similarly, conflicting parties are defined limited to electricity business, and local government, not necessarily involved the local population and potentially affected people. In addition, the law mentions external inspection as one of the control mechanisms in hydropower development. Yet, it does not clarify/identify issues/factors which can precede this inspection in the first place. How can one initiate such inspection? How is it linked to the issue of public participation in for instance resettlement/compensation/EIA?

In summary the new law on electricity continues to promote private/foreign investment in the hydropower sector as well as MEM's leadership in shaping hydropower development.

Issues need to be addressed in the formulation of the master plan (but not mentioned in the law) are the following:

- How should electricity use for domestic and export purposes be determined and regulated in line with purchase/selling cost for oversea and domestic electricity use (see Article 49)? See also the need to regulate electricity tariff for export as stated in the PSDP 2004.
- How can the balance between economic development and environmental protection be pursued in hydropower development, through what policy measures and how these measures can be incorporated as part of hydropower project management procedure?



- How should the plan take into account the issue of revenue collection from the different land use types (individual land tax, concession fee, environmental services) vis-à-vis GoL's interest to promote economic growth?
- The law mentions rural electrification but does not link it with power export in terms of revenue redistribution from generated power for export.

*Power System Development Plan for Lao PDR (Final report, August 2004), prepared by Maunsell and Lahmeyer International*

Laos power system development plan is based on the country's overall objective to bring electricity to 90% of households in 2020<sup>1</sup>. Lacking the financial source to build the power system, Electricite du Laos' (EdL) strategy is to earn its revenue from electricity exports to neighboring countries (mainly Thailand) and use this revenue to increase its financial capacity to pursue the defined development target (both through off grid electrification and grid extension program)<sup>2</sup>. Hence, the power sector serves two vital national priorities: 1) promote economic and social advancement by providing a reliable and affordable domestic power supply; 2) earn foreign exchange from electricity exports.

Both EdL and the MEM depend on Independent Power Producers (IPP) or private investors to finance hydropower development in the country. This dependency reduces EdL's ability to formulate power system development plan as to balance energy supply and demand. In theory, EdL can formulate the plan. In practice, lacking the financial means EdL could hardly control the plan's progress both in terms of timing and sites selection. Within the Ministry of Energy and Mines (MEM), the Department of Electricity (DoE) is responsible for the formulation of such plan as part of the country's energy policy. In practice, the policy formulation process was halted in 2003. Referring to both EdL's and MEM's dependency towards IPP, there is little relevance to formulate such a plan. At the moment, hydropower development planning is limited to identification of potential sites and the updates of selected sites, conducted annually by the DoE.

GoL's financial dependency towards IPP brings to light the important role played by private investors as the backbone of hydropower development in the country, their role in shaping the overall investment climate and its consequences for the formulation and application of government rules and regulations in the sector development. The rationale to either regulate or plan is side lined by the need to encourage private sector investment in hydropower development to promote economic growth and increase export revenue. Government rules and regulations have the tendency to facilitate private investors' interests rather than to strictly regulate and control their conducts, as government depends on the incoming financial sources to generate export revenue. It is in EdL's and MEM's interest that the planned dam can be constructed and commissioned according to the defined schedule, and thus to facilitate and ensure that private investors (IPP) can proceed with each stage in hydropower development (from the signing of the MoU to power generation) smoothly, as to ensure direct revenue

<sup>1</sup> Later this objective is incorporated into the GoL's national socio-economic development plan and hydropower sector development becomes one of the government's financial sources not only to earn foreign revenue but also to promote rapid economic growth.

<sup>2</sup> Economically it is not feasible to connect all households to the grid system due to potential technical complexity and low potential economic return.

flows from export. In this context, government's approval with regard to land concession, EIA and others can mean two things: 1) that EdL and MEM ensure IPP to follow the criteria for approval or 2) that land concession and EIA become more of a formality with the outcome already defined beforehand.

Government's inability to finance hydropower development without substantial back up from the private investors and the absence of consistent power system development plan reduce the GoL's bargaining position to negotiate electricity tariff with the neighboring countries power purchasers, such as Electricity Generation Authority of Thailand (EGAT) and Electricity Vietnam (EVN). At present electricity tariff is negotiated between EGAT/EVN with the project investors, on project-by-project basis. EGAT and EVN have the advantage in such negotiations because they do not depend on a single project. Unlike project investors who can only sell the generated power to EGAT/EVN, EGAT/EVN can buy the generated power from different private investors working on different hydropower projects. Consequently, compromises by private developers on tariff issue reduce tax and royalty fee to the government of Lao PDR (GoL). This situation highlights the need to have a regulator to not only set domestic retail tariff but also to negotiate wholesale export tariff, so that these tariff can be pre-set before bidding power generation concessions as such that bidding would be based on criteria which are more beneficial to the GoL, such as which developers are able to pay the highest royalty fees.

Private developers have the tendency to invest in hydropower projects larger than 100 MW (rather than the smaller ones) as the actual profit that can be gained from projects under 100 MW does not justify the time and resources they have to spend on negotiating the power purchase agreement, completing the transmission interconnections, and administering the ongoing commercial arrangements. The current lack of whole-sale electricity tariff obliges private developer to negotiate about the tariff with EGAT or EVN on individual project basis, and indirectly creates administrative burdens if they have to negotiate for each small project they have. Private developers' tendency to invest in projects larger than 100 MW brings to light the fact that the development of domestic small-scale power plants depend primarily on EdL's ability to use the earned export revenue to finance these small projects. Crucial in this regard is how EdL formally and actually links revenue from power export with domestic power generation so that the former becomes the means to promote the latter, and not becoming a goal of its own.

GoL's inability to finance its hydropower development transforms its position as a country with high potential of hydropower into a disadvantageous position as its dependency on IPP handicaps it to direct hydropower development strategically to promote the country's economic and social advancement. From the macro- economic perspective, GoL's dependency to IPP reduces its ability to negotiate about electricity tariff, tax and royalty fee as it has the tendency to accept any term proposed in the agreement, seeing it merely as the only way to proceed with hydropower development. From the governance perspective, this dependency reduces GoL's ability to regulate hydropower development in terms of formulating, implementing and enforcing policy measures to ensure sustainable hydropower development. As stated in the report: *"Transparency in concession negotiations is lacking and leaves GoL vulnerable to unreasonable risks and harsh commercial terms. GoL is particularly vulnerable to unfair determination of a project's capital costs"*.

Besides, potential competition from Myanmar and China as power suppliers in the region adds to the current rationale of hydropower development in Laos, and the GoL's strategy to get as many projects as possible financed by private investors. This competition, the dependency on IPP, project-by-project tariff negotiations partially contribute to GoL's strategy to promote rapid hydropower development. Put differently, from the GoL's point of view, the long term strategy on hydropower development might not even be realistic in five years from now, if private investors decide to change their investment strategies.

The current situation highlights the need to focus on policy reform as means to monitor and guide IPP conducts both at policy and project level. Parallel to this, there is a need to provide incentives for GoL to formulate power system development plan, in which IPP conducts can be governed more strategically as to ensure that GoL receives optimal benefits from hydropower. The report attempts to address the problem of uncertainty of IPP through identification of fall-back projects and the specification of the substitution procedures such as penalty-based system. We doubt whether these measures will work as it does not follow the principle of profit generation and economic gains governing private sector involvement in hydropower. For instance, why would private investor agree to invest in something which realization is unclear/uncertain as it is classified as fall-back project? Similarly, the substitution procedures can discourage private sector to invest, fearing the penalty. What would be the incentives of private developer to invest in fall-back project and agree on substitution procedures?

#### *National Policy on Sustainable Hydropower (STEA, 2006)*

The national policy on sustainable hydropower (NPSH) formulation originates from the World Bank's objective to translate lessons from Nam Theun 2 project as part of national policies that can promote and guide sustainable hydropower development in Laos. The policy implies a close linkage between government agencies and private investors in hydropower development. It formally presents the role of hydropower to generate government's revenue, promote economic growth and alleviate poverty (see first paragraph in the background section). It is founded on three principles of sustainability (economic, social and ecological).

The NPSH highlights the need for information disclosure for any project reports, assessments, mitigation plan and monitoring reports; to include environmental assessment as an integral part in hydropower development; to recognize the rights of project affected people; as well as project's compliance to existing policy frameworks as to ensure sustainable hydropower development. In addition, it proposes the creation of Environment Protection Fund (EPF) to tap a certain portion from hydropower revenue.

The NPSH lacks the institutional framework on task/responsibility division, potential joint collaboration and necessary coordination between different relevant government agencies. For instance, with regard to project affected people, the policy is unclear about who will define the resettlement plan, approve or monitor the plan. Surprisingly, NPSH is formulated and supposed to be implemented by STEA through LEnS (Lao Environment and Social) project funded by the World Bank and not by the MEM as the key actors in hydropower.

### *Renewable energy development strategy of the Lao PDR (MEM, 2010)*

The draft renewable energy development strategy highlights the need to regulate current practices on renewable energy. It argues that commercial small hydropower development has been limited due to the lack of clear policy and sound regulatory framework, as well as detailed implementation strategy. Policy and regulation can be formulated to promote renewable energy development (small scale hydro), but they cannot sideline the dominant economic rationale that guides private investor's decision to invest in large-scale hydropower projects (above 100 MW) (see review on Law on Electricity 2010 for elaborate discussion).

### **Policy cluster 3: Water resources management**

#### *Law on Water and Water Resources (National Assembly 1996)*

The Law on Water and Water Resources places the duty and responsibility to use available water resources and inspect this use to relevant sectoral ministries assigned with the task to plan and conduct sectoral development activities (Article 22 and 37).

The issue of potential conflict of interest and the vicious cycle of coordination-regulation-bureaucratic competition highlight the dilemma in water resources policy planning. Possibly, assigning WREA with coordination/regulatory role could result in the formulation of good policies that are unimplementable.

In addition, the law distinct small-scale/medium from large-scale use of water resources with the former can be done without formal/legal approval, as required for the latter (Article 14 and 15). In the context of hydropower development, the flexibility in the former use can result in community's water use rights not being acknowledged and recognized within the project setting.

#### *National Water Resources Profile (WREA, 2008)*

The National Water Resources Profile reflects the rationale and reasoning behind the formulation of the Draft National Water Resources Policy (August 2010 version). The draft NWRP is formulated to address the existing policy gaps in the Prime Minister's Decree on Implementation of Land, Water and Water Resources (2001), which was promulgated to implement the Law on Water and Water Resources (1996). As stated in the profile: *"One of the weaknesses of the LWWR is its delegation of water resource policy and regulatory functions to water development ministries. These functions may conflict with the water development and service delivery roles of these ministries and their agencies. The LWWR also appears to have gaps with respect to such things as information management, the coordination of water resource and environment management"*.

Responding to this weakness, the profile proposed the full establishment of WREA (at provincial and river basin level) as to strengthen it to lead IWRM activities in the country. The profile highlights the potential role of WREA in addressing the existing policy gaps in water resources management, its role in data and information management, and in planning water resources management system. WREA's potential role is projected following IWRM principles imposing cross-sectoral coordination in water

resources planning on sectoral ministries, without linking the need to integrate with these ministries' development perspectives. This imposition became evident in the way the draft NWRP hardly deals with task division, role sharing between WREA and sector ministries.

WREA full establishment would not address the problem of water resources management and coordination as long as the vicious cycle of coordination-regulation-bureaucratic competition remains unaddressed. Put differently, WREA would not be able to fulfill its regulatory/coordination role if a well functioning inter-ministerial/cross-sectoral platform remains absent. WREA cannot enforce sector ministries to follow the defined regulatory coordination rules if these ministries do not see any benefit to comply with the rules, not to mention if these rules conflict with their sectoral development perspectives, and thus how such compliance could potentially reduce sectoral's ministries' decision-making authority.

Current problem of lack inter-ministerial/cross-sectoral coordination and the absence of a well-functioning regulatory body cannot be addressed simply through the creation or establishment of a new government agency assigned with the tasks, without support and commitment from sectoral ministries. The profile states: WREA water resources data and information strategy is needed to guide the functions of the various agencies involved in water resources (page ix). The question remains on how WREA can guide the agencies that are not waiting for any (external) guidance in their sectoral development performance especially when this guidance does not necessarily take into account their sectoral development interest.

At the moment, attempt to address existing policy gaps and inconsistencies result primarily in parallel institutions in charge for the implementation of parallel development programs without any connection to each other. The full establishment of WREA would only add a new line of command/authority next to those of sectoral ministries and their representatives at provincial and district level. Linking access to development funds with access to decision making authority and to a certain extent bureaucratic power, parallel program implementation highlights the need to create parallel access to development funds (EPF, PRF, WRPF, REF). Moreover, the profile mentions that the lack of water resources planning and strategy is linked to the way water resources are managed on a project by project basis (similar to hydropower development).

#### *Draft National Water Resources Policy (WREA, 2010)*

The draft National Water Resources Policy attempts to guide relevant government agencies as well as private investors in the water sector to carry out appropriate and well-coordinated water management activities. The NWRP views water resources management mainly as a neutral issue. It assumes that coordination can be achieved on technical/managerial basis regardless of how sector ministries could actually benefit from such coordination. NWRP's objective to define directions for coordinated development, develop mechanisms for effective and efficient water resources management can only be achieved if it can synergize the need of this coordination (from IWRM planning perspective) with the overall rationale of sectoral development and thus create alternative ways on how sector ministries can potentially benefit from the proposed coordination.

The NWRP assigns LNMC, WREA and RBC as the responsible government agencies for water resources coordination. It does not elaborate on how these agencies could ensure sector ministries' compliance and how it could enforce its coordination. Similarly, the NWRP states major mission to strengthen participation in water resources management, including the role of local population in the overall decision making process. However, it does not elaborate on how this inclusion can be achieved, through for instance linking it with rules and mechanisms in hydropower development at the project level.

#### *WREA organization and staff arrangements for IWRM*

The way WREA organizational role and structure is set up to formulate policies, strategies, legislation and coordinate, advise other government agencies on water resources management reflects the strong attempt of the leadership within WREA to push it to become the coordination/regulatory body in water resources management. While such an attempt is legitimate from the perspective of water resources planning, the way WREA leadership projected its role in water resources management does not comply with the existing decision-making landscape and sectoral fragmentation at the national level. Put differently, how would WREA plan, coordinate and regulate water resources management planning when sector ministries are either not convinced or do not comply to the plan/regulation?

WREA organizational structure reflects the disconnection between WREA's projected role and sector ministries' development perception. DWR within WREA does not include DoI (MAF) and DoE (MEM) (see section 2 for elaborate explanation).

#### **Policy cluster 4: Environmental protection**

##### *Environmental Protection Law (1999)*

Like the NPSH, the Law on Environmental Protection highlights important issues that need to be taken into account to protect the environment in relation to development projects. It lacks, however, the rationale to protect the environment from the livelihoods perspective. No connection was made between the need to protect the environment with local people's access to natural resources and how such an access is crucial as part of people's livelihoods options (poverty status of their households). Put differently, the law positions environment as its starting point to achieve the targeted objective that is environmental protection. It does not argue the need to protect the environment from the perspective of people's livelihoods and poverty reduction. The concept of environmental protection is not mainstreamed as part of government's high priority policy issues such as for instance poverty alleviation.

This strong focus on environment could isolate the agency assigned with the mandate to implement the law, if not hinder it altogether from actually applying and enforcing the law. The law lacks a convincing argument on why sector ministries should collaborate with STEA/WREA on this, or how they can benefit from such a collaboration. It lacks any synthesis on how to link the need to protect the environment with sector ministries' development rationale (in for instance, hydropower, mining, agriculture, etc.).

With regard to Article 25, the law provides a potential entry point and legal foundation to promote public participation in land-water-environment management by outlining the procedure to deliver request or claim. Its application, however, would need vertical institutional back up at national, provincial and district level as well as horizontally through inter-ministerial collaboration. As such institutional set up is currently lacking, the procedure to deliver request/claim can only be channeled through hydropower project and power companies. This highlights the dilemmatic presentation of the role of the private investor in hydropower development both as potential polluter and as potential controller. The issue is how to convince private investor to foresee and monitor the given claims/requests to protect the environment and people's livelihoods in relation to their economic interest from power generation.

*Decree on the agreement and endorsement of the National Strategy on Environment years 2020 and Action Plan for the years 2006-2010 (2004)*

The decree identifies 6 focused priority programs to promote and improve environmental management and protection. These programs are:

- 1) The management of natural resources (land, water, forest, mineral, biodiversity).
- 2) Management of environment of urban, infrastructure, industrial and handicraft, special zone free trade area, tourist development project and operations including national, cultural and historical sites.
- 3) Institutional reform and capacity building for environment management and monitoring.
- 4) Participation of the business sector on environment protection and sustainable use of water resources.
- 5) Promotion investment and establishment of financial mechanisms for the environment.
- 6) Strengthening regional and international cooperation.

Some of the programs identify the need to develop a Master Plan which is still lacking until now. Currently, policy efforts to improve environmental protection and management are focused on impacts from development project to the environment, rather than putting environmental management as an integral part of development. The focus has been given mainly to incorporate EIA as part of the formal procedure in hydropower development and less on the formulation of environment management monitoring plan both at national and project level. This absence of monitoring plan might relate to the fact that STEA lacks institutional set up to carry out the monitoring tasks. Hence, the proposal to form Environmental Management Monitoring Unit (EMMU) at different administrative level.

While promoting public participation in environmental protection has been identified as one of the priority programs (among others to create and formulate policy and legal frameworks for environment management; reform institutions to ensure effective environment management; develop and standardize EIA; promote environmental aspect in education; and strengthen international cooperation), so far public participation remains limited. Public participation needs to be incorporated into the EIA process. Efforts should be made to develop mechanisms which can ensure and effectively promote public participation as an integral part in environment management.

#### *Decree on Environmental Impact Assessment (unofficial translation, WREA, 2010)*

The decree on EIA focuses mainly on outlining the procedural aspect of EIA (like the different project classifications and types of assessment required: IEE, EIA, EMMP, SMMP). It centers on the legal status of the environment compliance certificate. It touches the issue of management and monitoring of the EMMP and SMMP but does not elaborate on the required institutional set up to ensure effective/meaningful management and monitoring. For instance, rather than coming with string fining regulation targeted the developers who fail to meet the required participatory approach, the decree focuses mainly on step-by-step procedural approach that developers have to follow to obtain the environment compliance certificate.

The decree does not elaborate on criteria to evaluate the quality of the submitted EIA. Rather, it highlights the need to officially register EIA consultant within WREA registration system. This registration alone cannot be viewed as the most effective form of quality control. In addition, the decree mentions about the formation of National Environment Committee.

#### **Policy cluster 5: Land management**

##### *Land Law (National Assembly, 2003)*

The law combines both an integrated and sectoral approach towards land management. It assigns NLMA with the task to plan land management. At the same time it categorizes different types of land use in line with sectoral ministries' areas of development (such as use of industrial land is under MIH or the former MEM). It assigns NLMA with the role and responsibility for overall land management planning (through land zoning) but gives sector ministries the responsibility to regulate land use in accordance to their sectoral development activities (through land categorization). This combination becomes utterly problematic in the issue of land concession.

The law does not oblige land registration for small-scale land use (article 45). While this rule was formulated with the rationale to grant access to land use more flexibly to farmers and other small-scale users, it could potentially disadvantage these small-scale users if their land location coincides with the location where development projects are planned. Being not formally registered as official land users, they might receive lower compensation and lack any legal back up to negotiate about their lost opportunities in land use with the respective project staff.

As land concession is driven by the economic rationale to turn land into capital, boost land development, it does take into account the potential agricultural land. Obviously, hydropower project cannot be proposed on behalf of irrigated rice agriculture. In most cases, hydropower project proceeds in places which government perceives to lack any economic value/potential. Yet, this perception might not be valid entirely if we take into account the role of low economic value land (embankment gardens) for preserving people's livelihoods.



#### *Decree on State Land Lease or Concession (2009)*

The decree highlights the economic rationale behind the idea of land lease or concession. As stated in the decree: *“land concession aims to boost the development of state land, to turn land into capital, to promote the investment for cash-crops production and services, and to build income for the state budget”* (2009: 1). This economic rationale fits with the rationale of hydropower development which is very much driven by private investors’ interest to gain as much as possible economic benefits from the power generation.

The decree assigns NLMA with the power to authorize land concession presumably involving the relevant sector ministries.

#### *Instruction as regards the implementation of decree on State Owned Land Approval for Lease or Concession (NLMA, 2010)*

Like WREA, NLMA’s role is projected to be government’s coordinating and regulatory body in the field of land management, focusing on the need to have a holistic land management planning, through incorporation of different types of land use (agriculture, industry, forestry, etc.). The same discussion applies with regard to NLMA’s relationship with sector ministries, the proposed land management planning vis-à-vis sectoral fragmentation.

### **Policy cluster 6: Resettlement and compensation in development projects**

#### *Decree on Compensation and Resettlement of People Affected by Development Projects (STEA, 2006)*

The decree defines principles, rules, and measures to mitigate adverse social impacts and to compensate damages that result from involuntary acquisition or repossession of land and fixed or moveable assets, including change in land use, restriction of access to community or natural resources affecting community livelihood and income sources (Article 1).

The decree obliges project owners to address adverse social impacts (Article 4) but does not clarify on the procedure/rule to monitor and evaluate project owners’ conducts as to determine whether the measures taken met the defined obligations. As stated in the article: *“In collaboration with the concerned local governmental authorities and concerned organizations, project owners have the responsibility to carry out necessary surveys and field inventory of impacts by types and degree, determine entitlement to mitigation measures including compensation for affected assets. Project owners must provide appropriate funding to assist, support, relocate affected people and to implement income rehabilitation measures and to prepare necessary plans in an efficient and timely manner and approved by the concerned agencies to ensure the improvement of their socio-economic situation”* (page 5). How project owners’ conduct could eventually be monitored and evaluated, by whom, through what means, remains unclear.

The decree states that *“project owners shall make concerted efforts for an effective public dissemination of information about the objectives of the project, the compensatory package that is part of the resettlement process, through the mass media such as newspapers, radio, TV or public meeting and*

*other means to inform local authorities at provincial, district and village levels and mass organizations, affected people and wider public” (article 12: 13).* It brings to light the legal foundation for wider public involvement in hydropower decision-making processes. Furthermore, the decree includes grievance redress mechanisms and the establishment of grievance redress committee to address complaints and grievances pertaining to land acquisition, compensation and resettlement due to the project (Article 13). From the perspective of public participation, the formation of the grievance redress committee could be viewed as a potential entry point to promote wider public participation and channel public opinion to project management.

The decree obliges project owners to prepare Initial Social Assessment (ISA)/land and assets acquisition assessment; Social Impact Assessment (SIA); Land Acquisition and Compensation Report; Resettlement Plan; and Ethnic Minority Development Plan, submit them to the government agency (STEA) for approval (article 15). It does not elaborate the process of approval in terms of criteria/guideline for approval, regular monitoring, and inspection of conducted activities. In addition, the decree’s definition of those eligible for compensation does not include community lives downstream of the reservoir/dam in terms of potential project impacts to downstream area.

In summary, the decree gives the project owners all the responsibility with regard to compensation and resettlement issues, without exercising sufficient control as to monitor and evaluate project owners’ conducts at project level. Field research should be focused on looking at institutional arrangements, mechanisms and potential entry points for the community and local population to communicate their opinions and concerns to project management, and vice versa. It should also look at the role of local authorities (provincial, district and village government) in shaping the relationship between project management and local population, in terms of information dissemination as well as providing a strategic entry point to negotiate and to promote space to discuss project activities/management involving affected people and wider public.

*Regulations for Implementing Decree on Compensation and Resettlement of People Affected by Development Projects (STEA, 2006)*

In line with the decree on compensation and resettlement of people affected by development project the regulations link resettlement procedures with the project cycle (Article 3).

<b>Project cycle</b>	<b>Resettlement process</b>
<b>Identification</b>	Screening/Initial Social Assessment(ISA)/ToR for Social Impact Assessment (SIA)
<b>Pre-feasibility study</b>	Redefine ToR/assess options for minimizing adverse impacts/selection of suitable design option
<b>Feasibility study</b>	SIA/Socio-Economic Survey (SES)/Inventory of Losses (IOL)/Resettlement Plan (RP)/ Ethnic Minority Development Plan (EMDP)
<b>Detailed study</b>	Updated/final RP/EMDP
<b>Construction/ operation</b>	RP/EMDP implementation and monitoring

The regulations outline the procedure for resettlement and compensation and what project owners have to do to ensure that they comply with the existing regulations and procedures, during each stage of project development (from identification, pre-feasibility, feasibility study, detailed design, construction and operation). As stated in the regulations: *“To implement each step of the project cycle and resettlement process, the project owner will properly and strictly comply with the provisions determined in the Technical Guidelines on Compensation and Resettlement”* (page 3).

It gives the project owner the central role in the formulation and implementation of resettlement plan. It highlights how the government perceives project owner as ad-hoc decision maker in hydropower project. Giving the project owner the full responsibility to conduct the overall resettlement process brings to light the potential conflict of interest that might occur in identifying potential negative impacts, formulating mitigation/resettlement plan, implementing it, and in monitoring the plan’s implementation. Given the fact that project owner is interested to develop the hydropower dam, there is a tendency to downplay the potential negative impacts from the start. Similarly, given the project owner’s interest to make economic profits from the planned project, there is a tendency to minimize cost for resettlement plan. In addition, given the project owners’ main interest to generate power rather than to sustain the existing livelihoods, there is a tendency to overlook operation impacts on existing ecosystems.

Other issue involves how project owners include public participation, information disclosure, and consultation into shaping the overall resettlement process. The regulations highlight the potential role of local authorities to encourage more transparent and deliberative decision making through participation and community’s taking an active role in the resettlement planning and implementation.

## **2.2. Institutional analysis and the mapping of sectoral decision-making set up**

This section analyzes the overall decision-making set up and processes with regard to hydropower development and livelihood options. It gives an overview of decision-making landscapes in the Lao power sector (see figure 1) and identifies the relevant government agencies in charge for land-water-environment management in Lao PDR. The overall analysis includes each agency’s formal mandate, responsibility, tasks and actual role in shaping hydropower development and livelihoods options.

Hydropower decision-making landscapes in Lao PDR include inter-ministerial/cross-sectoral government agencies, such as Water Resources and Environment Administration (WREA), National Land Management Agency (NLMA), as well as sectoral ministries (Ministry of Energy and Mines or MEM and Ministry of Agriculture and Forestry or MAF) in charge for land-water-environment management. The figure shows direct connection between the MEM and the commercial entity in hydropower development represented by Electricité du Laos (EdL) and the Lao State Holding Enterprise (LSHE). This connection reflects the characteristics of hydropower development in Laos as part of the state’s enterprise and the importance of private sector financing in shaping the sector development. Together with the Ministry of Planning and Investment (MPI) and the Ministry of Finance (MoF), EdL and LSHE form the financial decision-making set up in hydropower development. The role of private sector

financing in hydropower development, especially in relation to the formulation of energy policy and hydropower master plan is mentioned in the previous section on policy review.

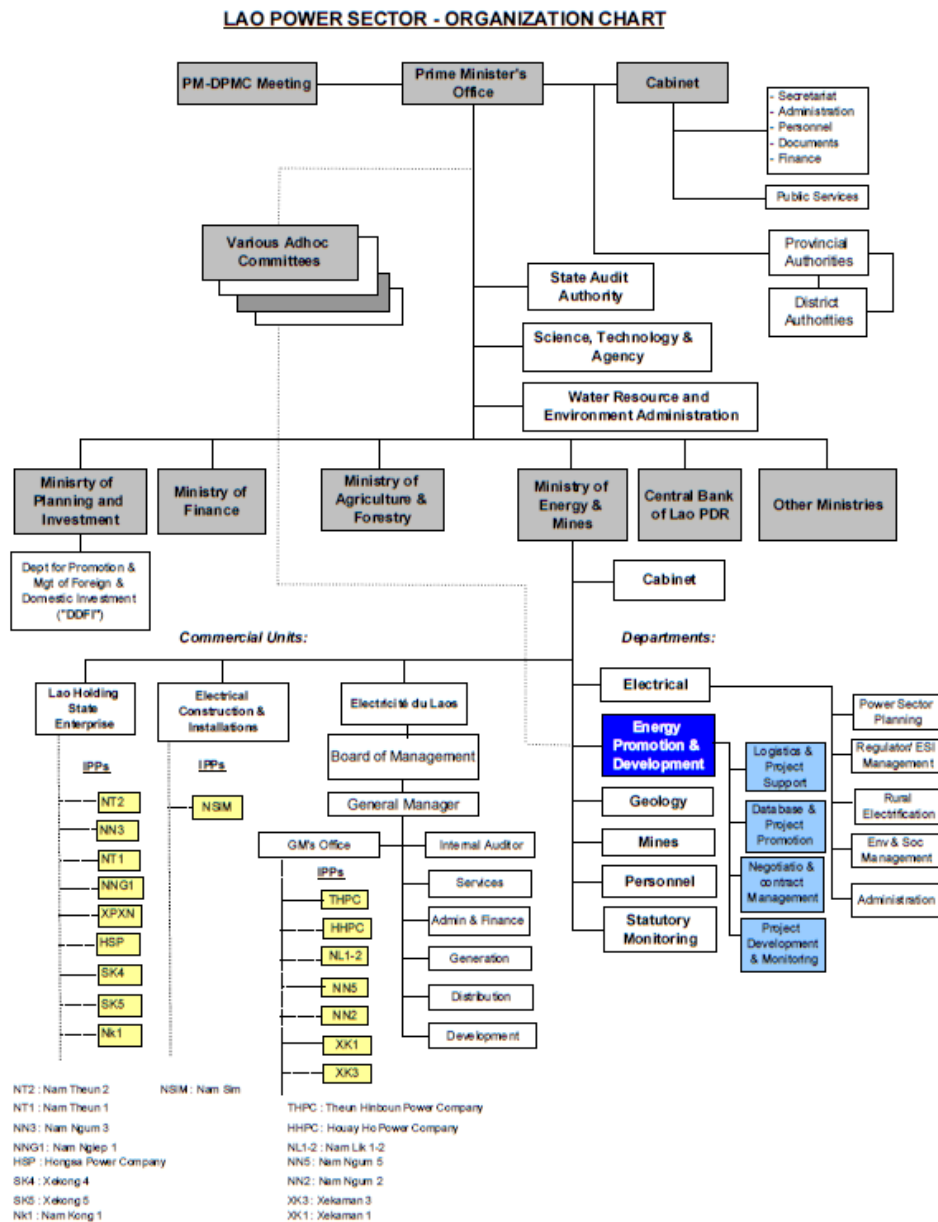


Figure 1: Lao power sector organizational chart  
Source: MPI (2011)

### Water Resources and Environment Administration (WREA)

The Water Resources and Environment Administration (WREA) is an authority under the structure of the Prime Minister's office. WREA is formed and established in 2007 to replace the former Science, Technology and Environment Agency (STEA).

### *Formal mandate*

WREA has a mandate to act as advisory body to the government for macro management on water resources, environment, meteorology, and hydrology activities throughout the country (Prime Minister Decree no. 149/PMO of 2007).

### *Tasks and responsibilities*

Formally, WREA is responsible for the formulation of policies and legal frameworks on water resources, environment, meteorology and hydrology, their implementation and monitoring. Besides, WREA is responsible in collecting, auditing, and certifying relevant data and information. As stated in the Prime Minister Decree no. 149/PMO of 2007, WREA's duties include the following:

- Research, disseminate and implement policies, strategic plans, rule and other legislations of the party and state issued which are related to water resources, environment, meteorology and hydrology.
- Draft and propose to government for consideration and approval the policies, plans, strategies, master plans, long-term plans, laws, presidential decrees, decrees as well as lead and advice on implementing the legislation after approval.
- Develop and propose to improve the legislations and other regulations which are insufficient or inconsistent to the socio-economic development circumstance in each period.
- Develop plans for sustainable water resources and environment management, protection and rehabilitation and propose to government for approval; promote education, scientific research and awareness rising on water resources and environment conservation throughout the society; audit, certify and adopt report on the social and environmental impact assessment before approval for development projects; coordinate with sectors and local authorities to ensure that the development is parallel with water resources and environmental protection in the whole country.
- Manage, monitor, collect and provide data and information on water resources, environment, meteorology and hydrology nationwide.
- Advise and follow up the implementation for environmental protection measures, protection projects, anti-degradation, arising of air pollution and environmental accidents.
- Collect water resource and environment fees according to legal provisions, establish protection fund, rehabilitation and support for water resource and environment management activities according to government approval.
- Lead and implement basic surveys for collecting, evaluating, forecasting and providing data and information; audit and certify data information and techniques.
- Coordinate with concerned parties to consider proposals, complaints of the public and other sectors.
- Coordinate and cooperate with other countries and international organizations.

WREA organizational structure comprises of the so-called central and local structure. The former includes a cabinet, four technical departments, one research institute and a Lao National Mekong Committee Secretariat. The latter includes the Provincial Water Resources and Environment Office (PWREO) and District and local Water Resources and Environment Unit (DWRU).

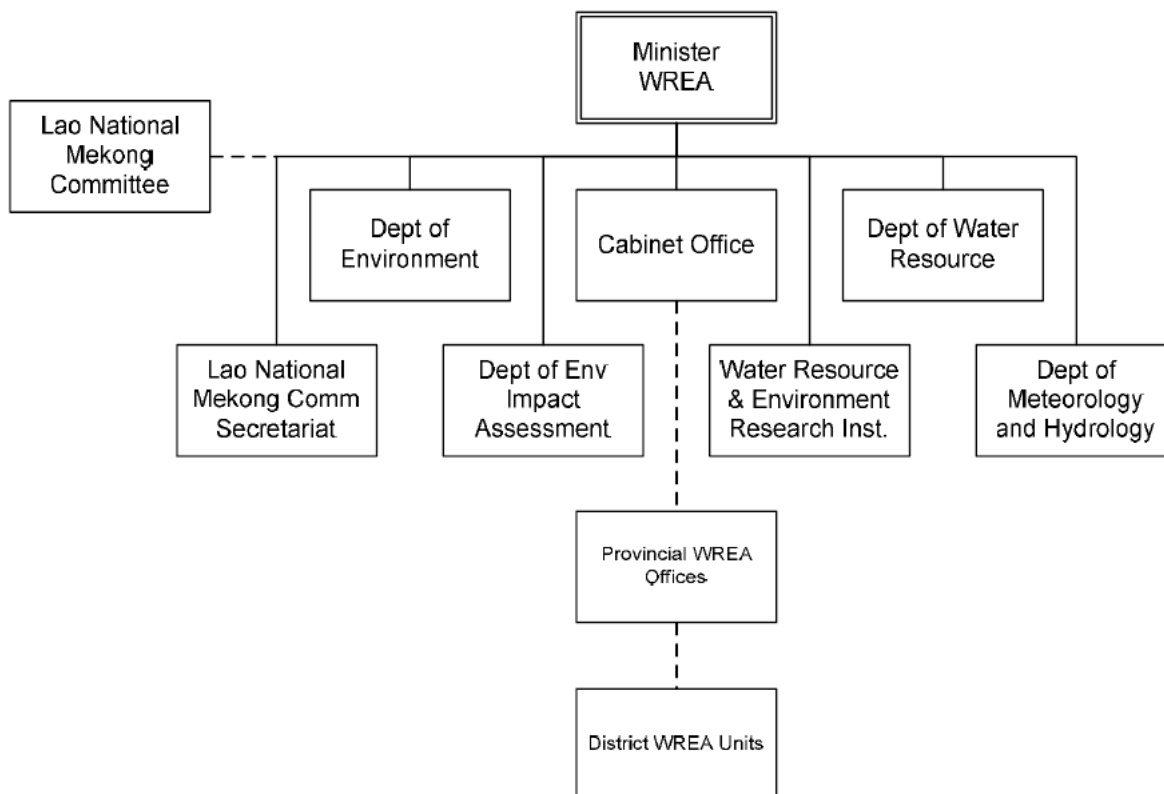


Figure 2: WREA organizational structure

Source: WREA Organization and Staff Arrangements for IWRM (2008)

Historically, Department of Water Resources (DWR) was newly formed together with WREA; Department of Meteorology and Hydrology (DMH) was added from the Ministry of Agriculture and Forestry (MAF); Department of Environment (DoE) and Water Resources and Environment Research Institute (WRERI) were added from STEA; and Department of Environmental and Social Impact Assessment (DESIA) was newly formed from DoE.

### National Land Management Agency (NLMA)

The National Land Management Agency (NLMA) was formed and established in 2004 (Prime Minister Decree no. 67/PM of 2004).

#### Formal mandate

NLMA is a central state organization within the organizational structure of Prime Minister’s Office and has the role of ensuring the management of land throughout the country.

#### Tasks and responsibilities

As stated in the Decree (article 2 and 3), the NLMA has the following tasks and responsibilities:

- To issue regulations, notifications, orders, decisions and instructions relating to land management and administration for the whole country.
- To issue the certificate of the change of purpose of the land use from one category to other categories, land lease or land concession for each category of land after the approval of the government.
- To submit proposals to the government or the Prime Minister concerning the termination or suspension of the implementation of the decision and other regulatory documents issued by ministers, which are found to be in contradiction with the law and regulations on land management and administration which are officially issued.
- To undertake research, develop and implement the guideline policies, strategic plan, laws and regulations, resolutions, decrees, orders, instructions and notifications of the party and government relating to land management.
- To conduct research on policy, draft law to formulate the strategic plan and Master Plan for effective land use and land development, which are to be submitted to the government for consideration.
- To undertake land survey, land classification, land boundaries and to formulate protecting and developing land mapping for local, regional and national levels which are to be submitted to government for consideration.
- To coordinate with concerned agencies and local authorities in planning and managing land use, environmental protection and land development.
- To review and submit proposal to the government for approval concerning the assignment of land use right or land renting or land concession for local and foreign investors, as well as the change of purpose of the land use from one category to another categories.
- To make and manage land records; to collect land data and land valuation, land registration, land titling for the purpose of land fee collection.
- To study and solve land problems and disputes based on requests made by agencies and local authorities.

At the national level NLMA comprises of a cabinet unit, three technical departments and one information centre (see figure 3). NLMA is equipped with Land Management Agency at respectively provincial, district, and village level. Currently, provincial and district LMA are incorporated as provincial and district government staff.

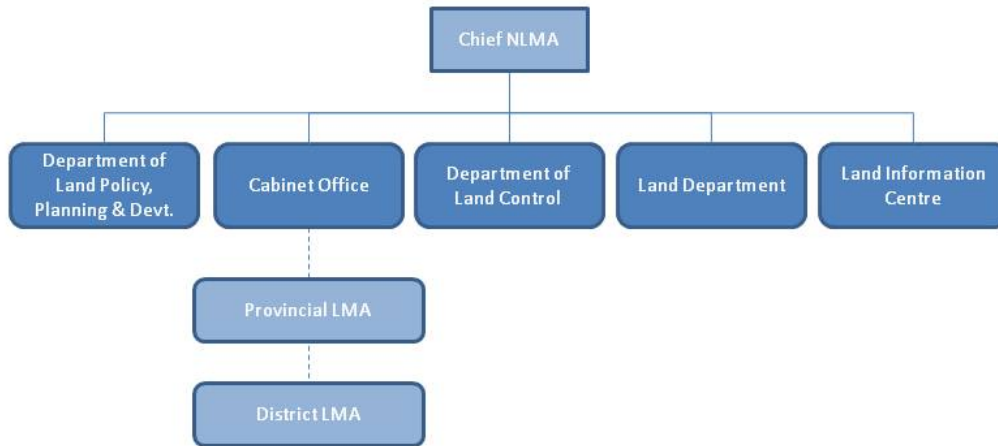


Figure 3: NLMA organizational structure

Source: Prime Minister Decree no. 67/PM of 2004 on the National Land Management Agency.

### Ministry of Energy and Mines (MEM)

Ministry of Energy and Mines (MEM) was formed in 2006. Prior to this formation, most of its activities were covered under the Ministry of Industry and Handicraft (MIH). Under MIH there are Department of Electricity (DoE); Department of Mines (DoM); Department of Industry; Department of Handicraft; Administrative unit; Department of evaluation; and cabinet office. With the formation of MEM, DoE and DoM were transferred to MEM. In addition, MEM is equipped with two additional departments (Department of Energy Promotion and Development or DEPD; Department of Geology). Department of Industry and Department of Handicraft, on the other hand were incorporated into the new Ministry of Industry and Trade (MIT).

#### *Formal mandate*

MEM is responsible for the formulation and implementation of policies with regard to the overall development of both the energy (which covers lignite, gas, hydropower and other renewable energy) and the mining sector.

#### *Tasks and responsibilities*

The Department of Electricity (DoE) is responsible for the overall formulation of energy policy strategy and master plan. Theoretically, the defined strategy and master plan should function as reference point and guideline for the Department of Energy Promotion and Development (DEPD) in promoting the sector development. Currently, the master plan is undergoing its 3<sup>rd</sup> technical update. As with regard to the energy policy formulation, this process was halted in 2002. There is a general belief within the DoE staff that once formulated it would be very difficult to conduct the sector development in line with the defined master plan and energy policy due to Government of Lao's (GoL) financial condition. For instance, if GoL wants to develop site A for hydropower, it has to acquire the financial source from International Financial Institutions (IFIs) such as ADB and WB. This acquisition process involves long and tiresome procedures. At the same time, private developers are interested to develop site B. GoL will also



accommodate this because private developers have the money ready (through commercial loan) and they can proceed with the development immediately. In short, hydropower development is conducted based on financial flow from developers (private or IFIs). This highlights the business-oriented aspect in hydropower logic, and thus the role of financial sources to determine the actual proceeding (implementation) of hydropower project development vis-à-vis the defined master plan.

The DEPD is responsible in promoting overall development of the energy sector. DEPD works closely with private investors through the different stages in hydropower development procedures, from the signing of the Memorandum of Understanding (MoU) between the investors and the GoL up to construction and power generation. The different stages in hydropower development procedures are described and discussed in section 3 on the operational decision-making set-up and procedures.

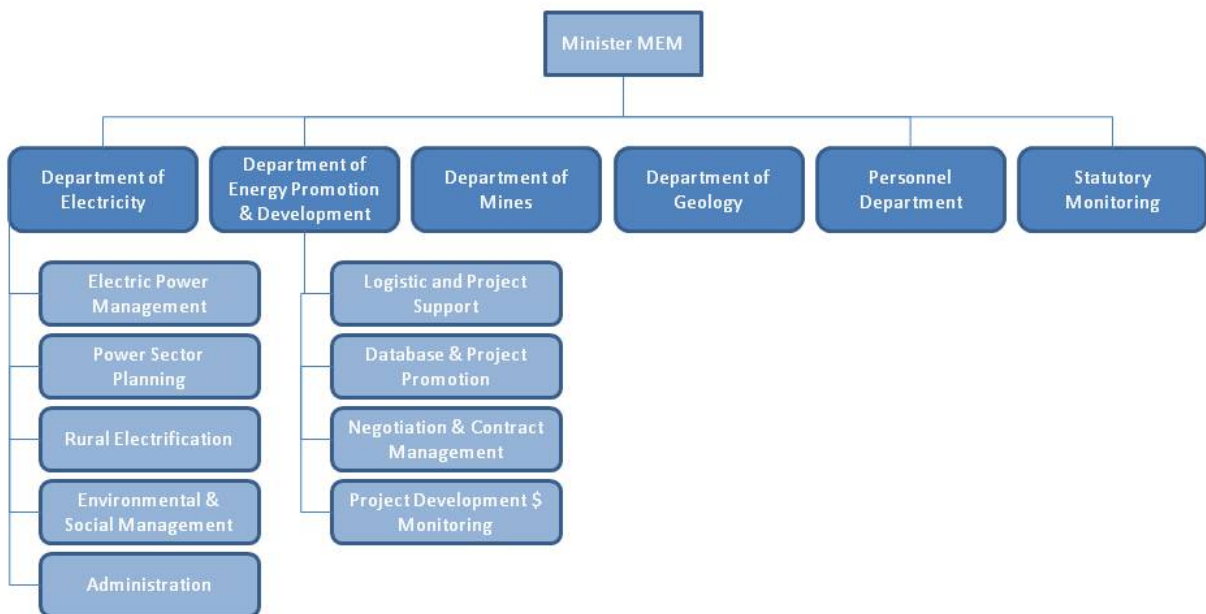


Figure 4: MEM organizational structure  
Source: Ministry of Energy and Mines 2009.

### Ministry of Agriculture and Forestry (MAF)

Ministry of Agriculture and Forestry (MAF) is one of the oldest and most established sectoral ministries in Lao PDR.

#### *Formal mandate*

MAF is in charge for policy formulation in agriculture, irrigation, forestry, livestock and fisheries as well as their implementation, monitoring and evaluation.

#### *Tasks and responsibilities*

As stated in the Law on Agriculture of 1998 (article 70), the MAF has the following tasks and responsibilities:

- To serve as the secretariat for the government in elaborating the agricultural production strategy and in transforming such strategy into a plan, a detailed project, and into rules for administration and inspection of agricultural activities.
- To draft a master plan, a long, medium and short-term plan, and project documents related to agricultural production development.
- To issue rules and regulations for production, environmental protection and agricultural development activities throughout the country.
- To study and review applications seeking to conduct large scale or significant agricultural business.
- To undertake technical and scientific agricultural research, to establish a network of research centres and experimental stations, and agricultural promotion units throughout the country; to provide statistical agricultural information.
- To coordinate with local administration and relevant parties to survey potential natural resources and areas suitable for intensive agriculture.
- To inspect agricultural activities to ensure the implementation of regulations, laws, and technical standards for productive production.

In conducting these tasks (like in the overall implementation of the master plan), MAF is equipped with its Provincial Agriculture Forestry Office (PAFO) and District Agriculture Forestry Office (DAFO) at respectively provincial and district level. For instance, PAFO is in charge to elaborate the defined master plan and transform it into detailed projects to facilitate implementation (Article 71). Similarly, DAFO is responsible for the plan implementation (Article 72).

At national level MAF comprises of an office of permanent secretary, one planning unit, four technical departments, one research institute, one agriculture extension body, two inspection unit, and one administrative unit. Department of Irrigation (DoI) is responsible for irrigation development; Department of Agriculture (DoA) is in charge for agriculture development (rice cultivation and other crops); Department of Forestry is assigned with the task to conserve and manage the forests; Department of Livestock and Fisheries is focusing on livestock (poultry, pork, beef) and aquaculture activities. The National Agriculture Forestry Research Institute (NAFRI) has the task to conduct agriculture research and channel the research result to policy makers within MAF. The National Agriculture Forestry Extension Services (NAFES) is responsible in providing extension services to support farmers' agricultural practices. MAF is represented in both provincial and district level through its Provincial Agriculture and Forestry Office (PAFO) and District Agriculture and Forestry Office (DAFO).

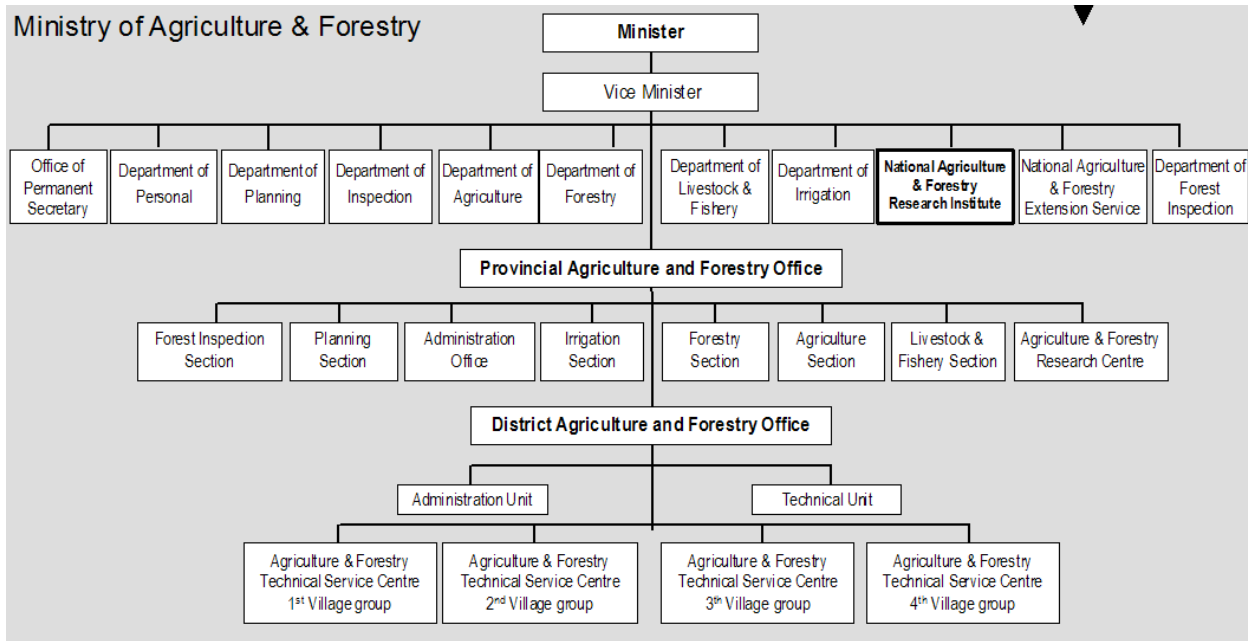


Figure 5: MAF organizational structure

Source: NAFRI (2011)

## Ministry of Planning and Investment (MPI)

### Formal mandate

The Ministry of Planning and Investment (MPI) is responsible for the formulation of country's strategic development plan and promoting investment to finance the formulated plan.

### Tasks and responsibilities

- To develop, implement strategic plans, policies, laws and regulations related to investment promotion and formulate projects or the investment calling list within their locals.
- To promote and disseminate policies, laws and regulations on investment, provide information including projects or the investment calling list, and facilitate investors according to their responsibilities
- To provide instructions and coordinate with other relevant sectors within their locals in implementing laws and regulations related to investment promotion
- To examine and consider issuing, suspending, withdrawing, terminating a registration certificate or agreement according to their roles and by the agreement of the government
- To implement the one-stop-service operation within the scope of its own responsibilities
- To coordinate and cooperate with international organizations on the investment as assigned by the higher levels
- To coordinate with other relevant sectors within the district and municipality in implementing laws and regulations on investment promotions
- To implement the one-stop-service operation within the scope of responsibilities of the offices

- To formulate projects or the investment calling list within the scope of responsibilities and propose to higher authority for consideration
- To collect information on investment including investment activities within their locals
- To support, promote and resolve problems occurring within their responsibilities
- To regularly summarize and report on investment to the higher levels
- To perform other rights and duties as set forth in the laws and regulations

### Ministry of Finance (MoF)

Ministry of Finance (MoF) is responsible for putting GoL’s fiscal and monetary policies into effect, either by direct control or through the Central Bank of Lao PDR. In this capacity, MoF approves loans and issues sovereign guarantee on behalf of GoL and in compliance with GoL’s international covenants. MoF holds accounts at Central Bank that receive soft loans that are on-lent to power sector projects. Where GoL equity in IPP projects is financed by IFIs loans, the loans are channeled through the MoF before being on-lent to the agency designated as the GoL shareholder.

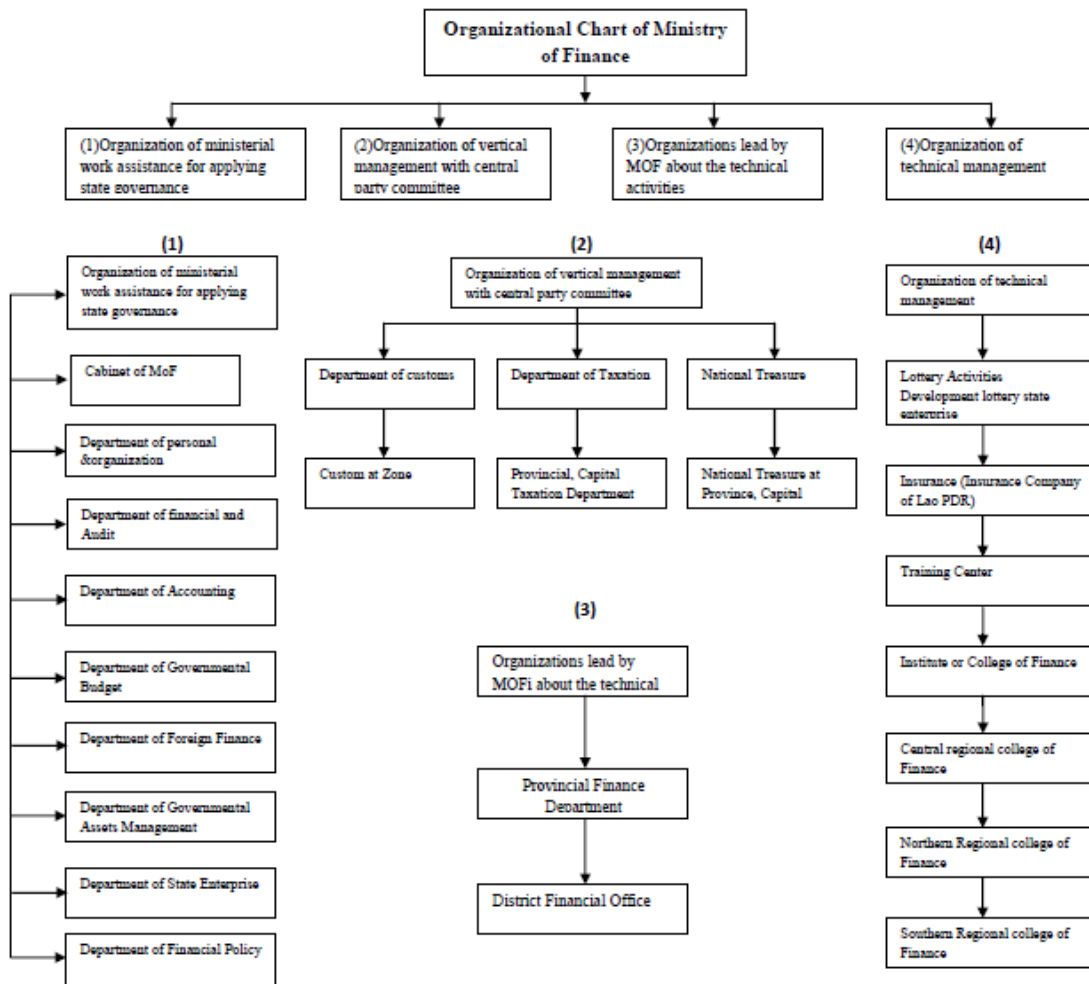


Figure 6: MoF organizational structure

Source: MoF (2011)

## Electricité du Laos (EdL)

Electricité du Laos (EdL) is a state-owned corporation under the Ministry of Energy and Mines, which owns and operates the country's main generation, transmission and distribution assets in Lao PDR and manages electricity imports into its grids and exports from its stations. EdL has a project development role and has been the implementing agency for government hydropower projects. In the case of Independent Power Producer (IPP), EdL is the government's shareholder. In the past EdL took over the project responsibility from MEM once a shareholder's agreement is executed and the project loans are closed.

EdL's vision is to be the leading state enterprise in promoting the country's socio-economic development through the provision of reliable power supply throughout the country and transforming Lao PDR into one of the major sources of power supply in the ASEAN power grid.

As an autonomous and commercially mandated state enterprise, EdL has the following mission:

- Ensure sufficient and consistently reliable power to consumers throughout the country at the most economical cost.
- Promote and develop sources of power supply giving utmost consideration to preservation of environment and welfare of society.
- Support the Party and government policies on industrialization and modernization by becoming a model for a well-managed state enterprise capable of complementing with other national economic sectors.

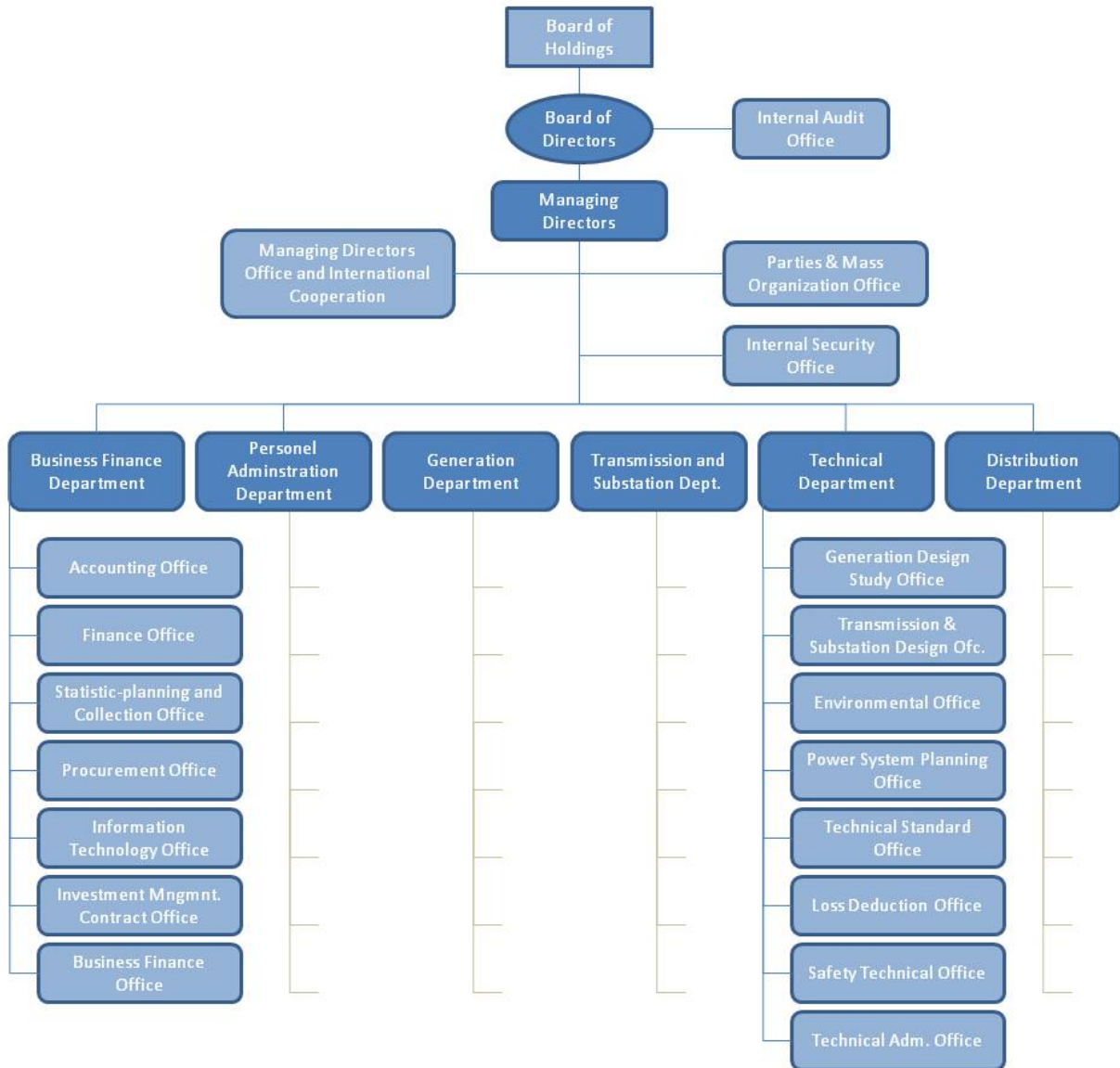


Figure 7: EdL organizational structure

Source: EdL website

### Lao Holding State Enterprise (LHSE)

Lao Holding State Enterprise (LHSE) is established in 2005 by the Ministry of Finance (MoF) (Decision 0453/MF of 2005). In the same year MoF nominated the Board of Directors of LHSE (Decision 0454/MF

of 2005). It is a 100% state-owned enterprise established as a business company in conformity with the Business Law and the Prime Minister’s Decree. LHSE is invested solely by the Government of Lao PDR (GoL) represented by the Ministry of Finance (MoF).

LHSE’s vision is to promote efficient investment, profit generation, credibility, capacity building and transparency in the management of revenue and expenditure.

LHSE’s primary function is to hold, manage and maintain on behalf of the GoL shares in Nam Theun 2 Power Company (NTPC) and any other power project companies which are acquired by LHSE or transferred to it by the GoL in an efficient and business-like manner.

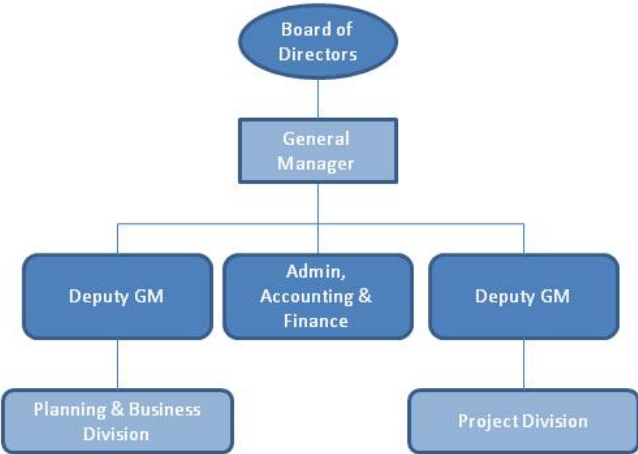


Figure 8: LHSE organizational chart  
Source: LHSE website (<http://www.laoholding.com/structure.htm>)

### Mapping of the decision-making landscapes

Linking the institutional analysis with the policy review, we discovered some overlapping between the different government agencies in terms of their decision-making role as well as their tasks and responsibilities.

The Lao power sector organizational chart highlights the important role of both WREA and NLMA in shaping the overall land-water-environment management within the context of hydropower development and livelihood options. Referring to policy cluster 3 on water resources management, policy cluster 4 on environmental protection, and policy cluster 6 on resettlement and compensation, GoL assigned WREA as the responsible government agency in these three policy areas. Similarly, referring to the policy cluster 5 on land management and policy cluster 6 (with regard to land concession), NLMA is responsible for the overall land management beyond the context of hydropower development. In practice, however, both WREA and NLMA lack decision-making authority vis-à-vis the more prominent sector ministries in charge in directing the sector’s development. The way WREA’s and NLMA’s organizational roles are formally set up to formulate policies, strategies, legislations as well as to

coordinate, advise other government agencies on land-water-environment management reflects the overall attempt to promote integrated land-water-environment management. Yet, the way WREA and NLMA are positioned as a regulatory body does not comply with the existing sectoral decision-making landscapes in hydropower development. At present hydropower development is governed primarily by the MEM in close connection with those representing the financial decision-making set up like EdL, MoF, and MPI. As part of the country's development strategy to increase economic growth and reduce poverty, hydropower development is directed following mainly its sectoral development perspective to promote energy supply for both domestic use and as a means for export revenue, rather than from the broader perspective of land-water-environment management. Hence, while NLMA was formally responsible to issue land concession, land concession agreement in hydropower development was negotiated and arranged primarily through MEM with direct connection to private sector actors.

In the context of hydropower development, inter-ministerial or cross-sectoral coordination is limited to formal incorporation of WREA and NLMA into hydropower decision-making processes concerning the approval of individual hydropower project. The different stages in hydropower development project is described and discussed in the next section.

### **2.3. Operational decision-making set-up and procedure of hydropower development projects**

This section describes and discusses the operational decision-making set up and procedures of hydropower projects in Lao PDR.

The procedures can be summarized as follow:

- The signing of a Memorandum of Understanding (MoU) between private investor and the MPI to conduct feasibility study.
- Proceed with feasibility study with private investor as the lead actor.
- Presentation of feasibility study results to DEPD at MEM.
- Negotiation of Concession Agreement (CA) between private investor and the GoL led by MEM.
- Parallel to this private investor submit Environmental Impact Assessment (EIA) report for approval to WREA.
- Negotiation of Power Purchase Agreement (PPA) between private investor and power purchaser (following the signing of the CA and EIA approval).
- After the signing of PPA, private investor will start with necessary preparation for dam construction both technically and socially (regarding resettlement, compensation).

Following the signing of the MoU, private investor will proceed with feasibility study. The investor had all the freedom to select people to be part of its team to conduct the feasibility study. Once finalized, the investor would present the study's results to DEPD/MEM and inform them about whether or not they would like to proceed with the project. In the case of THXP, the company signed the MoU with MPI. Later, it interacted mainly with DEPD from MEM as their direct counterpart/coordinating government agency.



The investor's decision to proceed with hydropower development project is based on the predicted economic costs and benefits of the project. This highlights the economic rationale behind hydropower development that is strongly rooted in the company's interest to generate profits. In this context project feasibility means economic feasibility. This is unlike how general public perceive feasibility study as a general overview of the proposed development not only in terms of its economic benefits, but also linked to its environmental/social impacts.

Once the company decided to invest and proceed with hydropower project, the next step is to negotiate the Concession Agreement (CA) often called Project Development Agreement (PDA) in hydropower with the GoL, which is usually represented by different national ministries led by the DEPD/MEM. This negotiation concerns mainly commercial issue such as percentage of tax that the company is expected to pay to the government and royalty fee. Once finalized, the CA will be signed by the power company and DEPD/MEM. Important to note here is the way the government shaped the CA negotiation on project-by-project basis. In other words, there is no standard percentage applied. Ideally, government should set a standard range with regard to percentage of tax that a company is expected to pay. Similarly, the content of the CA is not standardized, depending mainly on the private company's negotiation skills. This situation highlights how the CA negotiation can be used by private company as its entry point in (re)shaping rules and procedures in hydropower project development.

Parallel with the CA negotiation, the company had to submit an EIA for approval by WREA before it could proceed with hydropower development. DESIA/WREA would review the submitted EIA. Based on this review WREA would decide to either approve it or requesting the company to come with more information and explanation. In theory, WREA's authority to approve the EIA could be used as a means to balance the environmental and economic aspects in hydropower development. In practice, however, WREA has far less bureaucratic power than MEM. Hence, WREA could not openly challenge MEM's development interests in terms of rejecting or even critically reviewing the submitted EIA, not to mention the issue of lack of capacity that is prominent within WREA.

After the CA is signed and the EIA is approved, the company will start with the negotiation of power purchase agreement (PPA) with the power purchaser (EGAT or EVN). As DEPD/MEM does not facilitate this negotiation the current situation to have project-by-project based PPA negotiation works in the power purchaser's advantage. For instance, EGAT will look at company that can sell the electricity with the cheapest price and it will use this price as its point of reference to bargain/negotiate with other companies as regard the cost of their electricity sale. Currently, the situation is slightly improved because the Thai Ministry of Energy starts to formulate and apply regulation that define standard electricity tariff to be followed by EGAT. The way PPA is negotiated on project-by-project basis does not only put the power companies in disadvantaged position, but it also highlights DEPD/MEM's inability to set up a floor price for electricity export. Possibly, DEPD's lack of interest to mediate with EGAT as to ensure better tariff price for the power company relate to its inability to access government revenue from hydropower generation (in the form of state tax) as this revenue is managed by the Ministry of

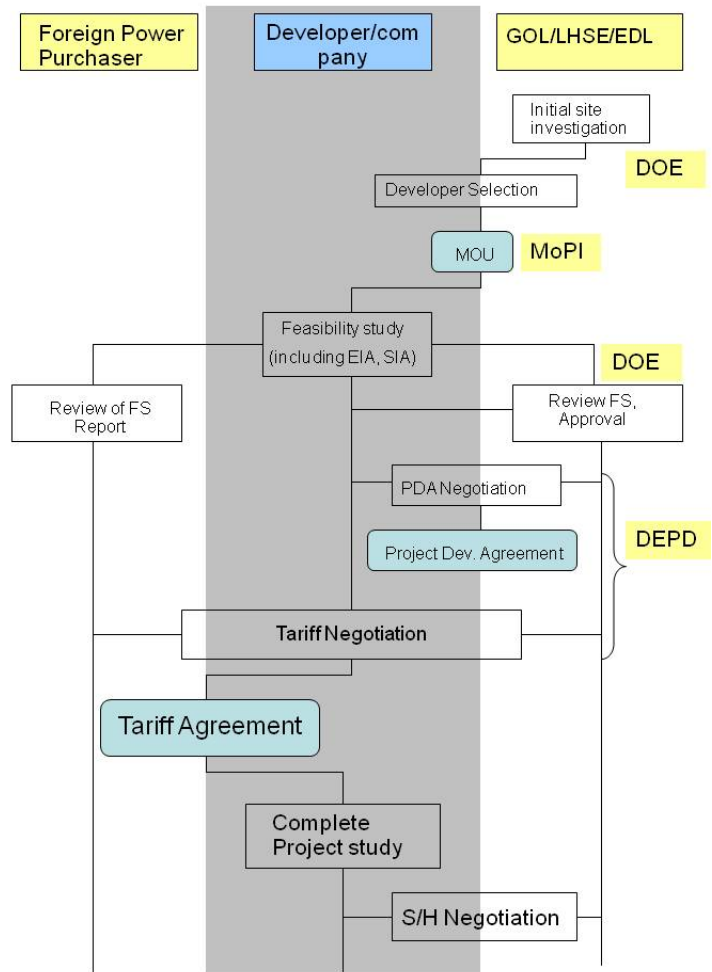
Finance (MoF). Hypothetically, DEPD would not be interested to increase state revenue if it lacks the authority to manage the revenue redistribution.

Following the PPA, the company will proceed with hydropower project construction and make the necessary preparations (both technically and socially) to meet the defined commercial operation date (COD). During project implementation, the company will interact with provincial and district authorities, especially concerning resettlement. In THXP, the Social and Environmental Division (SED) deals with the issue of resettlement such as formulating resettlement plan, setting up grievance procedure and compensation mechanism as well as monitoring the overall progress of the resettlement process. The project would have to conduct stakeholder consultation to inform all stakeholders about the planned hydropower development. Theoretically, provincial and district authorities should be part of this consultation process. In practice, provincial/district government would mainly send their junior staff at this stage. This staff cannot make any decision on behalf of their government, so in most cases they would remain silent during consultation. In turn, the company does not have any choice except to view this silence as a sign of acceptance/agreement. This situation could lead to potential conflict once the company started with the dam construction. When concrete activity took place on the ground, provincial government will try to address people's concerns by reinitiating the negotiation process with the power company. For THXP, for instance, they have to adjust their resettlement plan because a special district was just created and the district government prefers to keep the existing four villages that were supposed to be resettled elsewhere intact.

When everything is approved at the national level, this does not mean that the national ministries will automatically endorse their decision to provincial/district level government. Even when everything seems to be agreed beforehand, at the implementation phase, the power company still has to negotiate with provincial and district government about the whole issue concerning resettlement, compensation, and other thing before they can actually start with dam construction. In the context of hydropower development, the power company (private investor) becomes the medium that links but not necessarily fine tune the policy/regulatory discrepancy between national and provincial level. Private investor/power company becomes fully entitled to shape the actual implementation of hydropower project in accordance to their economic interests, as long as it can suffice national and provincial/district governments' request/procedure.

The inconsistency between national and provincial/district government's position on hydropower development procedure occur due to the absence of a connected multi-level regulatory system in the sector development. This highlights the state of legal pluralism in the overall shaping of hydropower development (decision making), not only in the formulation of its legal frameworks, but also in the application of project procedures (negotiation on CA, EIA).

Figure 9 gives overview of the detail procedure on hydropower project development.



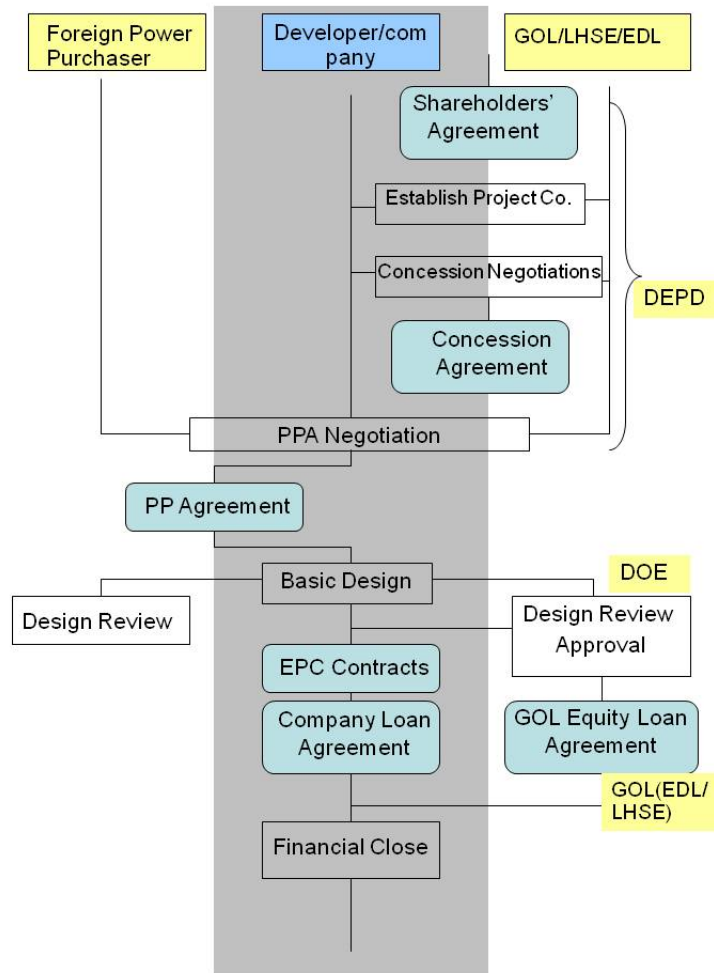


Figure 9: Overview of hydropower decision-making procedures  
 Source: MEM (2009)

### 3. CAMBODIA COUNTRY REPORT

#### 3.1. Review of policy and legal frameworks

Several policies and strategies which are described in this section contribute to the overall developmental framework in Cambodia. These are essentially multi-sectoral and cross-sectoral in nature. These together then form the framework within which sectoral ministries/departments develop sector-specific policies.

## General policy

### *The Rectangular Strategy for Growth, Employment, Equity and Efficiency 2003-2008*

The Rectangular Strategy for Growth, Employment, Equity and Efficiency was adopted in 2004 as the overall framework for Cambodia's socio-economic development. Founded on principles of good governance, peace, political stability, social order, macroeconomic stability, partnership and economic integration, the Rectangular Strategy focuses on critical development issues such as the enhancement of the agricultural sector, rehabilitation and construction of physical infrastructure, private sector development and employment generation and capacity and human resource development.

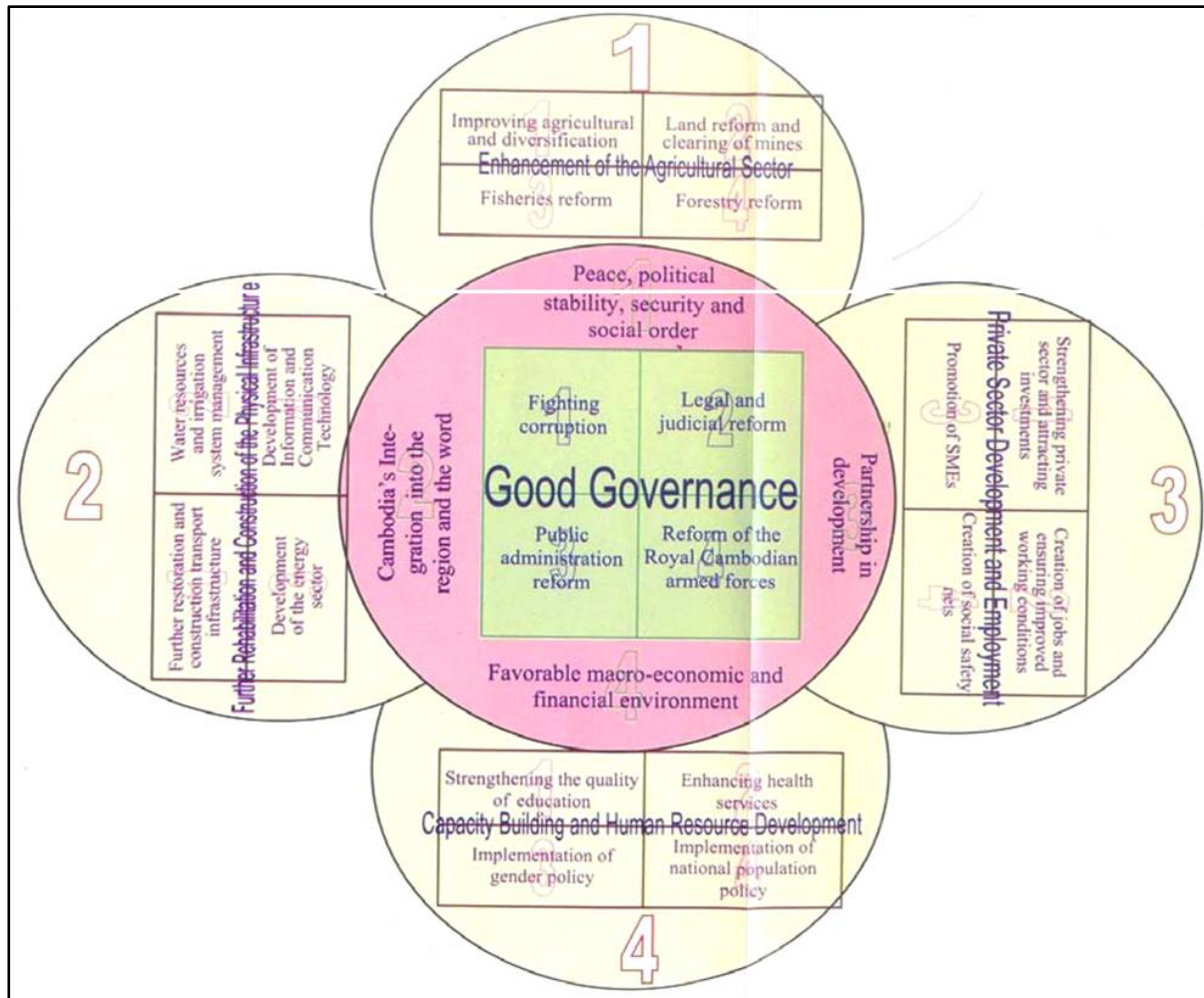


Figure 10: Rectangular Strategy for Growth, Employment, Equity and Efficiency

Source: Rectangular Strategy for Growth, Employment, Equity and Efficiency. Phase II.

As suggested in Figure 10 above that sets out diagrammatically the Rectangular Strategy, achieving good governance is at the core of the strategy, as a prerequisite to sustainable development. Good governance covers four cross-cutting areas of reform: 1) anti-corruption, 2) legal and judicial reform, 3) public administration reform including decentralization and deconcentration, and 4) reform of the armed forces, especially demobilization.

The Strategy also revolves around four priority programme areas based on this foundation:

- Enhancement of the agriculture sector;

- Further rehabilitation and construction of physical infrastructure;
- Private sector development and employment generation; and
- Capacity building and human resource development.

*The National Strategic Development Plan 2006-2010*

The Rectangular Strategy is operationalized by the National Strategic Development Plan (NSDP) which is also the country's poverty reduction strategy. The NSDP was initially designed for the period 2006-2010, but has now been updated to 2013 to align with the term of the Fourth Legislature and to deal more explicitly with the impacts of the global economic crisis. The NSDP is subtitled: "For Growth, Employment, Equity and Efficiency to Reach Cambodia Millennium Development Goals". As such, the NSDP is entirely focused on achieving the Cambodian Millennium Development Goals (CMDGs), and 30 out of its 46 key targets are CMDG key targets, addressing each of the nine goals. The NSDP states that poverty reduction "in the fastest possible manner" is the Government's foremost priority. It does, however, also note that the achievement of poverty reduction targets and other CMDG targets is not possible without addressing other goals and processes that are not explicitly part of the CMDG framework. These include political and social stability, rule of law, critical reforms in public administration, infrastructure development, and balanced and equitable macro-economic growth. The existing three-year rolling Public Investment Programme (PIP) mechanism will be used to identify, plan, phase and cost estimate specific activities every year for the next three years. PIPs therefore form an integral part of the NSDP. The National Development Plans (NDPs) developed under the NSDP have been criticized for having too great a preoccupation with economic growth, with little opportunity to integrate the environmental action plans into the NDP process (SEI, 2002).

*The National Program for Sub-National Democratic Development 2010-2019 (NP-SNDD)*

This National Program is the government's agenda for the next 10 years in the comprehensive and in-depth governance reform process with respect to the sub-national administrative framework. The formulation of the NP-SNDD reflects the vision, policies and strategies outlined in the Decentralization and Deconcentration Strategic Framework and the Law on the Administrative Management of Capital, Provinces, Municipalities, Districts and Khans (Organic Law) of 2008.

The NP-SNDD also links into the Rectangular Strategy whose core focus is good governance. The strategy aims to create a governance system at sub-national levels based on the principles of strengthening local democracy, promoting community development, and reducing poverty. The government's longterm decentralization and deconcentration reform objective is to broaden sustainable development and lay a strong foundation for economic growth, provide equitable opportunity for all citizens to participate in community development, promote sustainable environmental and natural resource management, improve public service delivery in response to people's needs and alleviate poverty with a special emphasis on vulnerable groups such as ethnic minorities, women and children. Consequent to its link to the Rectangular Strategy, the NP-SNDD also contributes to the NSDP given that good governance is identified as a core pillar of the NSDP in respect to the MDGs and poverty alleviation.

The government's goals for sub-national democratic development are to:

- Create a culture of local participatory democracy, accountable to the citizens;
- Improve public services and infrastructures;
- Bring about social and economic development, and
- Contribute to poverty reduction.

The reform of the sub-national governance system shall aim to: 1) consolidate and deepen the process of democratization at the grass roots, and 2) promote local development and poverty reduction. The reform shall be guided by the following principles:<sup>3</sup>

- *Democratic Representation*: Strengthen local councils which are democratically elected (either directly or indirectly) and expand their powers, responsibilities and resources.
- *Popular Participation*: Introduce systems and procedures for people's participation in decision-making at all levels of the sub-national governance system.
- *Public Sector Accountability*: Strengthen the accountability of public administration at all levels and facilitate people's oversight of the administrative and financial performance.
- *Effectiveness*: Bring providers of services closer to the users and allow users to participate in the planning and monitoring of public services delivery in order to make availability of public services responsive to local needs and priorities.
- *Efficiency*: Improve the administrative system, coordination, and management capacity of the sub-national governance system to improve quality and access to public services at all levels.
- *Poverty Focus*: Enhance the capacity of integrated territorial authorities at all levels to better target public expenditures to eradicate poverty by focusing on vulnerable groups and to achieve Cambodia's Millennium Development Goals.

## Energy

Cambodia's energy needs were met primarily through diesel and heavy fuels which kept tariffs high and stifled economic progress, and despite the relative normalisation of the security situation and entry of many donors, Cambodia continues to experience a severe energy supply deficit. The country's energy supply system is characterized as a highly fragmented electric power network supplied mainly by diesel generators. The system provides power to only about 15% of households of which about 75% live in Phnom Penh and other provincial towns, leaving the vast majority of Cambodia's rural population unserved by a grid. There is no national grid linking the cities and secondary towns and the high cost of imported diesel makes the cost of electricity in Cambodia the highest in the GMS (King et al. 2007). In areas where there is no grid, small-scale rural electricity enterprises provide electricity to between 400 and 600 rural communities (Ryder. 2009).

By 2020 it is estimated that Cambodia's peak electricity demand will increase almost five-fold from 212 MW in 2002 to 991 MW, and total demand will increase from an estimated 808 MW in 2008 to 3,867 MW. Cambodia's existing electricity generation, transmission and distribution system is incapable of meeting this demand. Currently, diesel generators using imported fuel oil meet the peak electricity demand of approximately 400 MW, with only three per cent generated by hydropower facilities. A review of the hydropower sector in 2003 by the Ministry of Mines and Energy (MIME) estimated the total hydropower potential in Cambodia to be around 10,000 MW, of which 50% to be on the Mekong mainstream. The study also identified fourteen priority projects (Middleton 2008). In addition to the deficit in power distribution and lack of a national grid system for distribution, the costs of generating and supplying electricity are among the highest in the world, while the rate of electrification is one of the lowest in Asia. The high costs are attributed to the heavy reliance on imported fuels which exposes the sector to the fluctuations in international fuel prices (Middleton 2008, Ministry of Planning 2011).

At policy level, rapid hydropower development is seen as having the potential to promote sustainable development and poverty reduction by providing renewable power as well as potentially contributing

---

<sup>3</sup> NCDD website: <http://www.ncdd.gov.kh/en/dnd-basic-principles-menu>

greatly to revenue streams for the government (King et al. 2007, Middleton 2008). The energy sector and electricity network constitutes one dimension of the Rectangular Strategy for Growth Phase II which promotes private sector participation in electricity production and distribution. However, securing access to reliable, cheap electricity to supply Cambodia's expanding economy remains a key challenge faced by the Cambodian Government. Thus Cambodia's National Development Policy (2003 to 2008) stresses the need for low-cost electricity to attract investment and reduce poverty in rural areas, where the vast majority of Cambodians live, and the Power System Development Plan (2007- 2022) identifies a three-pronged strategy:

- Working towards reduced reliance on costly diesel-fueled electricity generation
- Importation of low-cost electricity from Thailand, Vietnam, and Laos
- Extensive development of Cambodia's domestic hydropower generation capacity, together with a thermal generation plant (coal or gas) to be located in Sihanoukville

More than half the planned new energy capacity is to be obtained from large hydropower dams, by tripling hydropower output over the next several years. MIME has prioritized between 14 and 17 large hydropower projects for development between 2010 and 2020 to produce 1,850 megawatts at an estimated cost of \$3.2 billion dollars.<sup>4</sup> The second largest proposed hydro project is the Lower Sesan 2 project with an installed capacity of 420 MW (Ryder. 2009). The focus on domestic hydropower is also attributed to the uncertainty linked to dependence on power supplies from Thailand and Vietnam and the cost of other sources such as diesel (Mr.Theng Tara,<sup>5</sup> personal communication, 2011). Rural electricity coverage is to increase to 70 per cent by 2030 via Rural Electricity Enterprises.

This proposed large-scale hydropower development program, is likely to be implemented mainly in cooperation with Chinese construction companies funded by Chinese banks as the Government intends to accord high priority to encourage the private sector to invest in energy infrastructure, including generation, transmission and distribution.<sup>6</sup> Concurrently, the regional integration of power is also envisioned through a network of high voltage transmission lines through the Asian Development Bank's Greater Mekong Subregion (GMS) program. Regional transmission lines will at first enable power imports into Cambodia from Vietnam, Laos and Thailand. As Cambodia develops its hydropower potential it is envisioned that Cambodia will become a net exporter of electricity.

Parallel to the government's emphasis on large scale domestic hydropower dams, it also adopted a Renewable Energy Action Plan (REAP) in 2003 with support from the World Bank. The Plan proposes small-scale, decentralized generation of electricity for rural communities, advocating the use of renewable technologies including solar, micro-hydro and biomass for more remote villages, and promoting the role of private sector Rural Electricity Enterprises to catalyze the spread of electricity generation technologies. Whilst the REAP faces some challenges such as a limited number of bankable projects under Cambodia's current financial sector conditions, overall the plan offers a more sustainable approach to providing electric services. Cambodia's limited investment to date in expensive

---

<sup>4</sup> The NGO Forum website: [http://www.ngoforum.org.kh/eng/core/hcrp\\_background.php](http://www.ngoforum.org.kh/eng/core/hcrp_background.php)

<sup>5</sup> Deputy Director, General Technical Affairs, Department of Water Resources Management and Conservation, MOWRAM. Interviewed on 14<sup>th</sup> February, 2011, Phnom Penh.

<sup>6</sup> Hun Sen Address by on "Rectangular Strategy" for Growth, Employment, Equity and Efficiency Phase II First Cabinet Meeting of the Fourth Legislature of the National Assembly at the Office of the Council of Ministers Phnom Penh, 26 September 2008.



transmission infrastructure and associated equipment offers an opportunity to pursue innovative electrification options that are not available to other countries that have already invested in a grid.

The apparent move away by the Cambodian government from multilateral donors such as the Asian Development Bank and the World Bank as sources of funding for hydropower projects, to the Chinese and Vietnamese government-backed investors appears to present some concerns from the perspective of social, environmental and developmental consequences of large scale hydropower development. This is despite the fact that the Rectangular Strategy Phase II recognizes the importance of evaluating the economic benefits of hydropower in light of environmental and social impacts. While the internal policies of the multilateral banks have evolved to take serious stock of social and environmental costs, the degree to which these issues will be evaluated and addressed in the government's dealings with private companies remains an open question at best given the adverse views already arising from especially the non-governmental observers (Baird 2009, interviews with The NGO Forum on Cambodia, CEPA, WWF). As noted by Hirsch (2010), China's dam building activities are commercial, but it is also part of that country's rapidly growing political influence and developmental role through investment, aid and trade relationships with Lao PDR and Cambodia in particular. The fact that these corporate investors are state-owned, with politically well-connected leadership within China, links the commercial aspect of hydropower investment even more closely to China's geopolitical role. From the point of view of regional governments, the reduced need to go through the hoops of safeguard policies of the multilateral lenders is experienced as a greater independence, but one that partly reverses the hitherto increasingly process-oriented post-World Commission on Dams (WSD) approach to planning.

### **Water resources management**

Another side of the second Growth Rectangle addresses Water Resources and Irrigation System Management. It commits the government to "protect, manage and assure sustainable exploitation of both fresh water and marine resources while enhancing biodiversity and sustainability for equitable benefit to the public." Water is also given high priority as a means to achieve development goals whilst also ensuring its sustainable use under the Strategy for Agriculture and Water Resources 2006–2010 (SAW), the overarching framework for government and development partner efforts in agriculture and rural development adopted by the Ministry of Agriculture, Forests and Fisheries (MAFF) and the Ministry of Water Resources and Meteorology (MOWRAM).

Since MOWRAM's establishment in 1999, a number of policies on water management have been issued. Notably, *Prakas* Declaration 306 in 2000 which provides a framework for the development of Farmer Water User Committees (FWUC); *National Water Resources Policy* (2004); *MOWRAM Strategy 2006–2010*; and the *Law on Water Resources* (2007). These policies have been guided by and are meant to be implemented according to national development plans including the Government's Rectangular Strategy, 2003–2008; the National Strategic Development Plan (NSDP), 2006–2010; the Poverty Reduction Strategy; the Strategic Plan on Water Resources Management and Development, 2005–2008; the National Biodiversity Strategy and Action; and the Water Law, approved by the National Assembly in 2007. These policy documents stress irrigation development and extend water management to also include promotion of agricultural production and rural economy to achieve government targets of halting poverty by 2015 (CDRI. 2008).

#### *The National Water Resources Policy, 2004*

This policy calls for river basin management and development, including river basin plans, and a focus on priority river basins and aquifers, although it does not indicate an institutional structure to do so. The policy also calls for a “national water resources plan” which so far has not been prepared.

#### *The MOWRAM Strategic Development Plan 2006-2010*

MOWRAM has formulated its own, related 'Rectangular strategy on water resources and meteorology' in support of the national Rectangular Strategy. This is basically a plan for MOWRAM, with a focus on irrigation and flood and drought control, rather than a multi-sector management framework that deals with broader IWRM issues. However, it does endorse the IWRM in principle. An updated version for 2009-2013 is being finalized.

#### *The Law on Water Resources Management, 2007*

Article 4 of the Law states that: “Water and water resources shall be managed and developed based on an integrated water resources management (IWRM) approach. The IWRM shall take into account (1) all aspects of water resources, (2) linkages between water resources and other components of the natural environment, and (3) requirements for an effective and sustainable water use for human beings, environment and other sectors. The implementation of the IWRM shall be carried out jointly and within a cooperation framework of all relevant agencies”. However, the Law is not explicit on river basin management, or on river basin organizations/committees, as an integral part of IWRM. Consequently, the Law falls short of establishing an institutional framework capable of operationalising IWRM.

A challenge of very significant proportions recognised in the NSDP is the country's capacities to adapt to the reduction in the fluctuations of water levels in the major rivers between wet and dry seasons, as well as possible increases in water pollution, that are likely to result from upstream countries controlling the flow through hydroelectric dams and diversions for irrigation. The NSDP acknowledges that such changes will “alter and adversely affect the entire eco-system in Cambodia and will have serious implications for its crops and fisheries”.

### **Environmental protection**

Approximately three-quarters of the population are directly engaged in agriculture and depend upon the land for their daily subsistence. Agriculture and forestry contribute nearly 40 percent of the country's Gross Domestic Product (GDP).<sup>7</sup> Tourism, which is based on the country's cultural and natural features, also contributes significantly to economic development. Reliance on these industries means that sustainable management of natural resources and other aspects of the environment are vital for improving rural livelihoods and for economic growth. Ensuring environmental sustainability, especially through sustainable management and use of natural resources is one of four fundamental principles of the Rectangular Strategy (Phase II). This is reiterated in the NSDP which calls for the “protection and conservation of the unique bio-diversity and eco-system that Cambodia is blessed with and the sustainable use of this natural resource for the benefit of all Cambodians and for the response to climate change is a high priority.”

The government's environmental protection and natural resources management efforts are guided by the following principles:

---

<sup>7</sup><http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/EXTEAPREGTOPENVIRONMENT/0,,contentMDK:20266319~menuPK:537827~pagePK:34004173~piPK:34003707~theSitePK:502886,00.html>

- Recognition of the link between poverty alleviation and the environment. To safeguard the environment the Government must increase economic opportunities to the rural poor. Natural resource degradation is in part due to exploitation of basic needs by the rural poor. Reducing rural poverty is essential to achieving sustainable management of Cambodia's environment.
- Recognition of the importance of communities Structured intervention to provided local communities with the skills to manage the natural resources base on which their livelihoods depend is the most effective way of achieving sustainable management of these resources.
- Recognition of the need for institutional capacity-building. The Ministry of Environment and other organizations lack the technical specialization to effectively protect, preserve and manage Cambodia's environment.
- Recognition of the importance of an integrated approach to environmental planning. Environmental issue is cross-sectoral and different institutions have responsibility and implement activities that concern the environment. The Ministry of Environment promotes an integrated and multi-disciplinary approach to environmental management. These principles serve as the framework for addressing environmental priorities identified by the Ministry of Environment.

These principles serve as the framework for addressing environmental priorities identified by the Ministry of Environment.

Many of the actions taken by the government to protect the environment and manage environmental impacts are to be integrated with investment and policy priorities in other sectors. The government intends, over the medium term, to prepare and implement routine monitoring of the implementation of all public investment projects in order to ensure that their implementation is environmentally sound and with a view to strengthening the link between development planning and environmental protection.

## Forestry

The set of national goals of environmental protection, biodiversity conservation, poverty reduction, socio-economic development, and good governance provide the overall development framework for the conservation and management of the country's forest resources. As such, the government considers the ecologically, socially and economically viable conservation and management of forest resources as a major pillar of public welfare directly contributing to environmental protection, poverty reduction and socio-economic development.<sup>8</sup> The Forestry Law of 2002 followed soon after the Statement of the Royal Government on National Forest Policy of the same year, which designated Cambodia's remaining forest resources as a Permanent Forest Estate to be maintained in perpetuity. The Permanent Forest Estate is to be managed with a view to "maximise the social, economic, environmental, and cultural heritage benefits for Cambodia and its people according to the principle of sustainable forest management".<sup>9</sup>

An issue impeding the implementation of this vision is the lack of a clear national land-use plan that includes forests, all types of concessions, protected areas, community managed resources, and state public land, and clear boundary demarcations. This currently leads to continual boundary conflict between competing claims for the same piece of land as there is a lack of coordination between the various government ministries involved. (The NGO Forum on Cambodia. 2010)

---

<sup>8</sup> Preamble, Statement of the Royal Government on the National Forest Sector Policy, 2002

<sup>9</sup> Article 11, Law on Forestry 2002

## Fisheries

Cambodia's inland fisheries is one of the most productive on Earth, and supplies its people with 75% of the animal protein in their diet. Cambodia's Master Plan for Fisheries 2001 to 2011 calls for the development of sustainable fisheries, and for the supply of fish and fishery products to keep pace with growing demand.<sup>10</sup> The reduction of poverty among fishing communities is another important priority, given the large proportion of the population engaged in fisheries related activities. Therefore the fisheries sector has undergone major reforms towards a more poverty-focused approach, expressed in fisheries policy statements and the Fisheries Development Action Plan, 2005-2008. Up to 2005, 56.46% of fishing lots have been released to communities, and more than 440 community fisheries management mechanisms are in place throughout the country (University of Gothenburg. 2009).

According to the Fisheries Sector Policy and Action Plan, the strategic goals and objectives for the fisheries sector are:

- All fish harvests must be sustainable by 2010
- Establish governance systems for sustainable use
- Expansion of aquaculture to ensure supply of fisheries products meets demand
- Critical habitats are conserved

The organization of fishery activities however does not reflect the links between fisheries and poverty reduction. The fishery sector is organised around a privatised fishing lot system. Access to fishing grounds as open access systems has been restricted, most directly affecting those with the greatest dependency of the fishery resources – the rural poor. The system of commercial fishing lots has failed to reflect the true value of the fishery and consistently delivered a shortfall in revenue to the treasury. The lot-system has encouraged short-term overexploitation and created an inequitable division of the resource, as a handful of lot owners have monopolised the best fishing areas, excluding local communities. Weak governance has resulted in inefficiency. Corruption, illegal practices and lack of transparency pervade the sector and law enforcement is weak or non-existent (University of Gothenburg. 2009).

## Land management

Land reform in Cambodia is seen as key to attempts to reduce poverty in the Kingdom. The population is predominantly rural and expanding. Creating and safeguarding secure livelihoods for the rural poor will depend greatly on how key natural resources – forestry, fisheries and agricultural land – are managed. Thus the NSDP recognises land as the most precious resource of Cambodia, and states that the government's overarching policy is to ensure that all land is managed, arranged, used, and distributed in an equitable, transparent, effective, and sustainable manner in order to contribute to poverty alleviation, ensure food security, national defence, and social-economic development within the context of a marketing economy.

In reality however, the concentration of land ownership is prevalent, adversely impacting on the equity and efficiency of land use, while large areas under economic land concessions have not been utilized efficiently.<sup>11</sup> The Land policy of 2009 thus recognises the necessity of administering land and natural

---

<sup>10</sup> The Strategic Plan for 2010–19 has just been approved, but no copy was available at the time of writing.

<sup>11</sup> Achieving Cambodia's Millennium Development Goals. Update 2010, Ministry of Planning, Royal Government of Cambodia. <http://www.un.org.kh/undp/media/files/CMDG%20Report%202010.pdf>

resources in a way that is effective, productive and environmentally sustainable, and, can alleviate poverty. The Policy's vision is "to administer, manage, use and distribute land in an equitable, transparent, efficient, and sustainable manner in order to contribute to achieving national goals of poverty alleviation, ensuring food security, natural resources and environmental protection, national defence and socio-economic development in the context of market economy".

One of the primary obstacles to realizing these policy objectives is the existence of several million private lands with unregistered titles. This makes them vulnerable to social concessions and hydropower dams and other large scale infrastructure projects, and undermines their eligibility for compensation. The number in 2001 was estimated at 6-7 million, and the government has set a period of 15 years to conduct land registration under a land reform programme focusing on the strengthening of land administration, land management, and land distribution. Significant progress has been made in issuing land titles with 1,664,297 land titles issued thus far. Nevertheless, sometimes the central government agencies do not even know the existence of communities as they are not represented in the land use maps which are used for decision making and allocation of land to concessions (Mr. Mith Samonn,<sup>12</sup> personal communication, 2011). The granting of social concessions as a means of redistributing land ownership in fact has little social content, and has the opposite effect as they pass all rights of access and use to private companies. In Stung Trang Province for instance, social concessions are mainly for cassava and rubber. A large amount of timber also remains on these lands which is the real attraction for the concession awardees (Mr. Mith Samonn,<sup>13</sup> personal communication, 2011).

### **Resettlement and compensation in development projects**

Cambodia does not have a comprehensive policy on resettlement and compensation, although some policy statements have been made in the context of the construction of roads. These do not however bear relevance to hydroelectricity projects. As a result, the only direction on this issue is provided by Cambodia's Constitution and the Land law of 2001. Article 44 of the Constitution provides that the state may expropriate private property "only in the public interest, while the Land Law reiterates this requirement: "No person shall be deprived of his ownership, unless it is in the public interest"(Article 15). With regard to when compensation should be paid, the Constitution and Land Law require compensation be made before people are displaced. Although the Constitution requires "fair and just compensation" for land taken for public interests, this standard is not defined either in law or in policy.

Direction on who is entitled to compensation is clearer, though narrowly defined. The determining factor is the legality of possession of the land in question, and these rules are set out in the Land Law which contains several categories of possession that do not amount to legal ownership:

- Entering into possession of state public land at any time;
- (ii) entering into possession of state private land after the cutoff date, 30 August 2001 when the 2001 Land Law took effect;
- transformation of possessory rights to state private land into ownership not pursuant to relevant rules effective at the time of transformation;
- transformation of a land concession into ownership before or after the cutoff date, except for concessions in response to social needs;
- any land concession not in conformity with rules governing such concessions; and

---

<sup>12</sup> Project Coordinator, WorldFish Center. Interviewed on 15<sup>th</sup> February, 2011, Phnom Penh.

<sup>13</sup> Project Coordinator, WorldFish Center. Interviewed on 15<sup>th</sup> February, 2011, Phnom Penh.

- any occupation of privately owned land without a title after the cutoff date.

Because these acts are categorized as illegal, those people whose occupation is deemed to be of such a nature are not entitled to any compensation or reimbursement. In addition to these categories of illegal occupation, a large number of (especially rural) people with lawful title remain vulnerable to resettlement without compensation given the overhauling of the land tenure system following the demise of the Khmer Rouge regime, and the pending registrations of title this has resulted in.

The absence of a resettlement policy and framework of rules has also meant that affected people have no opportunity to participate in decision making processes that determine their eligibility for and the quantity and content of compensation. There are also no provisions for recourse to a court of law where a person feels the decision taken is incorrect. The paucity of rules relating to rights to be consulted and to have access to information in resettlement is compounded by the absence of an overall national policy and rules on access to information. The Access to Information Policy remains as a draft prepared by the Ministry of National Assembly-Senate Relations and Inspections (MoNASRI).

The lack of clear policy and rules is also reflected in the implementation of the Constitution and Land Law. The lack of a legal definition or guiding rules on the “fair and just compensation” standard has led to arbitrary determination of compensation (ADB 2007). The lack of affected people’s meaningful participation in the process grants the implementing agencies with unchecked power to force people to accept their determinations on eligibility, quantity, and how and when it is paid. In practice, the nature of resettlement and compensation will depend on the policy and guidelines of the donor, in the case of donor-funded projects. This will not be the case for government funded projects. From an institutional standpoint, the issue of resettlement and compensation is addressed by the Inter-ministerial Resettlement Committee (IRC) under the Ministry of Economy and Finance (MEF). Its responsibilities include resettlement, approving the compensation rate, and practically all other relevant issues. The fact that MEF is a key agency for promoting economic development (including hydropower), the IRC’s residence in this Ministry raises questions on the impartiality of its decisions.

## Discussion

The foremost driver in Cambodia’s approach to development and poverty reduction is the need to maintain a high rate of economic growth that will expand its economic base and generate employment opportunities. Currently the economy is narrowly based and driven by four main sectors: garments, tourism, construction and agriculture.<sup>14</sup> Thus the challenge for the government is to promote growth that is broader based, more sustainable, more diversified and more equitable. Consequently, the Government has doubled its budget allocation to priority ministries, which include Justice, Health, Education, Women, Agriculture, Forestry and Fisheries, Rural Development and Urbanization and Construction.<sup>15</sup> This is in the light of chronic shortage of investment funds to meet the government’s priority requirements experienced in past years that have raised questions as to Cambodia’s ability to meet its CMDGs (UNESCO 2007).

---

<sup>14</sup> Achieving Cambodia’s Millennium Development Goals. Update 2010, Ministry of Planning, Royal Government of Cambodia <http://www.un.org.kh/undp/media/files/CMDG%20Report%202010.pdf>

<sup>15</sup> Achieving Cambodia’s Millennium Development Goals. Update 2010, Ministry of Planning, Royal Government of Cambodia <http://www.un.org.kh/undp/media/files/CMDG%20Report%202010.pdf>

The role of energy is central to the government's vision for development as made clear in the various overall development frameworks in place. Energy policy is thus geared to addressing the significant energy deficiency and high tariffs as well as the need for a comprehensive distribution infrastructure. The high costs of energy compared to neighboring countries, are a big obstacle in strengthening Cambodian competitiveness as well as attracting investments and improving livelihoods. While electricity imports from neighboring countries combined with small-scale private suppliers in the rural areas are short term strategies, the exploitation of the country's hydropower potential is seen as providing the real impetus for powering growth in the long term.

From the perspective of environmental sustainability and social equity, the planned hydropower developments over the next decade present serious challenges which may also ironically undermine the very developmental objective of poverty reduction espoused by the government. While Cambodia on paper has a number of laws that should safeguard the environment and ensure adequate protection for affected communities, the endorsement by senior Cambodian politicians of extensive hydropower development plans has signalled to the government's bureaucracy that these projects should be pushed through (Middleton 2008), despite their impact on Cambodia's free-flowing, the health of which are vital to the well-being of Cambodia's rural population. This paradox presents a critical policy challenge that is central to Cambodia's future developmental performance when measured against its own targets as articulated in the CMDGs and NSDP.

In view of its central role in development, the power sector is being restructured and the national power planning system is thus in transition. Because the reforms are predicated on market mechanisms, they must be complemented by progress in other governance reforms such as more clearly specified regimes of rights and entitlements, greater transparency and information access, new legal protections and rights of grievance, which will shape overall decision-making, as well as individual investment decisions. Correctly identified in both the Rectangular Strategy and the NSDP is the central role played by good governance processes at all levels in achieving progress in all developmental objectives. This will need to include linking national and sub-national systems, improving civil service capacity and performance in delivering services, fighting corruption, improving the rule of law and increasing public confidence in the judiciary, and establishing constructive dialogue with civil society. While this recognition in the key planning documents is a necessary step, it is left to be seen whether and how such commitments are translated into practice.

In the energy sector, the government's increasing reliance on public-private investment partnerships with regional investors in preference to the multilateral donor agencies brings with it the risk that the social and ecological costs of individual hydropower projects will be increasingly externalized to maintain the returns on investment expect by the private partners.

### **3.2. Institutional analysis: Legislation, jurisdictions and sectoral decision making**

The Constitution is the supreme source of law in Cambodia, and as such guides the content of all other laws which need to conform to it.<sup>16</sup> Next in the hierarchy are Laws (*Chhbab*) passed by the National Assembly and Senate. These are followed by Royal Decrees (*Reach-Kret*) and Sub-Decrees (*Anu-Kret*).

---

<sup>16</sup> Article 131, Constitution of Cambodia.

Under the Constitution, a Royal Decree is signed by the King (or Head of State as the case may be) for a list of very specific tasks after being proposed by the Council of Ministers. The Sub-Decrees are drafted by a single ministry or in collaboration with other ministries over competent subject matters, to implement and further clarify a Law, and is signed by the Prime Minister and the Minister/s in charge of implementation, upon approval of the Sub-Decree by the Council of Ministers. Next down the line in the hierarchy are Proclamations (*Prakas*), which also clarify and set out implementation guidelines for Laws. Like the Sub-Decrees they are drafted by the Ministry/ies having competence over the subject matter but with a much more limited scope. However, in the case of the *Prakas*, they can be signed into effect by the Minister/s in charge of the ministry having competence over the subject matter without having to go to the Council of Ministers. In that sense, it is much easier to bring into effect than Sub-Decrees. The next in line is the Circular (*Sarachor*) which 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 and does not have the force of law. Finally, there is the *Deika*, which are orders given by the provincial governors or commune councils which are effective only within the geographical region under their authority.

## Overall public sector decision making and planning

### *National Assembly*

The National Assembly forms the government and holds legislative power. It is vested with the powers to approve laws, in particular with regard to the national budget, state planning, loans and lending, the creation, change or annulment of taxes, administrative accounts, amnesties, treaties or international conventions, and declarations of war.

### *Council of Ministers*

This is the government's top executive organ and serves as the administrative nerve center of the government. It is supposed to prepare, facilitate, coordinate, unify, and guide all activities of individual ministries and local government. The National Assembly elects the council's ministers for five-year terms, and the Council is responsible to the Assembly. The Council of Ministers meets weekly in an executive session which is attended by the prime minister and deputy prime ministers. It reviews projects with investment capital exceeding \$50 million and sensitive projects that may impact on the environment or exploit natural resources.. If specific legislation is required for the approval of a project, then the consent of the National Assembly is also required.

### *Council for the Development of Cambodia (CDC)*

The CDC is intended as a "one-stop service" for private and public sector investment review and decision making in Cambodia and was established in 1994 under the Law on Foreign Investment in the Kingdom of Cambodia. As such, it defines the framework for investment strategies and accepting or rejecting investment proposals. The CDC's functions are:

- to guide the preparation and the conception of development frameworks and strategies for Cambodia in cooperation with the relevant institutions
- to facilitate and coordinate inter-ministerial activities, as well as the activities of the ministries and institutions involved with donor countries, organizations and investors.
- to provide guidance in the use of public and private resources in the development process

The CDC is chaired by the Prime Minister and composed of senior ministers from relevant government agencies. It has two boards: one for private sector investment (The Cambodian Investment Board); and one for public sector investment (The Cambodian Rehabilitation and Development Board). The



Cambodian Investment Board (CIB) receives and evaluates investment proposals made by individual or corporate investors or submissions made in response to Governmental appeals. As part of the one-stop-service for investors, it offers them all the necessary information, assistance and guidance for obtaining as quickly as possible the necessary registrations, authorizations or tax exemptions.

The Cambodian Rehabilitation and Development Board (CRDB) hosts the annual “Consultative Group” (CG) meeting between the Cambodian government and its donors at which development issues and challenges are discussed. The CG meeting facilitates donor coordination and discussion on financing needs for development programs. Linked to the CG meeting, “Technical Working Groups” focus on specific development sectors, such as Agriculture and Water, and meet on a quarterly basis throughout the year bringing together relevant government and donor agencies to coordinate their activities.

### *Ministry of Planning*

The Ministry consists of three Directorates:

- the General Directorate of Planning (GDP) which is responsible for guiding and managing national socioeconomic development planning.
- the National Institute of Statistics (NIS) for managing the statistical functions of the Royal Government; and
- the General Directorate of Inspection.

Of particular relevance to this report is the General Directorate of Planning which has the following overall responsibilities:

- To ensure consistency in socio-economic development by coordinating with all sector development plans, programs and projects prepared by ministries, state secretariats, relevant agencies, provinces and municipalities;
- To monitor the implementation of plans and programs in collaboration with line ministries, state secretariats, provinces and municipalities, report and provide comments to the Minister and report and request approval from the Royal Government;
- To coordinate with line ministries, state secretariats, provinces, municipalities and the National Institute of Statistics in preparing trimester, semester, third quarterly and annual reports about the socioeconomic situation of the country to the Government.

For the GDP the highest priority is the implementation of the NSDP and the achievement of the Cambodian Millennium Development Goals (CMDGs). This priority is carried through into the objectives, targets and activities of the MoP Strategic Plan (MPSP). The GDP is organized into five Departments, as follows:

- General Planning Department which formulates concepts, strategies, plans and programs for short, medium and long term socioeconomic development by coordinating with the other departments in the GDP. This involves analyzing and forecasting overall macroeconomic growth, and preparing strategies, policies and plans in the macroeconomic sectors.
- Economic Planning Department which analyzes and forecasts overall economic growth in the country; provides advice and targets for economic development, and prepares strategies, policies and plans in the economic sectors.

- Social Planning Department which analyzes and forecasts the overall status of social development and demography; advises and sets targets for social development, and prepares strategies, policies and plan in the social sectors.
- Investment Planning Department, whose functions include:
  - Analyzing and forecasting the overall situation of the investment sectors;
  - Advising on public and private investment and targeting investment to be consistent with the development objectives of the country;
  - Preparing short, medium and long term investment strategies;
  - Determining priorities for capital allocation amongst sectors;
  - Monitor the design of public investment projects of line ministries and other institutions;
  - Participating in the bidding Committee of all public investment projects, and
  - Monitoring and evaluating the implementation of public investment programmes.

*Ministry of Rural Development (MRD)*

This Ministry has responsibility within Cambodia for:

- Coordinating, cooperating, implementing, monitoring and evaluating rural development projects and programs in order to rehabilitate and help develop the country's rural areas by assisting the rural population.
- Coordinating the operational efforts of the various line ministries and assistance programs.
- Undertaking independent research initiatives to practically develop the rural areas of Cambodia by liaising widely, in order to assess likely needs and investigate possible solutions that would maximize identified opportunities, etc.

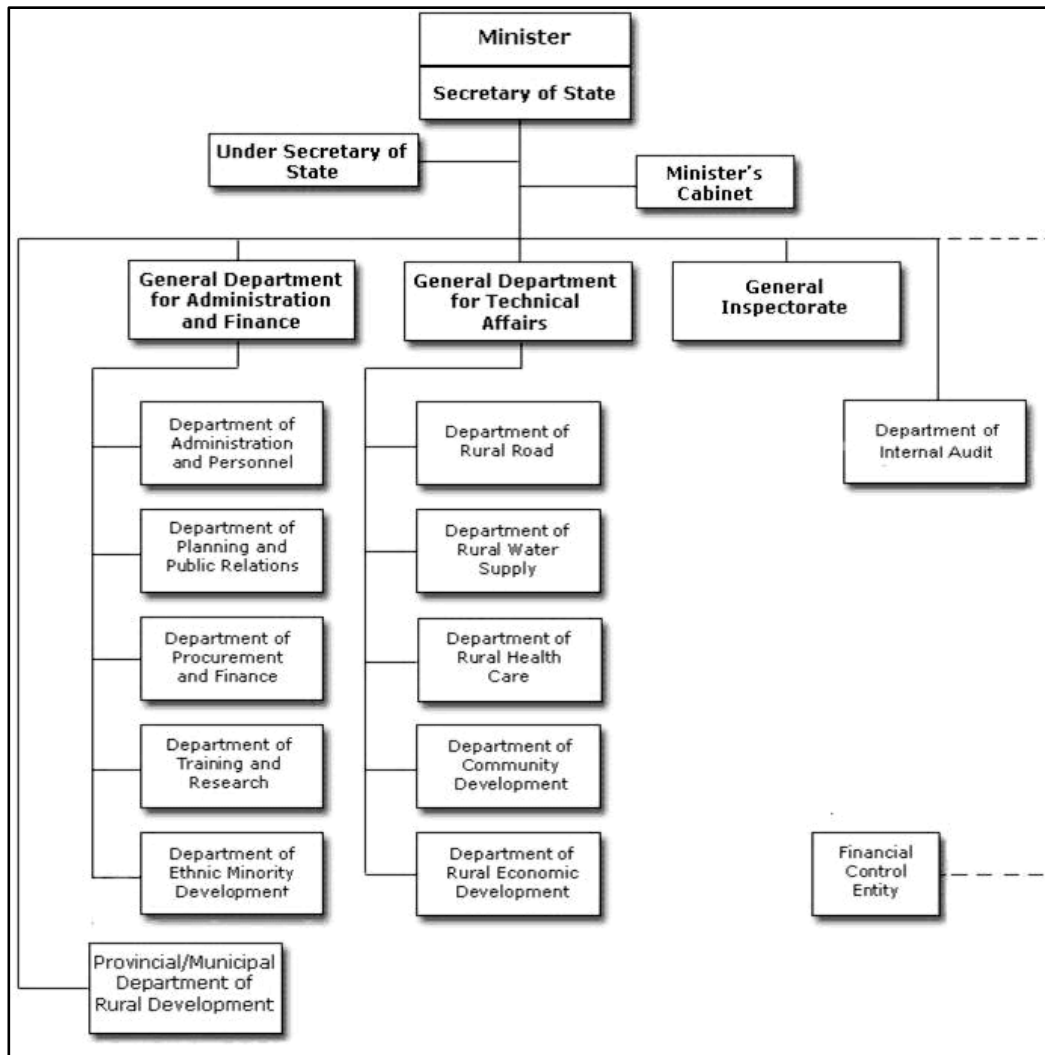


Figure 11: Organisational chart of the Ministry of Rural Development

Source: MRD website<sup>17</sup>

The Ministry of Rural Development (MRD) was established in January, 1996 for improving living standards and alleviating rural poverty. Under a centralised system, it worked through its deconcentrated provincial and district level offices. The Provincial Department of Rural Development (PDRD) is responsible for implementing and coordinating all MRD-supported activities within each province. It is assisted in this task at the district level by the District Office of Rural Development (DORD). More details of each are available in the section dealing with local government.

It needs to be pointed out that though there is a line department looking after water and sanitation respectively within the MRD, they have very little funding to be able to provide any meaningful delivery of services to rural Cambodia. The structure of the electricity sub-sector within the energy sector is driven by the agencies represented in Figure 12.

<sup>17</sup> [http://www.mrd.gov.kh/index.php?option=com\\_content&view=article&id=101&Itemid=74&lang=en](http://www.mrd.gov.kh/index.php?option=com_content&view=article&id=101&Itemid=74&lang=en)

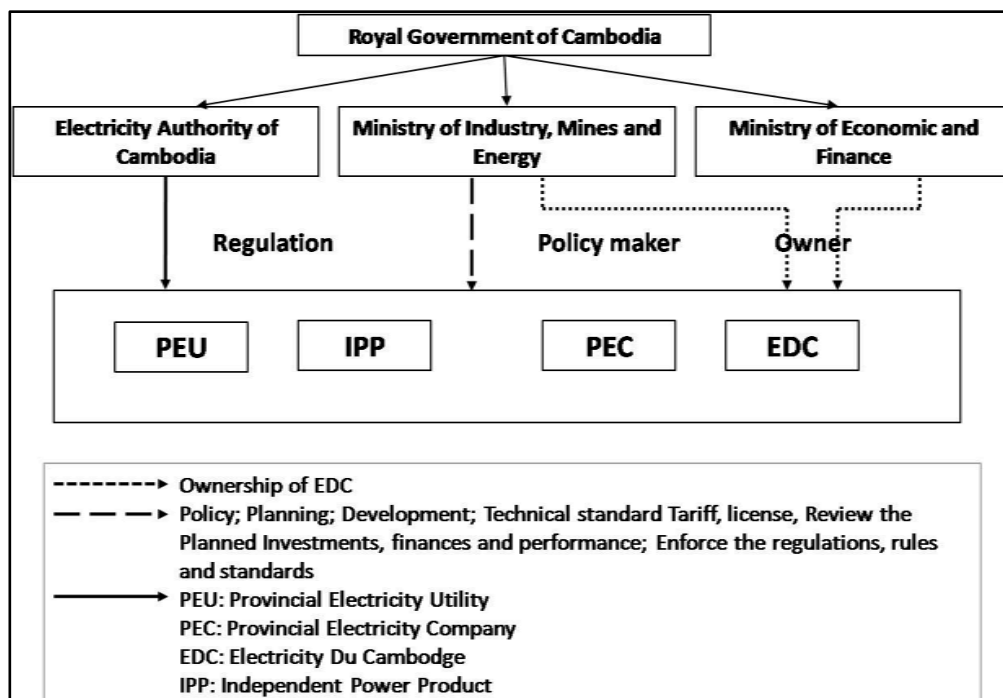


Figure 12: Organisational Chart of the Energy (Electricity) Sector in Cambodia

Source: Country Report On energy sector in Cambodia<sup>18</sup>

### *Ministry of Industry, Mines and Energy (MIME)*

Established in 1992, this is the key ministry responsible for setting and administrating government policies, strategies and planning in the power sector. According to the Electricity Law of 2001 MIME is to “be responsible for setting and administrating the government policies, strategies and planning in the power sector”<sup>19</sup>. Its functions encompass power sector restructuring, electricity trade with neighbouring countries, major investment projects and full management of the rural electrification sector. Excluded from its purview is the oil and gas sector, which comes under the Cambodian National Petroleum Authority (CNPA). In partnership with the Ministry of Economy and Finance (MEF), MIME is the owner of the Electricite du Cambodge (EDC).

With respect to hydropower, the Sub-decree on the Organisation and Functioning of the Ministry of Industry, Mines and Energy (1999) lays out the mandates and responsibilities of the ministry, which include but are not limited to: (a) conducting research on the hydropower distribution networks and estimating the potential in order to develop electrical projects where electricity production is the main purpose; and (b) participation in the implementation of any works related to the Mekong Basin according to the obligations of the ministry. The Sub-decree also provides clear mandate for monitoring existing hydropower dams, but there is no clear legislative framework for carrying out the monitoring and evaluation process. MIME acts as the primary point of contact for hydropower developers interested in investing in the sector, and is also the agency that signs the MoUs with hydropower companies (H.E. Tun Lean,<sup>20</sup> personal communication 2011, Middleton & Chanthy 2008).

<sup>18</sup> <http://eneken.ieej.or.jp/data/3143.pdf>

<sup>19</sup> Article 3

<sup>20</sup> Director General of Energy, General Department of Energy, MIME

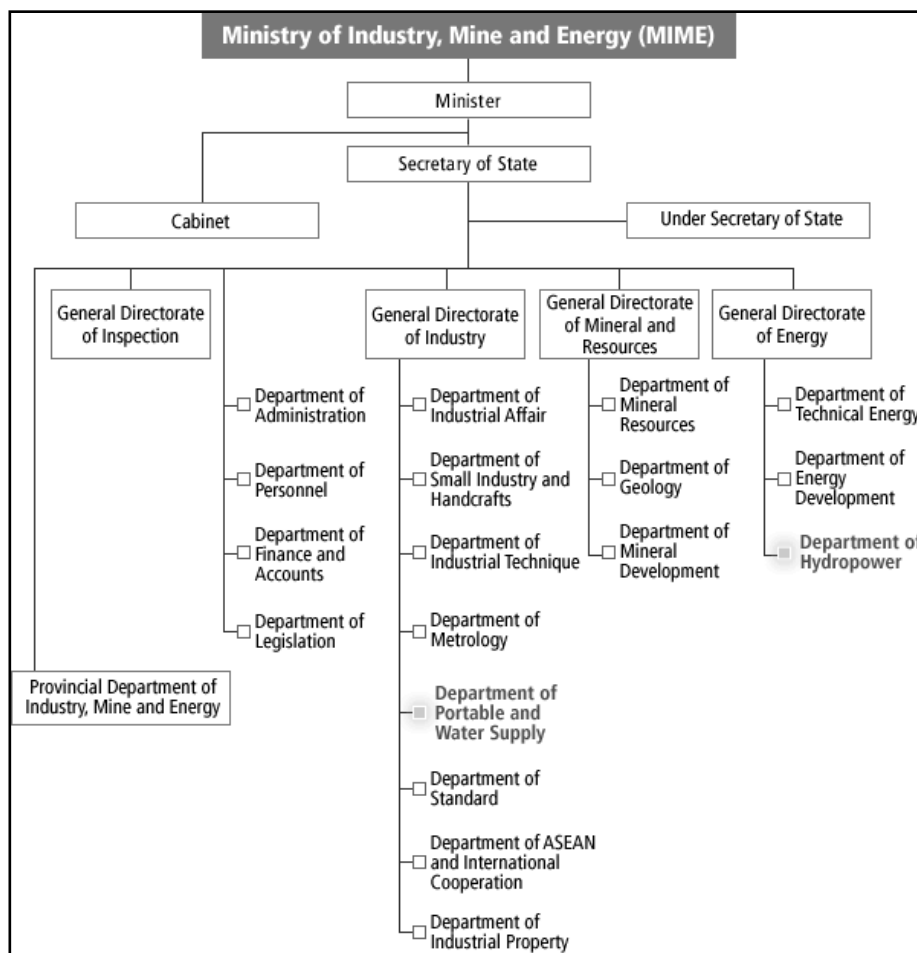


Figure 13: MIME organizational structure

Source: Water Environment Partnership in Asia (WEPA)<sup>21</sup>

The main department within MIME responsible for hydropower development is the Department of Hydropower, located within the General Department of Energy. Its responsibilities include:

- developing and implementing the national policy of electric power including low cost of electric power utilization, effective uses and making electricity available in most urban and rural areas;
- collecting , analyzing, maintaining and utilizing data for study, and developing hydro-electric power in potential areas with sound environment;
- developing and implementing the action plan of hydro-electric power development throughout the country, including its monitoring programme.

#### *The Electricity Authority of Cambodia (EAC)*

The EAC is an independent regulator established under the 2001 Electricity Law as an autonomous body responsible for licensing, approving tariffs, reviewing planning and financial performance, setting and enforcing performance standards, settling disputes and imposing penalties. EAC comprises three members (one chairman and two vice-chairmen) appointed by the Prime Minister and a secretariat headed by an executive director and comprising the Departments of Legislation, Financial/Pricing, Electricity Regulation, and Administration and Personnel.

<sup>21</sup> <http://www.wepa-db.net/policies/structure/chart/cambodia/mime.htm>

### *The Electricite du Cambodge (EDC)*

In 1996, EDC became a wholly state-owned limited liability company, with responsibility to generate, transmit and distribute electricity throughout Cambodia. On a national scale, its key functions are the creation of the main transmission grid and the import and export of electricity to and from neighbouring countries. EDC functions under a seven-member Board of Directors, and is managed by a managing director and three deputy managing directors. The entity comprises the following: (i) the Departments of Generation, Corporate Planning and Projects, Transmission and Distribution, International Energy; (ii) Departments of Administration, Training, Provincial Affairs, Technical; (iii) Departments of Financing and Accounting, Business, Internal Audit; and (iv) 13 Provincial Electricity Units. Major Independent Power Producers (IPPs) will typically sell their power directly to EdC for transmission and distribution. Smaller IPPs that serve remoter regions of Cambodia sell their power directly to the consumer.

### *The proposed National Hydropower Institute*

The Cambodian government plans to establish a Hydropower Institute to develop in-country capacities. This seems to be driven by the Build-Operate-Transfer (BOT) system where the government will need to have the skills to operate and maintain the dams once they are transferred by the company at the end of the BOT agreement (Ms. Chea Phallika,<sup>22</sup> personal communication 2011).

In practice, MIME is the dominant actor especially with respect to hydropower planning and development.

## **Environmental protection**

The environment has suffered as a consequence of the turbulent nature of Cambodia's recent past with poor geographical access and institutional capacities in the face of a highly militarized context. The current institutional and legal frameworks thus face a significant challenge of establishing its authority over the environment at a time when rapid economic development is the priority following decades of destruction and stagnation.

### *The Ministry of Environment (MoE)*

Established in 1993, the Ministry of Environment has a broad mandate to protect the natural resources of the country and to prevent environmental degradation. This mandate includes responsibility for managing protected areas. The Ministry must also be consulted about energy and forestry development. The long range goals of the MoE include:

- Management and protection of natural resources to ensure sustainable environmental development;
- Strengthening cooperation with relevant ministries to control and improve environmental quality; and
- Administration and review of the environmental impact assessment (EIA) of all development projects within the country.

---

<sup>22</sup> Hydropower & Community Rights Project Officer, The NGO Forum on Cambodia. Interviewed on 21<sup>st</sup> February 2011, Phnom Penh.

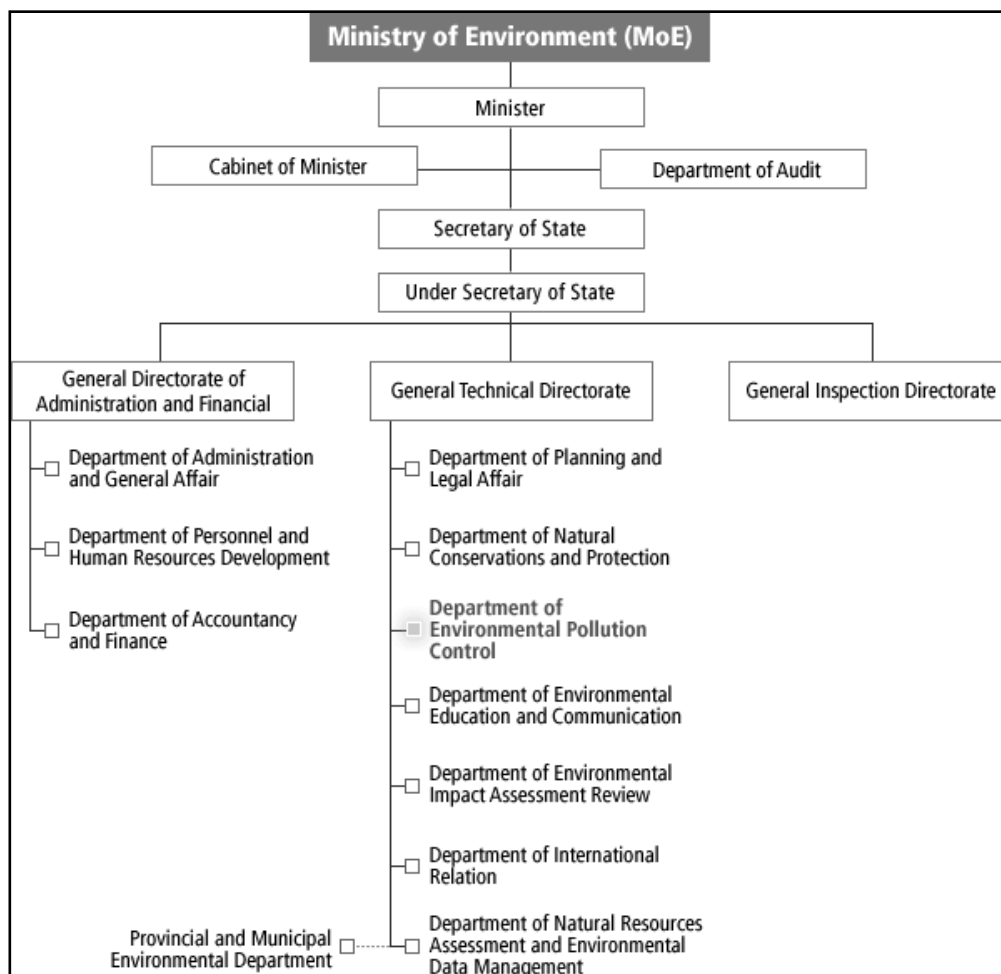


Figure 14: Organizational structure of MoE  
 Source: Water Environment Partnership in Asia (WEPA)<sup>23</sup>

MoE administers the Law on Environmental Protection and Natural Resources Management (1996) and associated sub-decrees.<sup>24</sup> This is the framework law governing environmental protection and natural-resources management, and directs that the natural resources of Cambodia shall be preserved, developed and managed to use in a rational and sustainable manner (Article 8). The Law requires the government to prepare national and regional environmental plans for environment protection and sustainable natural resource management (Articles 2 and 3), and to adopt sub-decrees concerning a wide range of environmental issues, including environmental impact assessments, pollution prevention and control, public participation, and access to information. Activities related to the conservation, development, management or use of natural resources must be sustainable (Article 10) and if it is found that such activities are not sustainable, MoE is to inform the concerned ministries undertaking the activities (Article 11). This is a critical power given that decisions concerning land use and exploitation of natural resources are made by line ministries e.g. Ministry of Agriculture, Forests and Fisheries, Ministry of Public Works and Transport, and Ministry of Industry, Mines and Energy.

<sup>23</sup> <http://www.wepa-db.net/policies/structure/chart/cambodia/moe.htm>

<sup>24</sup> The Sub-Decree on the EIA process, 11 August 1999; The Sub-decree on Water Pollution Control 6 April 1999; The Sub-decree on Solid Waste Management 27 April 1999; and the Sub-decree on Air and Noise Pollution Control 10 July 2000.

The MoE is also responsible for administering Cambodia's protected areas. 23 protected areas were established through the Regulations on the Creation and Designation of Protected Areas (1993), and were classified under four major categories: National Parks, Wildlife Sanctuaries, Protected Landscapes, and Multiple Use Areas (Article 1). These and three Ramsar Sites are administered by MoE's Department of Nature Conservation and Protection. The Declaration on the Protection of Natural Areas followed in 1994 with the objective of stipulating prohibited and permitted activities in protected areas. Prohibited activities include construction of saw mills, hunting, placing of traps, fishing of mammals, amphibians, reptiles and aquatic animals for specified purposes, deforestation for land use, water pollution and other forms of pollution of the environment. Research requires approval from MoE.

The Protected Area Law of 2008 defines the framework of management, conservation and development of protected areas. This Law has a scope of application in protected areas defined by the provisions of the Law on Environmental Protection and Natural Resources Management, 1996. The categories of protected area were also expanded from the four identified in the 1993 Regulations to include Ramsar sites, Biosphere reserves, Natural heritage sites and Marine parks. The Law establishes a National Committee for Conflict Resolution on Protected Area Management (NCRPAM), chaired by MoE and consisting of representatives of relevant ministries and other institutions (Article 20).

This Law also gives significant attention to minority groups and other local communities. Article 4 guarantees the rights of local communities, indigenous ethnic minorities and the public to participate in decision-making on the sustainable management and conservation of biodiversity although the modalities to do so are not made clear. Article 22 recognizes and secures access to traditional uses, local customs, beliefs and religions of local communities, and indigenous ethnic minority groups residing within and adjacent to the protected areas. It also provides for access to the sustainable use zone and conservation zone of protected areas to sustain the traditional resource uses and customary practices of local community and indigenous ethnic minority groups, where these are practices at a family scale. Such access is to be based on guidelines which are to be prescribed by MoE.

Furthermore, MoE is vested with the authority to allocate part or parts of the sustainable use zone to communities residing within or adjacent to a protected area as a community protected area. The community is to enter into an agreement (valid for up to 15 years) with the Nature Conservation and Protection Administration (Article 25). Community protected area regulations are to be established by local community and indigenous ethnic minorities that are recognised as such by the local authority, and the regulations must be endorsed by the Nature Conservation and Protection Administration (Article 25). These communities are also required to develop a natural resources management plan which will be reviewed and approved by the Nature Conservation and Protection Administration. The Plan and the community protected area development activities are then to be integrated into the commune development plan (Article 28).

The protected areas categories established under the purview of MoE constitute the majority but not all of the protected area categories in Cambodia. In addition to these areas, the Ministry of Agriculture, Forestry and Fisheries (MAFF) has set aside a number of areas for biodiversity conservation, forest protection, genetic conservation, and wildlife habitat protection, as has the Department of Fisheries. While the MoE's responsibility in controlling water pollution has been discussed in previous section, its leadership in administering the Environmental Impact Assessment process will be detailed in section 3.3 dealing the decision making process pertaining to hydropower projects.



## Water resources management

The agencies that can exercise influence over water resources management are as follows:

### *Ministry of Water Resources and Meteorology (MoWRAM)*

MoWRAM was created in 1999 as the apex body responsible for the overall management of Cambodia's surface and ground water resources, and for administering the Water Resources Law of 2007. Its functions include:

- defining and developing policies and strategies for the use, development and sustainable conservation of water resources at national and international levels;
- studying potential water resources in terms of surface and ground water;
- developing the short, medium and long term plans for exploration, development and conservation of water resources to support the national economy and living standards;
- managing all direct and indirect utilization of water resources and minimizing disasters;
- developing legislations related to water resources management, and their application;
- providing technical support and advice to private sectors, organizations, communities, and individuals involved in the improvement and exploitation of water resources.

Within MoWRAM, the Department of Water Resources Management and Conservation carries out several key functions including:

- Developing and carrying out the strategic plans for various development activities, e.g., hydropower, flood control, irrigation, except the projects which are serving an electric power production which is the first priority for the government;
- Managing watershed areas and develop relevant programmes for ensuring the utilization and conservation of water resources in an effective and sustainable manner, and
- Developing necessary policies, legislations, and regulations for water resources conservation

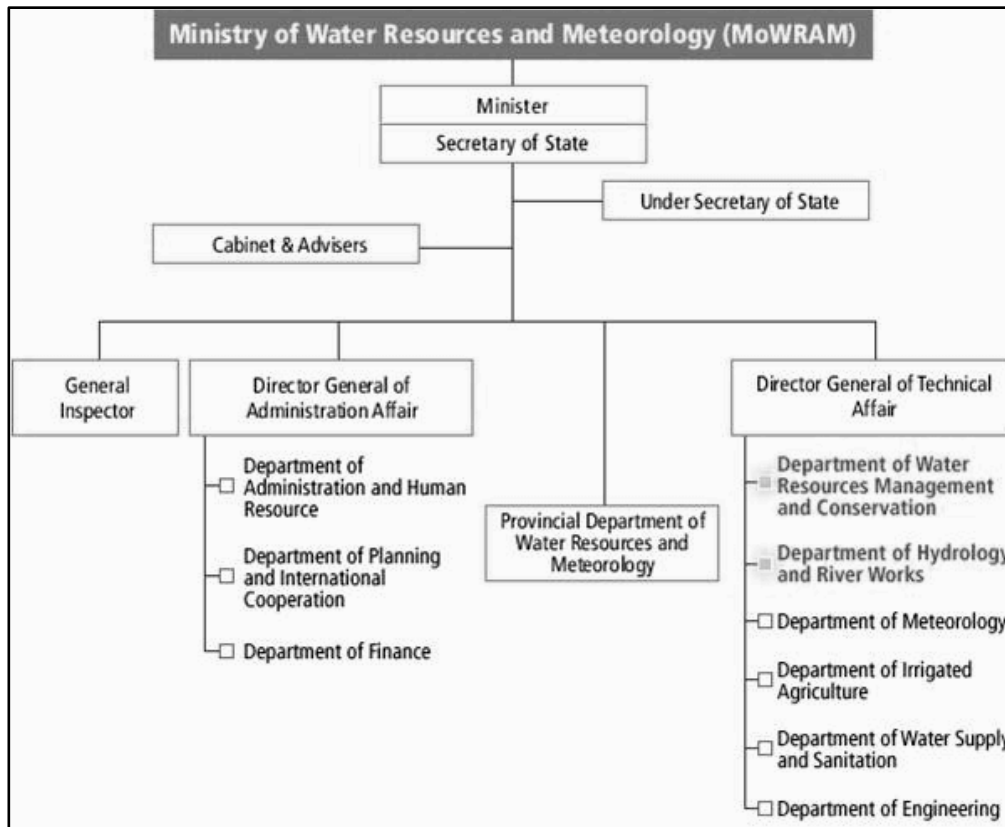


Figure 15: Organizational structure of MOWRAM

Source: Water Environment Partnership in Asia (WEPA)<sup>25</sup>

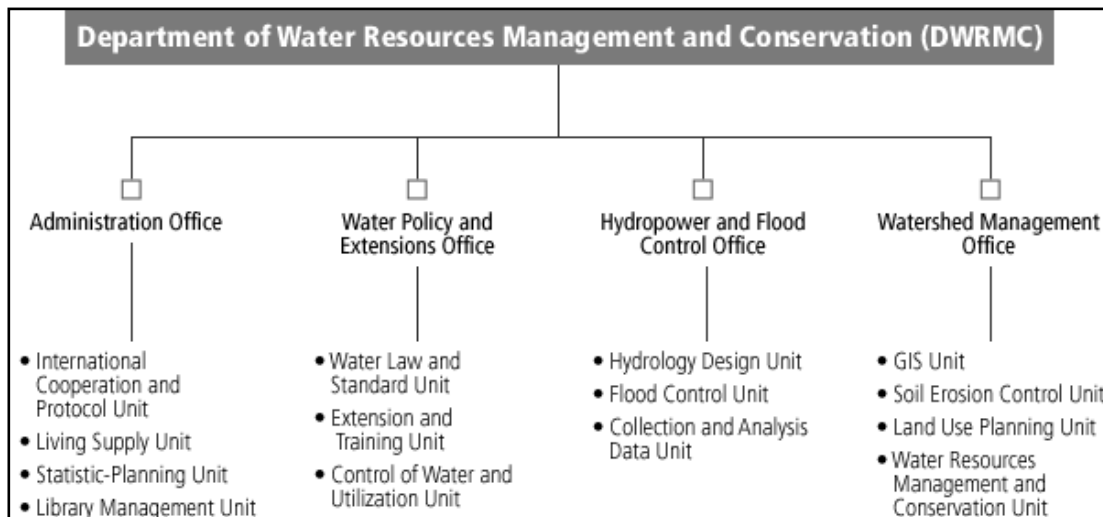


Figure 16: Organizational structure of DWRMC

Source: Water Environment Partnership in Asia (WEPA)<sup>26</sup>

<sup>25</sup> <http://www.wepa-db.net/policies/structure/chart/cambodia/mowram.htm>

<sup>26</sup> <http://www.wepa-db.net/policies/structure/chart/cambodia/dwrmc.htm>

MoWRAM's most important function relevant to hydropower development is to issue licenses for water use and water works construction; monitor their compliance, and impose water user fees. This is administered by the Department of Water Resources Management and Conservation. This Department is also responsible for developing legislation and for river basin management. However, the exclusion of electricity production from this Department's influence is of particular relevance as it effectively undermines MoWRAM's overall influence over hydropower decision making.

#### *Ministry of Industry, Mines and Energy*

The emphasis on hydropower as the key source of Cambodia's energy supply makes the construction of hydroelectric dams one if not *the* major influences on the country's ability to realize its policy ambition of shifting to an IWRM platform. While whether they will all be built remains unclear, the large number of hydropower projects identified by the government for implementation along the trunk and tributaries of the country's major rivers suggests the impacts on the entire water sector will be massive. The virtually monopolistic nature of decision making on these projects exercised by MIME poses a critical challenge not only to MoWRAM, but also to the broader development policy process which is expected to sustainably improve economic performance. As such, it can be highlighted as one of the fundamental institutional weaknesses, the implications of which reach well beyond the water sector and into the very core of Cambodia's overall development policies and practices.

#### *Department of Fisheries*

While water resources is pivotal for the fisheries sector making fisheries a primary stakeholder in the water resources management process, it is at a disadvantage in relation to other sectors in that the Department's jurisdiction pertains not to water management, but rather to the fish resource that the water resources supports. In practical terms this means that the Department lacks the legislative basis to compel or prevent specific actions by other water resource users. The quality of inter-agency coordination within the water sector thus becomes especially important if the interests of fisheries, and consequently the food and income security of a vast part of Cambodia's population is to be safeguarded.

#### *The Ministry of Environment (MoE)*

Within MoE's overall mandate of overall environmental planning and its integration with development planning processes, the Department of Environmental Pollution Control is specifically mandated to manage the impact of pollution on various components of the environment including water. With respect to water quality, its functions are as follows:

- monitoring and controlling effluents and/or treated effluents discharged from various pollution sources into receiving sources;
- issuing a licence or giving permission of treated wastewater discharge to owners or managers of factory that is approved to comply the national effluent water quality standard
- monitoring and controlling water quality at public water areas in compliance with the Public Water Quality Standard for Biodiversity Conservation, reporting to the decision-makers about the current water quality aspect and its future trend;
- cooperating and implementing the international conventions of which approved by the Royal Government;
- promoting staff awareness and knowledge at provincial/municipal environmental departments regarding causes/effects and benefits of water quality to people and the environment, including evaluation of the methods of water sampling for analysis at the laboratories of the Ministry of the Environment.

### Ministry of Public Works

The Ministry of Public Works and Transport can influence water resources management as the agency mandated to develop national policy concerning all public works, and to build and manage all infrastructure including bridges, ports, and waterways.

Of particular relevance is the Department of Waterways whose functions include:

- studying and executing works concerning navigation in natural watercourses;
- making plans and maps of rivers, waterways and channels;
- examining the construction of structures along the river;
- ensuring the protection of the river banks;
- building local ports by co-operating with local authorities;
- managing land practices to protect rivers, and
- monitoring the water level of all the rivers for navigation purposes.

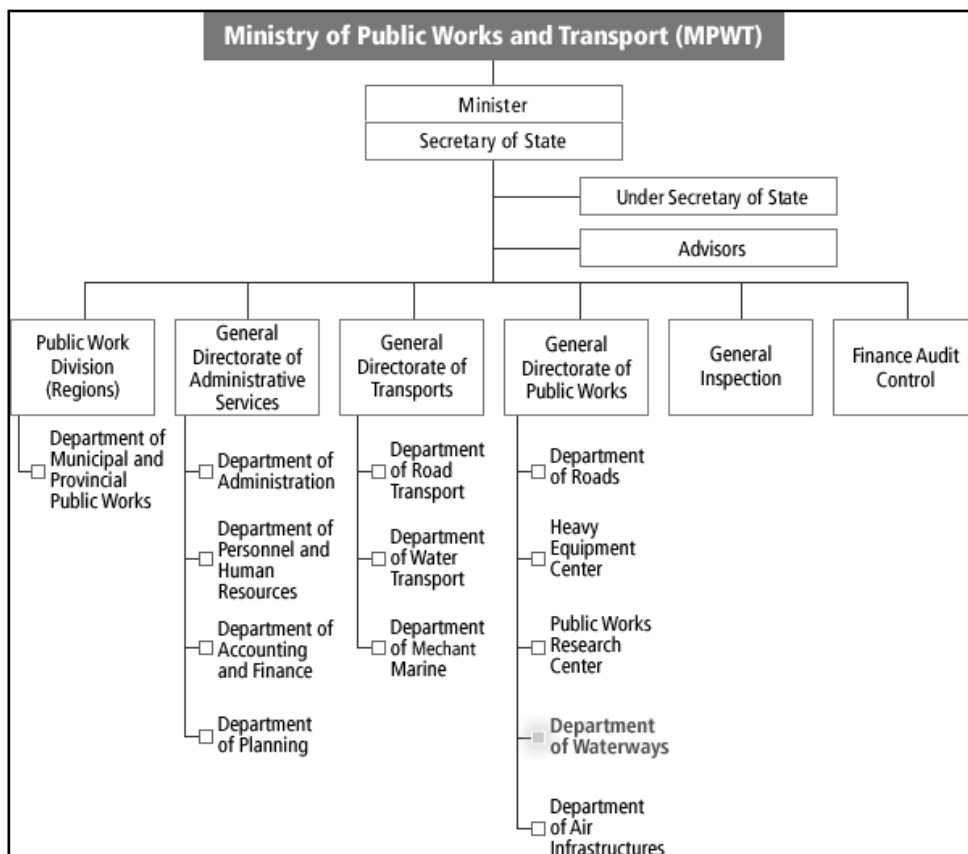


Figure 17: Organizational structure of MPWT

Source: Water Environment Partnership in Asia (WEPA)<sup>27</sup>

### Cambodia National Mekong Committee (CNMC)

The CNMC is a cooperative body of the ministries involved in water management, and is expected to coordinate various ministries on a national level and serve as a link between the national and regional levels. It is effectively the primary medium for inter-agency coordination, at least on paper.

<sup>27</sup> <http://www.wepa-db.net/policies/structure/chart/cambodia/mpwt.htm>

The Law on Water Resources Management in the Kingdom of Cambodia (2007) encourages the application of Integrated Water Resources Management (IWRM) as the holistic approach for sustainable management and development of water and related resources in the country. This is a relatively new approach in Cambodia and appears at odds with what continues to be a compartmentalized institutional structure and environment within the water sector. This remains the case despite the creation of MoWRAM. This is partly due to a failure to confer adequate powers for MoWRAM to function as the key policy maker and planner in the water sector (Middleton 2008). In fact, many of the functions relating to water have already been divided amongst other agencies such as the Ministry of Agriculture, Forestry and Fisheries (water quality), the Ministry of Industry, Mines and Minerals, the Ministry of Rural Development, Ministry of Public Works, and the Department of Agriculture (Irrigation). Coordination is thus difficult due to the institutional overlaps and competition, and the fact that MoWRAM is the youngest of these agencies leaves it at a considerable disadvantage (Dr. So Nam,<sup>28</sup> personal communication, 2011). Companies and donors continue to deal mainly with MIME which is also the institutional home for hydropower (Mr. Theng Tara, personal communication 2011<sup>29</sup>).

The challenge for MoWRAM is to achieve the active participation of MIME and other water users which may perceive such involvement as peripheral to their mandate or can override MoWRAM where a development activity is deemed to be a priority (e.g. hydropower). More formalized regulatory procedures for ensuring that hydropower planning processes are aligned with water resources planning processes, and indeed policy, will be necessary, and this may provide a practical and critical entry point for the project. Similar constraints exist to the integration of sectoral interests across national and provincial borders. The extent to which water resources agencies have an opportunity to influence the formative stages of project design is likely to be very limited unless there are legislated requirements in respect of water resources, for example maintaining minimum releases in the river system, requiring regulation of peak flows or linking development plans to protected area strategies. (King et al. 2007)

In practice, it appears that there is very limited interagency coordination in the water sector at national level, either in planning or operational matters. Arrangements for exchanging information also are rather hierarchical and controlled, so that staff may not have easy access to information from other agencies that would assist them in their own duties. As a result, ministries and their constituent departments (even within a single ministry) may often act largely in isolation. At provincial level, operational activity is focused through Provincial governors (who are responsible to the Minister of the Interior). Provincial departments receive their budget allocations from their parent ministries, and in principle receive technical support from and report to them. Coordination among ministry/department staff at provincial level may be stronger than at national level, because of more immediate oversight by governors. (ADB 2000)

## **Fisheries Management**

The Law on Fisheries of 2006 states its objectives to be fishery resource management, aquaculture development, the management of production and processing, and promotion of local community livelihoods, and the sustainability of biodiversity and natural culture heritages (Article 1). According to this Law, the fishery management shall be under the jurisdiction MAFF and is referred to as the Fisheries Administration. This is a nation-wide organizational structure, with a vertical hierarchy classified into a central level, inspectorate, cantonment, division and Sangkat (Article 6). Fisheries Administration

---

<sup>28</sup> Adjunct Professor and Director, IFRDI.

<sup>29</sup> Deputy Director, General Technical Affairs, MOWRAM



At the provincial level the Fisheries Administration Cantonment, (FiAC) is responsible for promoting, overseeing and regulating the development of fisheries in each province through the provision of technical assistance to community fisheries. The FiACs also issue the permits for establishing fisheries communities. Between the Fisheries Department and the FiAC is the Fisheries Inspector. Each Commune is supposed to have a Fisheries Officer (Mr. Yong Yeath,<sup>31</sup> personal communication, 2011).

In addition to implementing the fisheries policy and legislation, the Fisheries Department is also home to the Inland Fisheries Research and Development Institute (IFReDI) which reviews all water development projects and projects of other sectors with any link to fisheries for impacts on fisheries, and makes recommendations to MoE. Other relevant agencies are invited to discuss the impacts, and MoE is then expected to communicate this feedback to the Prime Minister. (Dr. So Nam,<sup>32</sup> personal communication, 2011)

According to the Law on Fisheries, sustainable fishery management should be exercised according to the National Fishery Policy and the provisions of this Law (Article 14). The National Fishery Policy is to be developed through a National Fishery Policy Formulation Committee headed by the Minister of Agriculture, Forestry and Fisheries with members from relevant Ministries (Article 14). In addition, the Fisheries Administration is required to develop a National Fishery Management Plan according to the National Fishery Policy with “broad participation” from local communities and relevant authorities (Article 15).

The area over which the Fisheries Administration has jurisdiction is considered the fishery domain, and this is divided into the inland and marine fishery domains. The inland fishery domain consists:

- Concession fishing lots allocated for investment.
- Fishery conservation areas, defined as habitats of aquatic flora and fauna.
- Inundated forest areas including inundated forest zone, which provide important aquatic animal habitats for feeding, spawning and breeding, and protected inundated areas.
- Family-scale fishing areas reserved for people or traditional community fishing.
- Open access areas which are areas that are not otherwise classified.
- Fishing areas for aquaculture development.
- Flooded plains that occur in the wet season.

The fishery domain is the property of the state. The boundaries of fishery domains are to be defined by sub-decree. The fishery domain can cover public or private land in the flooding season, but the management of these fisheries does not affect the ownership of the above mentioned lands (Article 9). The Law on Fisheries empowers MAFF to grant any legal person permission to carry out such activities in the fishery domain, based on the provision of this Law, for harvesting fish and conducting research.<sup>33</sup> The management of inundated forest and mangrove forests which are key components of the lifecycle of fishery resources shall be under the extent of this law (Article 3).

The management of fisheries is also based on the classification of three scales of fishing gear,<sup>34</sup> namely:

---

<sup>31</sup> Project Officer, Fisheries Action Coalition Team (FACT). Interviewed on 15<sup>th</sup> February, 2011, Phnom Penh.

<sup>32</sup> Adjunct Professor and Director, IFReDI. Interviewed on 17<sup>th</sup> February, 2011, Phnom Penh.

<sup>33</sup> Article 10.

<sup>34</sup> Article 30, Law on Fisheries, 2007.

- Large scale (commercial),
- Medium scale (commercial), and
- Small scale (family, non-commercial) mainly for household consumption and income, and defined in terms of the use of up to 50m of fishing net and 4-5 fish traps.

### *Fishery Management Areas*

According to the Law on Fisheries, any fishery domain may be declared as a fishery management area (Article 12). In such areas, the granting of ownership or land title will be determined by the Ministry of Agriculture, Forestry and Fisheries (Article 13). Fishery Management Areas are to be treated as Fishery Conservation Areas and any fishing activities in these areas are prohibited except with special permission from MAFF (Article 18).

### Open Access areas

These are those areas that are not classified as any other type of fishery domain, and only family and medium scale fisheries are allowed.

### Fishing Lots

According to the Proclamation on Demarcation of Inland Fishing Lots and Fish Sanctuaries of 1989, the boundary and location of fishing lots are to be demarcated on the fishery map (Article 1). Some fishing lots are to be reserved for the Fishery Department to undertake fisheries, and the rest are to be auctioned to private individuals and companies,<sup>35</sup> and those who purchase these lots are granted the right to use the lot for two consecutive fishing seasons.<sup>36</sup> Anyone holding a right to a fishing lot enjoys a monopoly on access, and the right to apprehend any unauthorised third party who fishes or uses the flooded forest within the fishing lot.<sup>37</sup> In practice, most fishing lots are owed by private commercial operators (Mr. Yong Yeath,<sup>38</sup> personal communication, 2011).

### Community Fisheries

Community fishing areas are defined by the Law on Fisheries as the “fishery domain of the state handed over to the community fishery under the agreement between the chief of the Cantonment of the Fisheries Administration and the communities or groups of citizens living inside or around the specific fishery domain. Those citizens are mainly dependent on fisheries for their daily life and using traditional fishing gears for fishing, which they manage and use that area sustainably” (Appendix).

All Khmer citizens have the right join together to establish community fisheries in their own local areas, on a voluntary basis to improve their own standard of living and to contribute to economic and social improvement and poverty alleviation by using fisheries resources sustainably. This right is underpinned by Article 2 of the Law on Fisheries whereby the state ensures the rights on traditional use of fishery resources for local communities. The Ministry of Agriculture, Forestry and Fisheries shall however have general jurisdiction over management of community fisheries.<sup>39</sup> The fishing community has no rights to sell, exchange, hire, donate or divide the community fishing area.<sup>40</sup> They also do not have the power to

---

<sup>35</sup> Article 3, Sub-Decree on Hiring Inland & Marine Fishery Domain for Fishery Exploitation, 1989.

<sup>36</sup> Article 7, Sub-Decree on Hiring Inland & Marine Fishery Domain for Fishery Exploitation, 1989.

<sup>37</sup> Article 18, Sub-Decree on Hiring Inland & Marine Fishery Domain for Fishery Exploitation, 1989.

<sup>38</sup> Project Officer, Fisheries Action Coalition Team (FACT). Interviewed on 15<sup>th</sup> February, 2011, Phnom Penh.

<sup>39</sup> Article 1, Royal Decree on the establishment of community fisheries, 2005.

<sup>40</sup> Article 62, Law on Fisheries, 2007.



make arrests; they can only inform the local fisheries officer of any illegal activity (Mr. Yong Yeath,<sup>41</sup> personal communication, 2011).

The Cantonment of the Fisheries Administration, following consultation with other concerned authorities is responsible for studying and preparing the fishery domain for forming community fisheries by making clear boundaries and demarcating suitable areas depending on the fishery resources and the traditional or use by the community. The chief of a Cantonment Fisheries Administration is entitled to decide or cancel the agreements of a community fishing area with the local community living in or around the fishery domain. This agreement is valid for 3 years but can be renewed depending on the monitoring report and re-evaluation by the Fisheries Administration Division.<sup>42</sup>

The community fishing areas have to be continuously managed by the fishing communities in accordance with a Community Fishery Area Management Plan (CFAMP) prepared by the local community and approved by the head of the central Fisheries Administration. The Fisheries Administration is required to provide the technical support at the request of a local community and to monitor the implementation of the CFAMPs. The CFAMPs are to be re-examined every three years.<sup>43</sup> Also required are by-laws, internal regulations, management plans and maps of the community fishing area.<sup>44</sup> Where there are adjacent community fisheries areas, federations of community fisheries can be established to foster cooperation.<sup>45</sup> The law on Fisheries grants the Minister of Agriculture, Forestry and Fisheries the power to abolish community fishing area for public benefit if deemed so (Article 63).

### Licensing

All types of fisheries exploitation except subsistence fishing are required to obtain a fishing license and to pay tax and fishing fees to the State.<sup>46</sup> According to the Proclamation on competent authorities in issuing permission to do fishery in open water, aquaculture, fish processing and special permissions (1989), large scale inland fisheries need a license issued by the Department of Fisheries, while the Provincial/Urban fisheries authority issues the licenses in respect of middle scale fisheries (Article 1). Aquaculture requires a license from the Department of Fisheries where the pond/pen is not more than 2 hectares or a cage not more than 200 sq. meters. The license is given by the Provincial/Urban authority in the case of inland ponds/pens less than 0.5ha or cage of between 15- 200 sq. meters (Article 2). The licenses are valid for one fishing season or at most for one year, unless authorization for industrial fisheries is obtained (Article 5).

### Role in EIAs

The fishery administration does not have any links with dam operators once dams are built, although it is a member of the implementation monitoring committee. Monitoring is meant to be done according to the Agreement signed with the operator. (Mr. Theng Tara,<sup>47</sup> personal communication, 2011). Permission from MAFF is however needed before the flow of any river is blocked, and a member of IFReDI<sup>48</sup> is

<sup>41</sup> Project Officer, Fisheries Action Coalition Team (FACT). Interviewed on 15<sup>th</sup> February, 2011, Phnom Penh.

<sup>42</sup> Article 61, Law on Fisheries, 2007.

<sup>43</sup> Article 62, Law on Fisheries, 2007.

<sup>44</sup> Art.2, Royal Decree on the establishment of community fisheries, 2005.

<sup>45</sup> Art.3, Royal Decree on the establishment of community fisheries, 2005.

<sup>46</sup> Article 30, Law on Fisheries, 2007.

<sup>47</sup> Deputy Director, General Technical Affairs, Department of Water Resources Management and Conservation, MOWRAM. Interviewed on 14<sup>th</sup> February, 2011, Phnom Penh.

<sup>48</sup> IFReDi chairs a Technical Working Group of Fisheries which includes several non-government stakeholders and other technical bodies. This Group also has a sub-group on the impacts of dams.

always involved when assessing hydro impacts by carrying out an independent review of impacts of the fisheries and their habitats and the implications for people's livelihoods. The scope of such an evaluation, which is more akin to a SEA, includes fish species, migration and habitats; numbers of people affected, level of dependency, markets even beyond the province and alternate livelihoods; and covers both upstream and downstream impacts (Dr. So Nam,<sup>49</sup> personal communication, 2011). In contrast, most EIAs compiled by the project proponent usually only cover the local reservoir area even though most fish migrate. The findings of this assessment are communicated to the MoE during the inter-MAFF meeting to review the draft EIA report. Despite IFReDi's expertise and familiarity with the issues, the EIA consultants contracted by the project proponents do not contact IFReDi, and they therefore do not have a baseline for assessing impacts and costs and benefits and for calculating compensation. In fact, while the EIA Guidelines provide a generic structure for EIA reports, the content filled by the company is not accurate. This can also be partly attributed to the fact that the legal framework on EIAs does not adequately clarify the roles of the various agencies, or any duty on the part of the project proponent to consult specific agencies.

As part of the evaluation of fisheries and related impacts, IFReDi also recommends compensation levels, especially since the company does not have a method to quantify impacts and compensation during the EIA process. In the case of the Lower Sesan 2 dam, IFReDi has recommended fish culture as an alternate income source and a budget of \$1.5Mn for its implementation. However, it is not clear from the EIA reports as to who will be compensated and by how much. Overall, there is little or no monitoring on whether compensation has been paid. (Dr. So Nam,<sup>50</sup> personal communication, 2011).

### **Forestry Management**

The Ministry of Agriculture, Forestry and Fisheries (MAFF) governs three conflicting sectors, one being forestry. The Forestry Administration is mandated under the Law on Forestry (2002) to oversee forestry and wildlife policy and management, with the exceptions of flooded forests which are managed by the Department of Fisheries (Article 3); fish and animals that breed in water (Article 48), and protected areas which are managed by MoE. The existence of overlapping jurisdictions within the forestry and wildlife sectors are thus apparent. Management of the sector is to be according to the National Forest Sector Policy and the Law on Forestry. This Law defines the framework for management, harvesting, use, development and conservation of the forests. It applies to all forests, whether natural or planted (Article 2) with the exception of flooded forests (Article 3) which is under the Law on Fisheries.

---

<sup>49</sup> Adjunct Professor and Director, IFReDi.

<sup>50</sup> Adjunct Professor and Director, IFReDi.

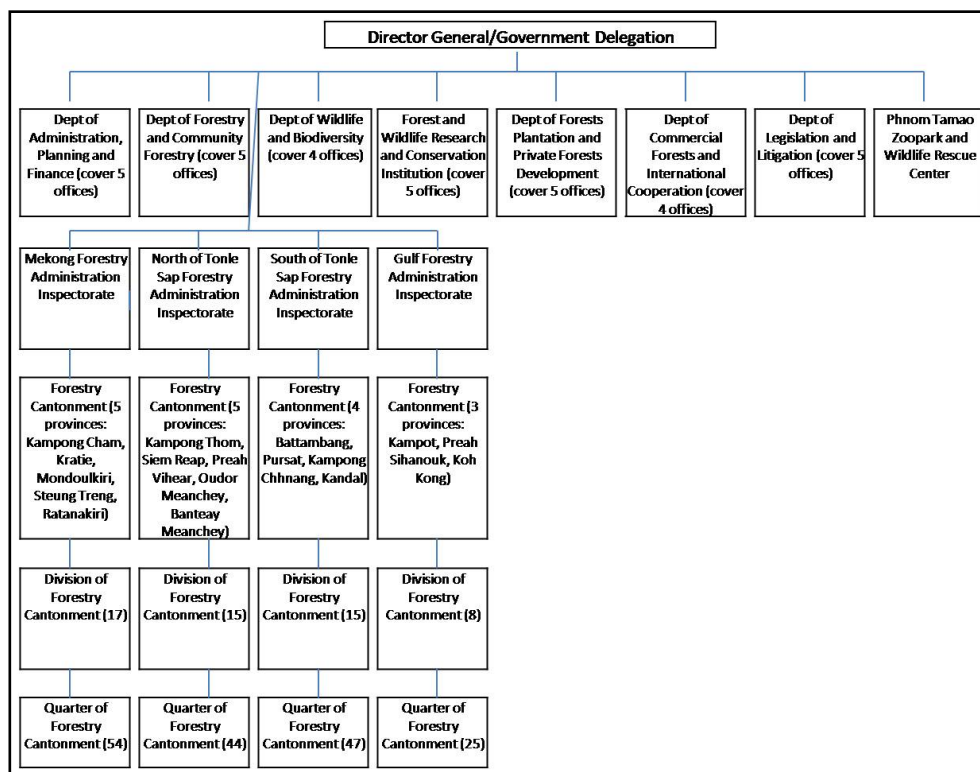


Figure 19: Organizational structure of the Forestry Administration

Source: Ministry of Agriculture, Forestry and Fisheries.

### *Classification of forests*

Under the Law on Forestry (2002), the Permanent Forest Estate is categorized into Permanent Forests Reserves and Private Forests, and is to be managed according to the principle of sustainable forest management (Article 8). The Permanent Forest Estate is sub-divided into Production Forests, Protection Forests, and Conversion Forest (Article 10). Production Forests consist of (Article 10):

- Forest Concessions,
- Production Forests not under concession,
- Forests rehabilitated,
- Reserved forestland for reforestation or tree plantation,
- Reserved forestland for forest regeneration,
- Degraded Forestland, and
- Community Forests.

Production Forests that are not under concessions are to be managed with the priority purpose of meeting domestic needs for forest products and by-products (Article 20). Protection Forests are meant primarily for protecting forest ecosystems and natural resources therein. These consist of the following sub-categories (Article 10):

- Reserve Forests for special ecosystems
- Research forests
- Forests for regulating water sources
- Forests for watershed protection
- Recreation forests

- Botanical gardens, and
- Religious forests.

According to the Law on Forestry, MAFF may propose to the Government the designation as a Protection Forest any part of the Permanent Forest Reserve which qualifies as a special ecosystem area, an area of scientific, cultural, or tourism value or an area for biodiversity, water and soil conservation (Article 22). The category of Conversion Forests appears to be somewhat misleading as it is defined by the same Law as land for other development purposes comprised mainly of secondary vegetation, and which has not yet been designated for use by any sector (Article 15). Each allocation of the Permanent Forest Reserves to harvest forest products and by-products may be conducted only in Permanent Forest Reserve considered as Production Forests. No permits are to be issued to harvest forest products and by-products within all types of Protection Forests in the Permanent Forest Reserves (Article 28).

#### Forest Concessions

The Government may, according to the Law on Forestry, grant an area of production forest that is not under use as a forest concession through public bidding, so long as this is consistent with the National Forest Management Plan, and after consultation with concerned Ministries, local authorities and communities (Article 13). The concessionaires shall have the right to manage and harvest forest Products and by-products within their concession, while ensuring that the operation does not interfere with the following:

- Customary user rights enjoyed by indigenous communities on land that is registered with the state consistent with the Land law, and
- Customary access and user rights practiced by communities residing within or adjacent to forest concessions.

#### Community Forests

The Sub-Decree on community forestry management (2003) defines a Community Forest as the forest plantation of a Community or State forest, where the right is granted to a local Community living in or near the forest to manage and utilize the forest in a sustainable manner between the Forestry Administration and a local Community (Article 5). A community is defined as a group of residents in one or more villages in the Kingdom of Cambodia who share a common social, cultural, traditional and economic interest and use the natural resources in an area, where they live in or near, in a sustainable way for subsistence and livelihood improvement purposes (Article 5). Minority ethnic groups are distinguished from other communities by defining them as Local Communities: the minority ethnic community or a group of local residents with original settlement in one or more villages, where they live in or near state forest with their tradition, custom, religious belief, culture and subsistence depending on the harvest of forest and non-forest products and the basic use of those forest resources (Article 5).

According to the Law on Forestry MAFF has the authority to allocate any part of the Permanent Forest Reserve to a community living inside or near a forest area in the form of a Community Forest (Article 41). The cantonment of the Forestry Administration, through consultation with other parties concerned, has the duty to study conditions of the Permanent Forest Reserves to establish Community Forests by identifying clear boundaries of appropriate areas based on the capacity of forest resources and the need to ensure customary user rights of local communities (Article 42). MAFF is also required to recognize the religious forests of local communities, living within or near the forest, as Protection Forests serving religious, cultural or conservation purposes. It is prohibited to harvest any spirit trees and these are to be specially marked and identified in a Community Forest Management Plan (Article 45).

The chief of the cantonment of the Forestry Administration signs a Community Forest Agreement with a community living within or near a forest area in the Permanent Forest Reserve. This agreement has validity for a period not to exceed fifteen years,<sup>51</sup> and grants and protects the Community's rights within any specific area to access, use, manage, protect and benefit from forest resources in a sustainable manner.<sup>52</sup> An agreement may be extended based on monitoring and evaluation reports of the division of the Forestry Administration.<sup>53</sup> The Agreement may be terminated prior to the expiration date if the government believes that there is another purpose which provides a higher social and public benefit to the country. In such a situation, the Forestry Administration Cantonment is to give the Community Forestry Management Committee a written notice six months prior to termination. Within this period, the Forestry Administration Cantonment Chief is required to discuss and negotiate with the Community Forestry Management Committee to determine the fair compensation for the Community's loss.<sup>54</sup> This does not adequately create a duty on the government to pay compensation or establish any principles by which such compensation is to be assessed.

Each Community Forest Community is to be led by a Community Forestry Management Committee. Its members are selected from the CF Community through secret ballot by at least 2/3 of the members of the CF Community during a public meeting. The local authority or commune councils and Forestry Administration Cantonment are to be present as observers.<sup>55</sup>

It is expected that a Community Forest will be managed in an "economic and sustainable manner" by the local community, and in conformity with a Community Forest Management Plan, rules on Community Forestry and guidelines on Community Forestry. The Forestry Administration is required to monitor the implementation of the Management Plan and provide technical assistance, where appropriate, upon the request of the local community.<sup>56</sup> The management plan of the Community Forest, according to the Sub-Decree on community forestry management (2003) is to be prepared by the local community and subject to approval by the Cantonment level of the Forestry Administration. Sustainable harvest rates for a specified period are set by the Community Forestry Management Committee and approved by the Forestry Administration (Article 5). By-Laws can be adopted by the Community Forestry Management Committee on the internal operation of the Community Forestry Management Committee, including such aspects as quorum requirements, term and number of committee members and method for electing the Community Forestry Management Committee. The User Rights of CF Community members include:

- Customary user rights prescribed in Article 40 of the Forestry Law, namely:
  - The collection of dead wood, picking wild fruit, collecting bees' honeys, taking resin, and collecting other forest by-products;
  - Using timbers to build houses, stables for animals, fences and to make agricultural instruments;
  - Grass cutting or unleashing livestock to graze within the forests;
  - Using other forest products and by-products consistent with traditional family use, and

---

<sup>51</sup> Article 27, Sub-Decree No: 79 on community forestry management, 2003

<sup>52</sup> Article 44, Law on Forestry 2002 and Art.5, Sub-Decree No: 79 on community forestry management, 2003

<sup>53</sup> Article 42, Law on Forestry 2002

<sup>54</sup> Article 28, Sub-Decree No: 79 on community forestry management, 2003

<sup>55</sup> Article 16, Sub-Decree No: 79 on community forestry management, 2003

<sup>56</sup> Article 43, Law on Forestry 2002

- The right to barter or sell forest by-products shall without a permit, if those activities do not cause significant threat to the sustainability of the forest. This right is however granted only after the first five years following the approval of the Community Forest Management Plan.
- The traditional practice of swidden agriculture during specific periods of time as determined in the Community Forest Management Plan.
- The right to appeal decisions which impact Community rights.
- The rights granted under a Community Forest Agreement within a specific area that shall ensure the sustainable use of forest resources.

A permit is needed by a community with the rights to harvest forest products and by-products in a community forest that exceed customary user rights defined by rules on community forestry, and are issued by the Chief of Cantonment of the Forestry Administration.

The Forestry Administration's support to the Community Forest Communities is to include:

- Resolving conflicts on request by a Community Forest Community;
- Establishing and managing a Community Forestry Central Registry and map of Community Forests; and
- Providing technical support, and providing training to local Forestry Administration.<sup>57</sup>

In contrast to the legal framework on EIAs, the Law on Forestry requires that an Environmental as well as a Social Impact Assessment be prepared for any major forest ecosystem related activity that may cause adverse impact on society and the environment. It further directs that these reports be made available for public comment, although no procedure for doing so is specified (Article 4). Unfortunately, hydropower dams do not appear to fall within the meaning of an energy related activity despite the significant deforestation they cause.

#### *The rights of indigenous and other local communities*

In addition to Community Forests, local communities that traditionally practice shifting cultivation may conduct such practices on property of indigenous communities which are registered with the state. According to the Law of Forestry, the Forestry Administration is to manage and control the shifting cultivation that is a part of the community forest management plan. Shifting cultivation practices are prohibited in natural intact forest in the Permanent Forest Reserves (Article 37). For local communities living within or near the Permanent Forest Reserves, the state is directed to recognize and ensure their traditional user rights for the purpose of traditional customs, beliefs, religions and living as defined in this article (Article 40).

The Forest Law (Article 15) and the Sub-Decree on Forest Concession Management (Article 2) both provide for the rights of indigenous peoples living within or adjacent to a forest concession by ensuring that the concession owners do not interfere with the customary user rights of indigenous communities and that they protect and maintain their access rights to forest resources that are of economic, subsistence and spiritual value to them.

---

<sup>57</sup> Art.24, Sub-Decree No: 79 on community forestry management, 2003

### *Role in hydropower (and Sesan 2)*

The Forestry Administration is not directly involved in the EIA process and do not have dealings with the company or its EIA consultant. Its main role is to evaluate the impact of the dam on forests, but this is in practice limited to merely clearing the area to be inundated by the reservoir as identified by the EIA. They are not involved in assessing any losses to people (Mr. Mak Chillea,<sup>58</sup> personal communication, 2011). A second role is assessing the suitability of land for resettlement, although there is no decision making power as the land will have already been demarcated by MIME and the project proponent. It only advises MIME on the suitability of proposed sites. (Mr. Mak Chillea, personal communication, 2011). In theory, the project proponent will need to get permission from the Forestry Administration if it requires any trees to be cut for house construction in resettlement areas. FA will also stipulate where the trees may be cut. (Mr. Mak Chillea, personal communication, 2011).

### **Land Management**

According to Article 44 of the Constitution “[a]ll persons, individually or collectively, shall have the right to ownership. Only Khmer legal entities and citizens of Khmer nationality shall have the right to own land. Legal private ownership shall be protected by law. The right to confiscate possessions from any person shall be exercised only in the public interest as provided for under law and shall require fair and just compensation in advance.”

The law that now regulates land ownership is the Land Law of 2001 which replaced the Land Law of 1992. According to the Land Law (2001), any regime of ownership of immovable property prior to 1979 shall not be recognized (Article 7). The State is the owner of property in Cambodia as also stated in Article 58 of the 1993 Constitution. This includes any property that has a natural origin, such as forests, courses of navigable or floatable water, natural lakes, banks of navigable and floatable rivers and seashores (Articles 12 and 15). Any person who enjoyed peaceful, uncontested possession of immovable property for five years or more prior to the promulgation of the 2001 Land Law is entitled to private ownership, and has the right to request the registration of his/her title (Article 30).

With respect to indigenous communities, the Land Law states that these groups can continue to manage their community and immovable property according to their traditional customs, but shall be also governed by the Land Law which sets the overall framework within which customary practices can operate (Article 23). Article 25 states that indigenous community lands are “lands where the said communities have established their residences and where they carry out traditional agriculture” and includes “not only lands actually cultivated but also includes reserves necessary for the shifting of cultivation” as per their traditional agricultural practice. However, the qualification in the provision that such lands should be those “recognized by the administrative authorities” weakens the provision by granting the administrative authorities the final say over demarcating land as belonging to a community. Moreover, the provisions of this article are not to be an obstacle to the undertaking of works done by the State that are required by the national interests or the needs of a national emergency (Article 26). This appears to be in contradiction of Article 28 which states that no authority outside the community may acquire any rights to immovable properties belonging to an indigenous community.

Article 26 provides for communal ownership to have “all the rights and protections of ownership as are enjoyed by private owners” except the right to “dispose off any communal ownership that is State public property to any person or group.” It also goes on to emphasize and recognize the role of traditional

---

<sup>58</sup> Deputy Director, Watershed Management, Forestry Administration. Interviewed on 17<sup>th</sup> February 2011, Phnom Penh.

authorities, mechanisms and customs in decision making and exercising the ownership rights of immovable properties of the community.

The Land Law is to be administered by the Ministry of Land Management, Urban Planning and Construction (MLMUPC) (Article 3), with the support of provincial/municipal and srok/khan Cadastral Offices which are required to implement all instructions issued by the Ministry (Article 232). Land use planning is the joint responsibility of the Ministry of Land Management and the Ministry of Interior (Mr. Lim Haing Kry,<sup>59</sup> personal communication, 2011). The Land Policy of 2009 states that the Council for Land Policy has the duty to promote and monitor implementation of land policy in compliance with the direction of the Supreme Council for State Reform, as well as to coordinate among the three land sub-sectors (land administration, land management, and land distribution) to strengthen implementation of the Land Law and other statutes related to environment, forest, fisheries, water resources, civil code, decentralization and de-concentration. This suggests an overall co-ordinating function for the Council for Land Policy, although it is unclear to what extent this creates an overlap with the mandate of the Ministry of Land Management, Urban Planning and Construction, and how this is to be addressed.

### Social land concessions

According to the Land Law, land concessions responding to a social purpose allow beneficiaries to build residential constructions or to cultivate lands belonging to the State for their subsistence (Article 49). A land concession cannot establish ownership rights on the land provided for concession except for concessions responding to social purposes (Article 52). It is a legal mechanism to transfer state land for social purposes to the poor who lack land for residential and/or family farming purposes which equates to family cultivation or animal-raising to meet basic needs, and to provide land to resettle families who have been displaced resulting from public infrastructure development.<sup>60</sup> This is thus likely to be the basis for the land needed for resettling communities displaced by the Sesan 2 dam.

According to the Sub-Decree on Social Land Concessions, the maximum size of social concession land granted for residential purposes is 1,200 square meters, except in rural areas where land is available, the size of social concession may be increased up to 3,600 square meters (Article 16). The maximum size of social concession land granted for family farming purposes is two hectares, but for some areas the size of social concession land may be increased up to five hectares based on the characteristics and potentiality of the land or the type of crop, and labor (Article 17). After complying with the criteria of the social land concession program for five years the target land recipient has the right to ownership of the land and may request ownership title according to procedures determined by the Minister of MLMUPC. If a target land recipient dies during the implementation of the social land concession program, the successors may continue to implement the social land concession program to complete five years and shall have the right to ownership. The target land recipient may not sell, rent or donate social concession land during the first five years (Article 18). Land concessions responding to an economic purpose allow the beneficiaries to clear the land for industrial agricultural exploitation of land.<sup>61</sup> The maximum duration of a land concession is limited to ninety-nine years.<sup>62</sup>

---

<sup>59</sup> National Program Advisor, Ministry of Interior, Department of Local Administration Project to Support Democratic Development (PSDD), Interviewed on 18<sup>th</sup> February, 2011, Phnom Penh.

<sup>60</sup> Article 3, Sub-Decree No. 19 on Social Land Concessions, 2003

<sup>61</sup> Article 49, Land Law 2001

<sup>62</sup> Article 61, Land Law 2001



The social land concession mechanism, according to the Sub-Decree on Social land Concessions (2003) is to have the following structure:

1. The National Social Land Concessions Committee (NSCC) located in the MLMUPC;
2. Provincial/Municipal Land Use and Allocation Committee (PLUAC) located in the provincial/municipal hall;
3. District Working Group (DWG) located in district/Khan hall, and
4. Commune Council.

The Provincial/Municipal Land Use and Allocation Committee is the Provincial/Municipal social land concession policy making body. Its tasks include:

- Identify the state public land and state private land.
- Review and assess land use plans and social land concession plans proposed by the commune councils.
- Approve land classification, land use plans, and decisions about state land allocation.
- Assist commune councils to develop land use plans and land classifications.
- Approve, refuse or modify social land concession plans proposed by commune councils.

The District Working Groups' functions include:

- Carrying out all the work of Provincial/Municipal Land Use and Allocation Committee at the district level.
- Providing technical assistance to the commune councils to identify and classify land, to develop land use plans, to select target land recipients and to implement social land concession programs.

A commune council according to the Sub-Decree on Social land Concessions can initiate a local social land concession program by preparing a social land concession plan. One or more citizens or organizations working with or on behalf of citizens in a commune, may initiate a local social land concession program, that shall be done through the commune council, in which the social concession land is located, by preparing a social land concession plan (Article 5). The commune council shall have the following duties and tasks (Article 28):

- Initiate and consider the social land concession plan.
- Implement the local social land concession program with technical support provided by District Working Group.
- Be responsible for selection of target land recipients from among applicants.
- Be responsible for fair and efficient allocation of land.

A National Social Land Concession Program may be initiated by one or more concerned ministries or institutions in situations where there is a program to resettle large groups of families, such as urban squatters, or displaced persons ((Article 6).

The Commune Council shall submit the local social land concession plan through the District Working Group for approval to the Provincial/Municipal Land Use and Allocation Committee. This Committee may approve the plan if it is seen that the land is vacant state land and suitable for the social land

concession plan. The Committee will then inform the National Social Land Concession Committee about each plan that it approves (Article 6).

So far, there are some cases of social land concession distribution which had been done without thoroughly examining land space at the ground. This lack of attention and concerted effort has resulted in overlaps between land granted to some private companies through economic land concession and land already occupied by local people (The NGO Forum on Cambodia 2010). Areas of granting economic land concession are generally identified on the map without ground truthing (Mr. Mith Samonn,<sup>63</sup> personal communication, 2011).

### 3.3. Hydropower decision making

The first step in the decision making process is a screening and ranking of potential projects, after which some may be selected for further study, while others will be included in the national power generation expansion plan (King et al. 2007). Those projects in the national plan are then open to public/private investment. The practice appears to be that any project proponent company first presents the project proposal to the Prime Minister, Deputy Prime Minister or a member of the Council of Ministers or the Minister of Economics and Finance (Mr. Tep Bunnarith,<sup>64</sup> personal communication 2011). If the blessings of the individual are given, the project proposal can be handed to the CDC which assigns it to MIME (Mr. Tep Bunnarith, personal communication 2011). The project proponent must then sign a MoU with or receive a Letter of Permission from MIME. This grants the proponent two years to go through the process of preparing the feasibility studies (IEIA),<sup>65</sup> EIA<sup>66</sup> and Environmental Management Plan (EMP)<sup>67</sup> (H.E. Tun Lean,<sup>68</sup> personal communication 2011).

The project proponent's technical staff will then prepare the feasibility study, with MIME arranging access to relevant government staff, data and the necessary approval permits. The project proponent typically self-finances the study, which becomes the joint property of the project proponent and MIME once completed. On satisfactory completion of the feasibility study, the project proponent is entitled to enter into discussion 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 (Article 7). If the project is deemed by MoE to have a "serious impact on natural resources, ecosystem, health or public welfare" it may then be required to submit a full EIA (Article 8). This is to be determined after the

---

<sup>63</sup> Project Coordinator, WorldFish Center. Interviewed on 15<sup>th</sup> February, 2011, Phnom Penh.

<sup>64</sup> Executive Director, Culture and Environment Preservation Association (CEPA)

<sup>65</sup> Defined as: "the preliminary assessment of primarily secondary data of physical, biological and socio-economic environment and resources on the area within or in the surrounding the project site. It forms basis for identification, prediction and analysis of potential adverse environmental and social impacts by project activities, aiming to identify actions to minimize negative impacts and maximize positive impacts." (Annex 1, The Declaration on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, 2009. Translation)

<sup>66</sup> Defined as: "the detailed assessment of physical, biological and socio-economic environment and resources, based mainly on primary data on the area within or in the surrounding the project site. It forms basis for identification, prediction and analysis of potential adverse environmental and social impacts by project activities, aiming to identify actions to minimize negative impacts and maximize positive impacts." (Annex 1, The Declaration on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, 2009. Translation)

<sup>67</sup> Defined as: "the plan for environmental management as stipulated in the IEIA or full EIA report developed by the project owner and approved by the Ministry of Environment." (Annex 1, The Declaration on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, 2009. Translation)

<sup>68</sup> Director General of Energy General Department of Energy, MIME

Department of Environmental Impact Assessment Review in MoE or the concerned Provincial Departments of Environment visits the project site.<sup>69</sup> In practice, according to the Director General of the Energy (of MIME)<sup>70</sup> an inter-agency feasibility study workshop including MIME, MAFF, Ministry of Economics and Finance and MoWRAM is held to jointly review the results and determine whether the proposed project should continue to the feasibility study and IEIA. If this is the case, the terms of reference are provided on the basis of the discussions at the workshop.

The EIA process is government by three enactments that constitute the current framework of rules and processes to be followed. These are:

- The Law on Environmental Protection and Natural Resources of 1996,
- The Sub-Decree on Environmental Impact Assessment Process, 1999 and
- The Declaration on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports made by MoE in 2009, which aims to provide general guidelines on the development of initial Environmental Impact Assessments (IEIA) and full Environmental Impact Assessment (EIA).

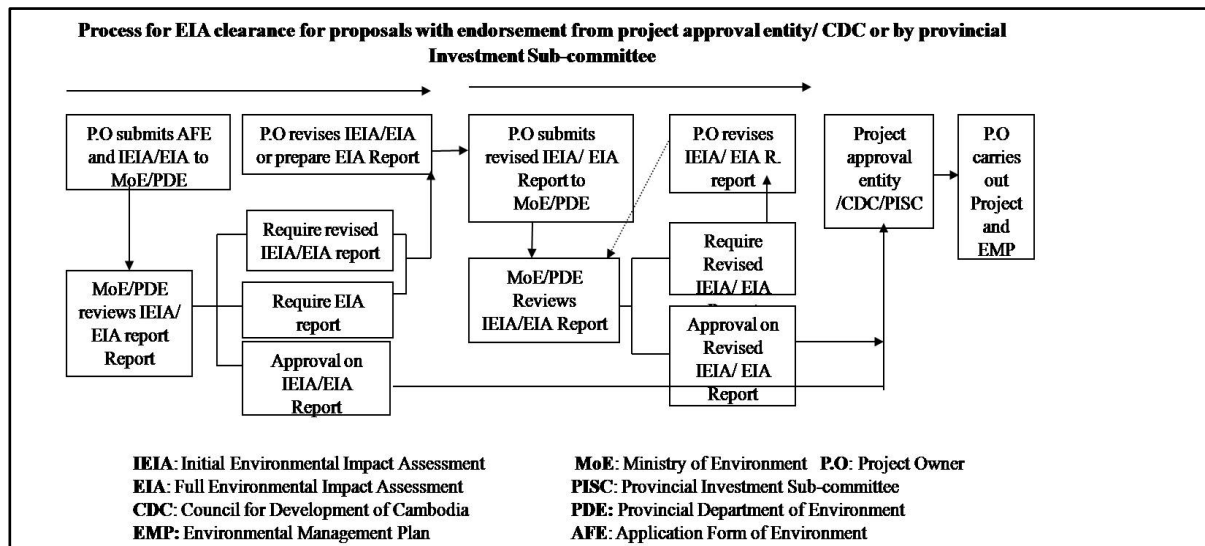


Figure 20: Process for EIA clearance

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

The Law on Environmental Protection and Natural Resources stipulates that an assessment of impacts to the environment shall be done for every project and activity, private or public before the issuance of a decision by the royal government on all submitted proposed projects (Article 1). Consequently, every investment project application and proposed project submitted by the state was to include an initial environmental impact assessment (IEIA) or environmental impact assessment (EIA) (Article 7). However, believing that this would take too long, the government developed a prescribed list of those projects requiring an IEIA and/or EIA through the 1999 Sub-Decree (Oliver et al. 2006.). All activities included in this list are considered as a potential threat to the environment, and includes all hydropower structures

<sup>69</sup> Article 7, The Declaration on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, 2009

<sup>70</sup> H.E. Tun Lean, General Department of Energy, MIME. Interviewed on 14<sup>th</sup> February, 2011, Phnom Penh.

that intend to yield more than one megawatt of electricity, which in effect will include all major hydropower dams.<sup>71</sup>

#### *Preparing for an EIA*

As noted in section 4.4, the Ministry of Environment is mandated as the lead agency for implementing the EIA process by the Law on Environmental Protection and Natural Resources (Article 1). The project proponent will draft the Terms of Reference (ToR) for the EIA and submit to the Department of Environmental Impact Assessment Review in MoE, which is to have the ToR assessed by a group of experts. The ToR may be revised in consultation with the project proponent (Mr. Tep Bunnarith, personal communication 2011). Once the ToR is finalised, the EIA is conducted by a consultancy company hired by the proponent (Mr. Tep Bunnarith, personal communication 2011). The project proponent can contract a consultant of its choice as provided for by the Declaration on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports of 2009 (Article 4). Such consulting companies are to be registered with MoE which (by implication) is to ensure that the company has the requisite capacities to carry out the activities in the ToR (Article 6).

#### *Content of an EIA Report*

Since the MoE's Declaration on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports in 2009, there is now a stipulated structure for the EIA report. This consists of nine chapters, references and annexes. Chapter 4 includes a description of the physical environment including "biological resources" and "socio-economic aspects". Chapter 5 deals with public participation, and requires information on the following:

- Dissemination by the project owner with local authorities and local communities of the development project;
- Feedback from relevant ministries/ agencies/ departments and relevant local authorities;
- Comments from relevant non-government organizations (NGOs); and
- Consultation with affected local communities.

Environmental impacts and mitigation measures is dealt with in Chapter 6 where a description of both positive and negative environmental and socio-economic impacts is required. It is expressly stated that cumulative impacts should be provided. The Environmental Management Plan is the subject of Chapter 7. It makes it the project owner's responsibility to "make available sufficient funds and a unit/team with sufficient skills and expertise, equipment, methodology, and schedule for monitoring environmental quality in close collaboration with relevant ministries/agencies in order to implement measures to minimize adverse socio-economic and environmental impacts" (Unofficial translation). While the duty of the project owner to fund the EMP's implementation was confirmed during the stakeholder interviews conducted in Phnom Penh for this report, there appears to be less awareness of the owner's duty to also provide the personnel with the necessary skills. Chapter 7 also outlines the structure of an EMP:

- A summary of main negative environmental impacts and mitigation measures;
- Trainings to be provided;
- Environmental monitoring program for the construction, operation and closure periods illustrating the following:
- Agency responsible for project monitoring;

---

<sup>71</sup> Other activities include irrigation systems, port construction and dredging.

- Identified parameters to be monitored;
- Monitoring methodology;
- Environmental standards or guidelines to base for monitoring;
- Schedule and cycle which be control;
- Assessment of monitoring results;
- Quarterly report to be submitted to Ministry of Environment and relevant ministries/ agencies.

Chapter 8 on “Economic Analysis and Environmental Value” requires a “description of the benefits of the project in relation to the value of environmental damage arising from the project activities” (Unofficial translation). While this wording is ambiguous as to what exactly is required, the need to value the environmental damage is an important and clear component. The Conclusions and recommendations chapter (Chapter 9), states that it is “important that the investment project recommends adverse environmental impacts mitigation that can sustain positive environmental impacts and promote local livelihood with the development projects in the area” (Unofficial translation). The explicit duty to ensure sustainable livelihoods are supported is particularly relevant, although no further guidance is provided on how sustainability should be understood or assessed in the context of the project’s impacts. Overall, though this structure lacks the details required to ensure that meaningful information is provided, it may still present the MK1 Project with an opportunity to develop these detailed data requirements in collaboration with MoE.

#### *EIA Review Process*

The Project proponent is required to submit the draft EIA report to the Department of Environmental Impact Assessment Review in MoE with a copy to MIME. This Department, according to the Sub-Decree on Environmental Impact Assessment Process, must then review the EIA within 30 working days of receipt and provide its comments and recommendations to the Project Proponent and MIME (Article 17). In the case of a local project, the project proponent is required to also forward the EIA report to the Provincial/Urban Environmental Department for review. If MoE is unable to submit its comments within this period, the project owner can assume that the EIA has been accepted (Article 18).

The Declaration on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, 2009 stipulates that the review at the national level is to consist of the following steps (Article 11):

- A visit to the project site and comments made by technical officials of the Department of Environmental Impact Assessment (within 10 working days);
- Comments made by other relevant departments of the Ministry of Environment (within 5 working days);
- Comments by the management of the Ministry of Environment (within 5 working days), and
- Comments generated from a multi-stakeholder meeting chaired by the Minister in charge of the Ministry of Environment with representation from relevant government ministries/ agencies, local authorities, non-governmental organizations, and other stakeholders concerned with the investment project (within 5 working days).

Where the draft EIA requires review at the provincial level, the steps are:

- A visit to the project site and comments made by technical officials of Department of Environmental Impact Assessment (within 15 working days);

- Comments by the management of the provincial Department of Environment (within 5 working days);
- Comments resulting from a multi-stakeholder meeting chaired by the Director of provincial Department of Environment with representation from relevant provincial departments/agencies, local authorities, non-governmental organizations, and other stakeholders concerned with the investment project (within 5 working days).

In practice, according to Mr. Dong Sankeath of the Department of EIA Review,<sup>72</sup> a working group is usually formed at national level, which could include technical staff from other MoE departments and other Ministries. He also stated that the meetings stipulated by the Guidelines of 2009 included public consultations at the site of the proposed dam. In the opinion of Conservation International<sup>73</sup> however, the multi-stakeholder workshop lasts for only a couple of hours, and the EIA report is received by the participants the day before the workshop. It was also opined that senior ministers are present at the workshop to control the discussions and prevent key issues from being aired.

It is also apparent from the General Guidelines that the time allocated for these reviews are much too short in light of the scale of impacts involved. Following the 30 day review period, the MoE or provincial Department of Environment is expected to make a formal notification to the project proponent of the approval or request for revision within 5 working days. Where revisions are deemed necessary, the second review is to be made by MoE or provincial Department of Environment within another 30 working days upon official receipt of the revised report from the project proponent.<sup>74</sup> The project proponent is required to pay a fee determined by the Ministry of Finance and Economy<sup>75</sup> for the review of the first EIA draft (about USD900<sup>76</sup>). It is also required to transfer to the National budget a sum calculated by MoE in support of MoE's duty to monitor the project's implementation.

#### *Public Participation in the EIA Review*

Cambodia's overarching development strategy, the "Rectangular Strategy for Growth, Employment, Equity and Efficiency," places good governance as a cornerstone to sustainable and equitable economic development, for which public participation is considered an essential element (Middleton and Chanthy, 2008). In terms of environmental management, the Law on Environmental Protection and Natural Resource Management 1996 requires MoE to provide the public with "information on its activities, and shall encourage participation of the public in the environmental protection and natural resource management" (Article 16). The same Law goes on to state that procedures for participation of the public and access to information pertaining to the environmental protection and management of the natural resources, shall be determined by an Anukret (Sub-Decree) following a proposal of MoE (Article 17).

With respect to the EIA process on hydroelectricity projects, the Sub-Decree on Environmental Impact Assessment Process, 1999 includes the specific objective of encouraging public participation in the EIA implementation, and expressly recognizes the need to take the public's 'ideas and suggestions' into consideration during a project's appraisal, but limits further comment on the subject to stating that public involvement is "encouraged" (Article 1). Thus, no concrete requirements are stipulated. The

---

<sup>72</sup> Interview with Mr. Dong Sankeath, Director, 16<sup>th</sup> February, 2011, Phnom Penh.

<sup>73</sup> Interviewed on 21<sup>st</sup> February, 2011, Phnom Penh.

<sup>74</sup> Article 13, The Declaration on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, 2009.

<sup>75</sup> Article 11, The Sub-Decree on Environmental Impact Assessment Process, 1999.

<sup>76</sup> Interview with Mr. Dong Sankeath, Director Department of EIA Review, MoE, 16<sup>th</sup> February, 2011, Phom Penh.

MoE's Guidelines on EIAs (2009) defines "Public Participation" as "the participation of all stakeholders concerned with the development project including ministries/institutions, local authorities, relevant departments, project owners, consulting companies, representatives of affected people and non-governmental Organizations concerned with the project area(s)" (Annex 1).

The experience to date with respect to hydro-electricity dam planning however suggests that participation has not occurred in any meaningful manner. Opportunities for consultation are limited to the EIA report preparation and its review. During the EIA report preparation, the project proponent or its consultant determines the scope and degree of consultations with stakeholders, while consultation during the report review process is determined by the MoE. The general view amongst the NGOs interviewed is that with respect to the proposed Lower Sesan 2 dam, villages in the Stung Treng province have not been consulted in any meaningful way as only a few individuals, namely the village head/vice head from some villages were invited for discussions. There have been no group discussions with the village at large or with any specific groups. No consultation has been evident with downstream villages in particular. Moreover, the draft EIA report has not been shared with any villages or with provincial departments. (Mr. Tep Bunnarith, personal communication, 2011; Baird 2009). Furthermore, the quality of questions asked in the EIA are poor with many closed questions (yes/no answers). Since the EIA was conducted by a sub-contractor from Vietnam, the language used was Vietnamese which was then translated through an interpreter (Mr. Tep Bunnarith, personal communication, 2011).

Consequently, almost the only non-state stakeholders to even know of its existence and have the capacity to request a copy from MoE are the NGOs. In the case of Lower SeSan 2, no copies appear to have been sent to the province. One reason suggested is that by sharing the EIA, the cost of conducting it and addressing the issues it highlights will increase, and both the proponent and the government do not wish this to happen. The government is concerned that the financial equation will no longer be attractive to the investor (Mr. Tep Bunnarith, personal communication, 2011). This thus appears to be a deliberate strategy with a very strong incentive driving it. Participation in practice therefore appears to be a one way communication with primarily NGOs communicating their concerns and requests to government, but with no means of checking whether their concerns have been incorporated in the EIA until the final version is approved, by which time it is too late (Mr. Tep Bunnarith, personal communication, 2011)

#### *Resettlement and Compensation*

The legal framework dealing with EIAs is devoid of any reference to resettlement and compensation. These issues therefore do not fall within MoE's mandate although they are fundamental to mitigating the impacts of a proposed dam. This appears to also be in line with the fact that the legal framework does not require a Social Impact Assessment (SIA). These issues are instead overseen by the Inter-ministerial Resettlement Committee (IRC) of the Ministry of Economics and Finance (MEF), while line ministries and local authorities are responsible for approving resettlement action plans and compensation rates for projects requiring resettlement (Meach 2008). The fact that one of MEF's objectives is to minimize overall costs for the infrastructure project gives rise to inherent conflicts of interest. As a committee under MEF, IRC is expected to follow instructions from MEF and comply with MEF's project guidelines. It would thus be difficult for IRC to make decisions that are sympathetic to the situation of the affected people in terms of providing adequate funding for compensation and resettlement. As explained in a review by the ADB (2007) of the resettlement and compensation process in Cambodia: "[the] IRC acts as a "legislature" in determining rules and standards for valuation of affected assets and resettlement, as an "executive" in implementing these standards and delivering compensation and resettlement options, and as a "judiciary" in addressing affected people's

grievances and complaints. With all three major government functions in one body, it is difficult to avoid abuse of power.”

While compensation will include resettlement as one component, its full scope will be much broader, although its extent is not clear due to the absence of a definition of or guidelines for assessing the diverse socio-economic impacts of dams, and the absence of specific duties on either the State, the investor or operator of the dam with respect to the payment of compensation.

In the case of the displaced, it is not clear whether the Land Law or the Exploitation Law will be applied when the valuation is done for relocation and compensation. The Exploitation Law allows land to be taken for public purposes and compensation to be provided at market rates. In contrast, the Land law states that this can be done only in a special case which is not defined, and that compensation should be reasonable and equitable which are also vague. It is not clear whether there is any forum where these are discussed. (Mr. Tep Bunnarith, personal communication, 2011). The fact that compensation for land is linked to a land title also undermines the status of many local families given that some families who have been allowed to cultivate state land do not possess title to it, and others' have not been registered. Those who have no permission to occupy state land and are thus deemed to be illegal occupiers will not be entitled to compensation for the loss of land (Mr. Phum Ra,<sup>77</sup> personal communication, 2011). These people will have to either encroach on state land again, or purchase it through the market which of course most cannot afford to do. Furthermore, the government lacks the capacity to register residents or award land titles adequately due to a lack of common procedures, a weak court system, militarism, centralization and corruption. This situation has serious implications for the resettlement of large numbers of people called for by dam construction since customary systems have no legal recognition.

One of the overall deficiencies of the Sesan 2 dam resettlement plan is that the government does not have a clear resettlement policy or associated legislation to guide it in the development of high quality resettlement and compensation plans. Without a policy as noted in section 3.1 of this report, developers can essentially establish their own standards as they go along. Moreover, options for resettlement have been badly affected by economic land concessions, especially for industrial rubber cultivation. This important issue has been completely ignored in the EMP. Villagers do not appear to be scheduled to receive any compensation for lost forests and grazing lands (Baird 2009). Villagers have requested to be resettled close to the main road (#78) which provides access to forests but also access to transport and business opportunities. This land is however controlled by economic concessions. What will happen is thus unclear. (Mr. Tep Bunnarith, personal communication). While it is claimed by MIME that the standards used to develop a resettlement plan are those set by the World Bank and Asian Development Bank (H.E. Tun Lean Director,<sup>78</sup> personal communication, 2011), other stakeholders claim that the villagers in the case of Lower Sesan 2 have no idea where they will be relocated to or how much compensation they will receive (Mr. Tep Bunnarith, personal communication, 2011).

#### *Environmental Management Plan*

Under the Sub-Decree on Environmental Impact Assessment Process of 1999, the project proponent must implement the Environment Management Plan (EMP) included in the EIA report in 6 months from the date the MoE approves the EIA report (Article 23). The 2009 Guidelines on EIAs defines an EMP as the “plan for environmental management as stipulated in the IEIA or full EIA report developed by the

---

<sup>77</sup> Deputy Director, Department of Agricultural Legislation, Ministry of Agriculture, Forests and Fisheries, interviewed on 17<sup>th</sup> February, 2011, Phon Penh.

<sup>78</sup> General of Energy General Department of Energy, MIME



project owner and approved by the Ministry of Environment”. The Guidelines go on to set out the content of an EMP as follows:

- A summary of main negative environmental impacts and mitigation measures;
- Training to be provided;
- Environmental monitoring program for the construction, operation and closure periods illustrating the following:
  - Agency responsible for project monitoring;
  - Identified parameters to be monitored;
  - Monitoring methodology;
  - Environmental standards or guidelines to base for monitoring;
  - Schedule and cycle which be control;
  - Assessment of monitoring results;
  - Quarterly report to be submitted to Ministry of Environment and relevant ministries/ agencies.

Management practices such as environmental flows are not incorporated into EMPs. It is opined by Mr. Theng Tara<sup>79</sup> that having them incorporated in dam operation is difficult due to dry and wet season realities. In wet season, power companies need to release large quantities of water to avoid compromising the structural integrity of the dam, while the opposite applies during the dry season when minimum water requirements are needed for electricity generation.

#### *Final Approval*

If the project is cleared through an inter-ministerial meeting held at the Prime Minister’s Office, MIME and the Ministry of Finance and Economics sign an Implementation Agreement (IA) with the company as well as a Concession Agreement (H.E. Tun Lean, personal communication,<sup>80</sup> 2011).

#### *Monitoring*

The project proponent is required to make available “sufficient funds and a unit/team with sufficient skills and expertise, equipment, methodology, and schedule for monitoring environmental quality in close collaboration with relevant ministries/agencies in order to implement measures to minimize adverse socio-economic and environmental impacts,”<sup>81</sup> although as noted already, this does not occur. In fact, the Sub-Decree of 1999 makes the MoE responsible for monitoring and enforcing the project owner’s compliance with the EMP (Article 3). This role is delegated to the Department of Environmental Impact Assessment Monitoring and Review or provincial Department of Environment which is to follow-up, monitor and take appropriate measures to ensure compliance by the project owner of the EMP during project construction, operation and closure as stated in the EIA report approved by the Ministry of Environment or provincial Department of Environment.<sup>82</sup> In addition, Article 27 of the Sub-Decree also requires the project approving agency (MIME in the case of hydropower dams) to ‘advise’ the Project's Owner to implement the EMP as described in the EIA report and approved by the MoE. Article 28 of the Sub-Decree further strengthens the enforcement hand of MoE by requiring it to work with

---

<sup>79</sup> Deputy Director, General Technical Affairs, Department of Water Resources Management and Conservation, MOWRAM.

<sup>80</sup> Director General of Energy General Department of Energy, MIME

<sup>81</sup> Chapter 7, the Declaration on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, 2009.

<sup>82</sup> Article 14, the Declaration on General Guidelines for Developing Initial and Full Environmental Impact Assessment Reports, 2009.

other concerned agencies to ban the activity of any Project's Owner who does not implemented the EMP as described in the EIA report. In addition, a 'Provincial Monitoring Committee' is supposed to be established for the project, chaired by the Province Vice-Governor.

Despite the clear articulation of responsibilities and powers for monitoring and enforcement, the interviews had with various stakeholders (World Wildlife Fund (Cambodia), The NGO Forum on Cambodia and CEPA) suggests monitoring and enforcement currently does not take place. This appears to be corroborated by H.E. Tun Lean<sup>83</sup> of MIME who stated that monitoring is done by an independent contractor hired by MIME due to the paucity of skills and resources in the state sector. The consultant reports to a committee which includes MIME, MAFF and the governor of the commune every three months till the BoT agreement is over (Mr. Dong Sankeath,<sup>84</sup> personal communication, 2011). The need for a clearer and more inclusive process was voiced by other stakeholders, sighting practical issues such as fish migration or flood mitigation which needed significant technical inputs and inter-agency consultation to monitor (Mr. Tep Bunnarith,<sup>85</sup> personal communication, 2011).

## Discussion

The lengthy history of political upheaval has meant that Cambodia started using EIAs relatively recently, and this is evident in that the current legal framework guiding the EIA process remains rudimentary, suffering particularly from the lack of detailed guidance for implementing key stages of the process, a case in point being the EIA and its review. The fact that the project proponent is required to conduct the EIA creates a conflict of interest that amounts to a fundamental flaw in the process. The lack of a truly independent assessment of both the ecological and socio-economic implications goes on to directly undermine the quantification of compensation due to often the most vulnerable stakeholders in the dam development process. Omissions and ambiguities in the legal framework are compounded by limited capacities within Cambodia to prepare and evaluate EIAs and hiring international consultants to conduct this work can be prohibitively expensive for the investing company. In any case, industry consultants and engineering companies that undertake feasibility studies and environmental impact assessments know that they need to portray a project in a favorable light if they want to get future contracts. It is therefore in their interest to claim that the impacts can be mitigated and that the project in question represents the best option for meeting the country's needs. EIAs that should anticipate problems have thus served as a rubber-stamping device rather than a real planning tool.

The Department of EIA Review is constrained both by its staff capacity and size to manage the review of large EIAs within the 30-day period stipulated in the Sub-Decree of 1999. It is arguable whether any staff size will be adequate given the 30 day limit. This limit is thus another critical limiting factor where ecological as well as socio-economic impacts can cover large areas and are often cumulative in nature. Consequently, no serious impact assessment on ecosystems and their services can be done.

In terms of scope, the absence of an SIA is a major gap and undermines the government's ability to minimize the negative developmental impacts especially at the local scale. EIAs are also limited to being project-based rather than emerging from a Strategic Environmental Assessment and the proposed hydro project is not assessed in the context of any development plans in the related province. In the case of Lower Sesan 2 for instance, its impacts will include inundation of planned national highways and

---

<sup>83</sup> Director General of Energy General Department of Energy, MIME, interviewed on 14<sup>th</sup> February, 2011, Phnom Penh.

<sup>84</sup> Director Department of Environmental Impact Assessment Monitoring and Review, MoE

<sup>85</sup> Executive Director, Culture and Environment Preservation Association (CEPA)

concession areas. Similarly, the government is pushing for more community fisheries without considering that the dams will undermine this (Mr. Sangha Kim,<sup>86</sup> personal communication, 2011). The application of SEA concepts remains project based (World Bank, 2006). This emerges as another key need considering the significant number of hydropower dams planned by the government. There is also no requirement for consideration of alternatives in the EIA legal framework or the Guidelines of 2009.

With respect to participation, Cambodia's power sector planning process has demonstrated limited transparency or accountability to Cambodia's citizens, with many decisions taken behind closed doors and without meaningful public consultation. The Department of Hydropower Development within MIME on many counts remains inaccessible to civil society scrutiny (Middleton, 2008). Although Cambodia's Constitution states that "Khmer citizens of either sex shall have the right to participate actively in the political, economic, social and cultural life of the nation" there is no specific law on broader public participation in the decision-making and planning process for water resources development projects. This is a major drawback in there not being a broader legal framework to address the lack of detailed processes and rules stipulated in the legal framework on EIAs for meaningful engagement (e.g. how should participation be implemented and reported on; and how will public inputs be incorporated in the final project document. Even more fundamental is the absence of a tradition of public participation in the country's governance history (Öjendal 2000). Due to the lack of a clear procedure for public participation, the public has difficulty in learning how to use the right of access to information as well as participate in decision-making on the protection of the environment and natural resource management (Oliver et al. 2006). Participation by indigenous or tribal people is not specifically covered in the Law on Environmental Protection and Natural Resources Management or the Sub-decree on the EIA Process. Although the former Law calls for a sub-decree on access to information, this has not materialized (Middleton and Chanthy, 2008).

Another key factor is that the need and importance of an EIA is not widely recognized amongst all Ministries, limiting the authority of MoE to enforce an EIA's requirements, with some decision-makers seeing the need for a project's compliance with the EIA process to be secondary to the need for rapid economic development (Middleton 2008). Moreover, and related to this is that MoE is relatively new, and remains a relatively weak agency compared to other agencies with mandates over natural resources (e.g. forestry, fisheries) and MIME and other agencies with a mandate to promote economic development. Its mandate is thus often unclear, contested, avoided or ignored by more powerful parts of government, the military or the private sector (Li, 2008, SEI, 2002). According to the NGO Forum on Cambodia, it was unable to organize a multi-stakeholder workshop on Lower Sesan 2 with MoE as the Ministry lacks the standing to bring the main players (e.g. MIME, MEF) to the table. Writing of the Kamchay Dam project, Middleton (2008) notes that there "is clearly a lot of political pressure on both national and provincial government departments not to criticize the Kamchay Dam project."

Another major concern with existing hydropower projects is that environmental impact monitoring is generally weak or non-existent. It reflects the general lack of financial resources, budget provision and sustainable financing mechanisms to pay for mitigation measures set out in project EMPs as well as unanticipated environment impacts that arise. As with the EIA process, it is also a legacy of poor commitment to ensuring development choices are sustainable.

---

<sup>86</sup> National Policy Manager – National Resource Management, WWF Greater Mekong, Cambodia Country Programme. Interviewed on 21<sup>st</sup> February, 2011, Phnom Penh.

In addition to the EIA process, criteria by which companies are selected as eligible for investing in Cambodia's essential infrastructure remain unclear, with the willingness of a key authority figure to lend political patronage being a major determinant over technical considerations. Private investors now go directly to the CDC so that ministries are not aware of what is happening (Mr. Sangha Kim, personal communication, 2011). Information regarding the sources of financing for projects approved to date is not readily available in the public domain. Details on the contractual agreement between the Cambodian government and project developers remain undisclosed to the public. This lack of transparency underpinned by a lack of political will potentially open the door to poor development practices and corruption (Middleton, 2008). Consequently, even if gaps and inconsistencies within the current legal framework are addressed, questions would remain about its effectiveness in ensuring sustainable outcomes in an environment where final decision making by elites may overrule official EIA-based processes (Foran et al. 2010).

## Conclusions

The overarching development policy frameworks recognize the need to temper the desire for rapid economic development with ecological and social justice considerations, if development is to be sustainable and equitable, two fundamental features if macro-economic growth is to lead to poverty reduction at household level. Unfortunately, this review of the legal framework meant to facilitate policy implementation, and decision making processes especially in the hydropower sub-sector exposes a serious disconnect between the policy statement and reality. It appears that, in a country emerging from decades of civil war and authoritarian rule, the policy development process, driven by donor money and expertise, has rapidly outpaced the capacities and in deed the willingness of the bureaucracy and civil society to fulfill the policy statements that often give eloquence to international best practices and concepts such as good governance, participation, sustainable development, integrated water resources management, and so on. The reality appears to be that these seemingly good intentions are faced with a socio-cultural, economic and political context that is considered by anthropologists and political scientists as one of the least amenable to such ideals, being characterised by an all-pervasive notion of hierarchy and a strong control by the state on local life (Ovesen *et al.* 1996;). Opinion suggest that many officials continue to believe that government activities always advance the common good no matter how private individuals are adversely affected (Asian Development Bank, 2007).

More specifically in terms of the interests of the MK1 project, while the decision making process can be pieced together, a large part of the process on specific dams continues to happen behind closed doors, that are well beyond the reach of the current EIA process and other provisions that call for transparency through public participation. There is little legislative detail on when and how the public is to participate in national development decision making processes given the absence of legislation dedicated to the right to information and consultation. The same weakness characterizes the hydropower sub-sector where the EIA is the primary tool. While the Guidelines on the EIA report structure adopted by MoE in 2010 suggests an evolutionary process in progress, the positioning of the EIA within the overall decision making process is flawed in terms of making ecological sustainability and social equity effective filters for the selection of hydropower dams. This should ideally occur at the stage when potential projects are earmarked for investment rather than once a particular investment has been all but sealed. While more attention is thus needed to develop detailed and transparent criteria to be used during the IEIA, the more effective remedy would be the adoption of SEAs that will provide the broader context and well as baseline for decisions.

Several major and often interlinked weaknesses undermine the EIA process. Allowing the project proponent to conduct the EIA is a fundamental conflict of interest, amplified by the lack of capacity within the MoE to critically review the EIA findings. The quality of the EIA is further compromised by a lack of detailed criteria in the 2010 Guidelines which are limited to setting out the basic structure of the report, and stops well short of requiring specific quantitative and qualitative details required for a meaningful assessment. The lack of reference to baseline data reflects a failure to require adequate consultation by the EIA consultant with key agencies as well as poor coordination or cooperation amongst the various government agencies for purposes of the EIA review. The timeframes stipulated for the EIA and its review are well short of the minimum, especially in terms of the vast geographical areas and range of ecological and socio-economic issues and stakeholders involved. It can in fact be viewed as an indicator of the lack of political commitment for the role of EIAs in development decision making in the country. It leaves room for little if any time for data collection and analysis, any real engagement with affected people or the evaluation of the draft EIA report. It is no surprise that these weaknesses are viewed by stakeholders outside of the government bureaucracy to be deliberate ploys to sideline attempts to hold development decisions ecologically and socially accountable.

These same weaknesses continue to undermine the decision making process beyond the EIA and the Environmental Management Plan will reflect the inadequacies of the EIA. The responsibilities and resources for enforcing the EMP appear to be virtually non-existent. Compensation too suffers from a compromised starting point (the EIA), and the narrow rules linked to land title that determine eligibility for alternate land for the displaced does not recognize the informality of the rural land use systems that disenfranchise a majority of the rural poor. Failure to adopt compensation criteria to define the breadth of losses to be covered means that the calculation of eligibility, quantity and duration of compensation is nowhere close to meeting international standards. These low impact assessment and compensation standards and the overarching desire for rapid economic development and market liberalization adopted by the government means there will be proportionally more hydropower projects developed by the private sector. To the extent that these projects are implemented without funds from multilateral development banks, the weaknesses of the national EIA system are likely to be exploited to externalise hydropower's social and environmental liabilities. The underlying desire of the government to avoid adversely impacting the investors' rate of return is a fundamental incentive to maintain the status quo. While this may be beneficial to private investors, the significant impacts on the key sector of fisheries and associated livelihoods is likely to cost Cambodia will seriously undermine its ability to reduce poverty, inequity and meet its other CMDGs.

Moreover, the MoE and other natural resource management agencies often play second fiddle to industry and finance ministries responsible for national power policies and overall economic development. While the underlying rationale of rapid economic development and personal power are well documented, this is a fundamental obstacle to conducting meaningful EIAs and introducing SEAs as standard practice. This political inequality is reflected in the government's failure to allocate adequate funds needed to invest in the personnel and training needed to even discharge the rudimentary EIA process that currently exists. Thus there appears to be a serious issue of commitment to meaningfully examining both the ecological sustainability and social consequences of hydropower decisions.

The implication for the MK1 project is the need to open lines of dialogue with a range of government stakeholders

Some potential entry points for environment criteria that are most relevant to hydropower development suggested in existing literature are worth revising:

- Introducing environmental and social criteria up-front in the hydropower project selection process (King et al. 2007);
- Increasing the use of available knowledge through systematic consultations of local stakeholders and of scientists (Baran et al. 2007);
- Making use of methods that deal with scarce data and uncertainty (Baran et al. 2007);
- Using methods for valuation of trade-offs between the various costs (esp. social and environmental) and benefits of built structure projects (Baran et al. 2007)
- Incorporating environmental flows assessments (EFA) into the feasibility and detailed design of dams, and as part of decision support systems to optimize the performance of dams, for example in setting reservoir operating parameters (King et al. 2007).

Other fundamental changes required to the present EIA framework include the following:

- The finalized IEIA should be made available to the public. The associated social and environmental management plans should also be made publicly available. The financial arrangements to implement these plans, together with the role and responsibility of implementing agencies, should be clearly detailed. The relevant sections of the each plan should be actively disseminated to communities likely to be affected by the project.
- The time frame for conducting an EIA should be extended to at least 60 days, and the MoE should determine the consultant for carrying out the EIA while the project proponent continues to finance it. The time limitation can also be partly addressed if the MoE encourages the commencement of research into potential implications of a potential hydropower project once it is identified. The collection of baseline data well in advance of the EIA process may greatly facilitate a more accurate assessment of impacts, and could be effected through the involvement of such as universities and other academic and research institutions.
- Another change required in the legal framework is the need for more specific direction with regard to the public's right to information and duties and processes by which information is shared in a timely manner and in a form that is understandable and relevant to especially the affected communities. Similar clarity and specificity is required with respect to the calculation of compensation and criteria for resettlement to replace the current vacuum that stifles any attempt to obtain a fair outcome for the affected.
- Monitoring should not depend on the provision of funds by the investor or dam developer. It should be possible for the government to establish a Monitoring Fund to support the independent monitoring of construction and operation by combining a levy on the investor, annual allocations from the government budget and leveraging contributions from donors.
- The establishment of a permanent multi-stakeholder review committee for the assessment of infrastructure development proposals and projects. Creation of such a committee will allow social and environmental considerations to be factored into the initial identification of potential projects, and can be linked to the SEA process. It can also provide an independent platform for evaluating the draft EIA reports and finally for monitoring the implementation of the Environmental Management Plan.

- *Ex post* evaluations or post-audit mechanisms need to be institutionalised in order to assess the actual impacts of completed water projects, programmes and policies for the population, environments, and landscapes that are affected (Oliver et al., 2006).
- Above all, there needs to be a far greater commitment by the government to making such improvements.

## 4. VIETNAM COUNTRY REPORT

Unlike the previous two country reports for respectively Cambodia and Lao PDR, Vietnam country report focuses more on hydropower sector planning and how this is shaped through different interplays in terms of policy formulation, institutional set up, and operational rules and procedures. Policies and legal frameworks related to land-water-environment management are reviewed within this overarching context of hydropower sector planning.

### 4.1. The natural resources management backdrop to hydropower development

The government's Socio-Economic Development Plan (SEDP) 2006–2010 and the draft SEDP 2011–2015 detail the transition toward a middle income country, based on a market economy with a socialist orientation. The Plans build on the renovation process initiated in the late 1980s while preserving the strong poverty-reduction focus. The current SEDP sets out four broad objectives: to improve the business environment; social inclusion; natural resources and environment management; and governance. In the past decade there has been increased reliance on market mechanisms, development of a multi-stakeholder economy, and further integration with the region and the world. The role of the state sector in manufacturing has declined from more than half in 1995 to about one-third in 2006, as private sector growth has outpaced the state sector. Market forces have tended to outpace the capacity of institutions to regulate them effectively leading to misuse and excesses in natural resources exploitation.

An important institutional dynamic has been decentralization of decision making powers to provincial and lower levels of government, administrative and service delivery units. Yet, along with important political benefits of decentralization, limited capacities at local level have aggravated poor management and overexploitation of natural resources. Also, in the emphasis on decentralizations certain critical management approaches which require integration and cooperation across landscapes and administrative boundaries – such as river basin management – have been neglected.

Population growth<sup>87</sup>, urbanization, and industrialization have intensified natural resource use and energy demand and had significant impacts on the natural environment.

---

<sup>87</sup> The population in 2008 stood at about 86 million people, growing at slightly more than 1 percent a year.

## Land Resources

Also, economic growth and reforms along with population growth has led to a situation today where most land is used, use in all land categories has intensified and conversion of agricultural land into higher-value nonagricultural land has accelerated.

The Land Law of 2003 and subsequent Decrees support the country's industrialization and the economic transformation into a market-oriented economy, covering comprehensively all the legal, land use planning, land finance, and land administration systems. Cooperative lands have been reallocated to farmer households for their long-term use and a range of land use rights have been recognised. Yet, the current land policy framework places an emphasis on the role of state and pays less attention to the role of stakeholders in land management or to effective and sustainable use of land (World Bank 2011).

Land administration and management is distributed among a large number of central agencies including for agriculture and forests, construction and transport. Among them, the Ministry of Natural Resources and Environment (MONRE), established in 2002, represents the government's designated focal point for the administration of land resources, as well as water and mineral resources. The land policy implementation responsibilities have been greatly delegated to provincial, district, and commune people's committees supported by their DONREs. Substantial gaps remain between land policy and its practical implementation.

There are three strategic development challenges facing land management (World Bank 2011). First, past extensive use of natural resources, including land means that now there is little "unused" land. To support future growth, land must be used more efficiently. Second, a management system for sustainable land use is required, particularly for the most fragile ecosystems such as sloping land in the Mountains. Third, acquisition and compensation policies need to become fair and transparent.

Underlying those challenges is the fundamental need for an integrated special planning system which establishes a one area one plan approach to land management. Different types of plans such as the Socio-economic Development Plan, Land Use Plans, Urban Development Master Plans, and various sectoral plans such as the national and provincial Power Development Plans, all apply to the same areas and natural resources. Despite an internal government consultation on plans at various stages, capacity issues and a lack of definitive spatial plans leads to overlapping and conflicting uses with inadequate attention to social and environmental dimensions.

## Water Resources

In 2010, the Water Sector Review (WSR)<sup>88</sup> emphasized the limits of Vietnam's water resources: 77 percent of surface water occurs in only three river basins and more than 60 percent of the total surface water flow originates in other countries. Shortages now occur in many rivers over the long dry season, and some aquifers have a limited life.

The Law on Water Resources 1998 established a National Water Resource Council (NWRC) working at a national level and Board for River Basin Planning and Management working on a local level. These

---

<sup>88</sup> <http://www.vnwatersectorreview.com/detail.aspx?pid=107&r=5>



organizations work under the GoV as advisory, coordination and planning bodies. The Law was advanced legislation at the time but there have been serious difficulties in implementation especially the concept of integrated river basin planning and management. The lack of formal rights to water is also a concern. Although the Law on Water Resources creates a framework for this, limits to the amount of water that can be extracted have not been established and rights are not defined.

The Law identified the Ministry of Agriculture and Rural Development (MARD) as the agency responsible for the management of water resources, a role that has now been transferred to MONRE. The service function of irrigation and rural water supply remains with MARD. The creation of MONRE in 2002 separated the function of state management from the functions of exploitation and use of water resources for economic purposes. The Peoples Committees at province and district level are responsible for implementation in their own jurisdiction. Specific functions of the water resource management and water use allocated to other ministries and non-line agencies. The roles of other agencies in the water sector still need to be more clearly defined to avoid overlap and to promote more effective coordination.

Already, Vietnam has put in place some key measures for the more effective management of water resources, including a strengthened Law on Environmental Protection, a Law on Dikes, the National Water Resources Strategy, the National Strategy on Disaster Management, the National Target Programme (NTP) for Rural Water Supply and Sanitation, and the NTP to Respond to Climate Change. Other measures are also under development. MONRE is finalizing an NTP on Improvement of Efficiency for Water Resource Protection, Management and Multipurpose Use, which is based on the concept of integrated water resources management (World Bank 2011). Also, MONRE is revising the Law on Water Resources and due to be submitted to the National Assembly for approval in 2011. A greatly strengthened water rights and sharing framework is being developed and the development and implementation of plans for water sources protection in 13 priority river basins is proposed.

### **Forest management**

Vietnam's Socio-Economic Development Strategy 2001–2010 provides several development objectives for the forest sector:

- (i) increase overall forest cover to 43 percent,
- (ii) complete the allocation of forestland to socialize forestry development and promote forestry based livelihoods,
- (iii) stabilize cultivation practices and prevent the destruction and burning of forests, and
- (iv) accelerate commercial reforestation to provide material for domestic and export oriented industries.

Those objectives are elaborated within the five programs of the Vietnam Forestry Development Strategy 2006–2020, which sets targets for forest development and for management, policy, and institutional reforms.

The government's main policy for forestry investment since 1998 has been the Five Million Hectare Reforestation Programme but results have been disappointing and difficult to measure. The quality of forest continues to degrade even if forest cover is reported to have increased. Despite large investments in the Program, the evidence suggests that it has had little direct beneficial impact on poverty reduction and on forest quality (World Bank 2011). Despite significant achievements in poverty alleviation in the country as a whole, high rates of poverty in areas with natural forest remain, particularly in the remote uplands. The Vietnam Forestry Development Strategy 2006–2020 seeks to promote socialization of the

forest sector, encouraging non-state actor tenure and resource access. Most forestland, and the best forests, remains under state control.

The new Directorate of Forestry under the Ministry of Agriculture and Rural Development (MARD) is responsible for developing forest policy and providing oversight and guidance for implementation. Line agencies at provincial and district levels are responsible for administering forest protection and development. However, decentralization in the sector is slow and effective forest policy development and management is constrained by the lack of high quality data. Responsibility for protected areas is divided among several agencies. The MARD Department of Forestry Protection and its provincial departments are responsible for all special-use forests, and the Vietnam Environment Protection Agency within MONRE is responsible for wetlands and overall biodiversity conservation facilitation. The protected area system suffers as a result of this administrative fragmentation.

## Energy

Vietnam's economy is expected to grow rapidly at 7.3 percent annually in the near-term through 2010, but will slowdown thereafter to about 6.0 percent annually until 2030. The industry and service sectors are expected to continue to drive the economic growth. Total population is projected to reach 109 million by 2030. Between 2000 and 2005, total primary energy consumption, excluding biomass, grew at an annual rate of 10.6 percent. Primary energy demand is projected to grow annually at 4.4 percent as a result of industrialization. Vietnam is expected to become a net energy importing economy beyond 2020; with the energy import dependency projected to reach 15 percent in 2030.

Energy demand in the residential sector is projected to remain the largest but will reduce substantially from 67 percent in 2002 to 35 percent in 2030, as a result of biomass being replaced by commercial energy sources. The industry sector is expected to maintain the second largest share at 35 percent, followed by transport at 24 percent and commercial at 6 percent.

Meeting the economy's growing energy demand, on the back of a surge in the world energy prices has resulted in significant increase in energy production. To supply energy in a manner meeting the rise in consumption, the Ministry of Industry and Trade has formulated the National Energy Policy of Vietnam. The main points of the Policy are: 1) development of energy infrastructure and enhancement of long-term energy supply, 2) development of energy in consideration of environment, 3) improvement of energy efficiency and 4) enhancement of international energy cooperation.

Two key laws are influential in implementation of the National Energy Policy – the Electricity Law 2005 and the Environment Protection Law 2005. The Electricity Law 2005 designates MOIT as responsible for administering overall electricity activities and use, with the Provincial People's Committees managing electricity activities within their jurisdiction. It provides regulations on electric power sector planning and investment, electricity savings, power market development, the rights and obligations of organizations participating in providing and consuming electricity, protection of electrical equipment, and power safety. The Law provides the general scheme for developing wholesale and retail electricity competition. It establishes the Electricity Regulatory Authority of Vietnam (ERAV) under MOIT and requires power prices be set appropriately to encourage market development, facilitate investors in achieving a reasonable profit, encourage energy savings, and protect the rights and benefits of electricity providers as well as consumers. The Law also establishes a special regime for subsidizing or

otherwise encouraging local energy development in rural, mountainous and island regions, including energy derived from new sources and renewable energy.

The Law on Environmental Protection administered by MONRE was amended by the National Assembly on 12 December 2005. The Law provides regulations and resources for environmental protection, policy formulation and measurement. It also details the rights and obligations of organizations, households, and individuals in environmental protection and establishes the Strategic Environmental Assessment (SEA) and EIA process for significant development.

LEP Article 33 stipulates that development of clean energy and renewable energy is one measure for environmental protection. More specifically, the Article states that organizations and individuals investing in the development and use of clean energy and renewable energy will be granted preferential taxes, funding support, and land for building production facilities. It also obliges the Government to formulate and implement a strategy to integrate clean and renewable energy development into programs for hunger eradication and poverty reduction, as well as the development of islands and rural, mountainous, and coastal areas.

## 4.2. Hydropower planning in Vietnam

Vietnam has been focusing on hydropower development over the last two decades to maximize its potential as an energy source. The Government of Vietnam (GoV) has encouraged its development by implementing a low tariff (4.17 cents/Kwh)<sup>89</sup>. Hydropower planning includes large (ie of more than 30 MW), medium (between 10 to 30 MW) and small (less than 10 MW) hydropower projects.

There is a relatively well established institutional framework with thorough legal and policy procedures for hydropower development. The National Master Plan for Power Development (PDP) normally prepared at five year intervals directs national power development, including hydropower, in response to rapidly growing energy demand. The 6th PDP was approved by the GoV for the period from 2006–2015 in 2007 and the 7th PDP is currently being developed for the period from 2012–2017. This analysis draws from the PDP 6 and draft PDP 7 which are quite consistent for the hydropower sector – with the more recent plan setting out even more extensive hydropower development in all of Vietnams river basins.

The Government of Vietnam has embarked on a major expansion of the hydropower sector which is transforming the aquatic and social systems of the country. All main river systems are or will be dammed by one or cascades of hydropower projects – each with road access and transmission lines and linked development shaping the terrestrial, aquatic and social environment. Recent strategic assessments of the relationship between hydropower and biodiversity in Vietnam have concluded the development envisaged would bring economic, social and even some environmental benefits. Yet, the pace and scale of that development is well beyond existing mechanisms and capacities for addressing social and environmental effects and the full economic consequences. Hydropower development is proceeding on a rapid and comprehensive scale for maximising power and profits but with only rudimentary or even misleading information and analysis on its sustainability and implications for other sectors and social and natural systems.

---

<sup>89</sup> Article 29, Law on Water Resources (1998)

## Hydropower Planning within the Energy Sector

Over the past decade, power development policy in Vietnam, including hydropower, has been revised several times. This adjustment reflects significant changes in the power supply and demand balance due to rapid economic development. Normally all arms of government prepare ten year development strategies (eg. for the period 2001 to 2010) with a 20 year vision and then two five year action plans to implement the strategy (eg. for the period 2001 to 2005 and 2006 to 2010). In the case of power development planning, the main documents prepared since the year 2000 are:

- The Power Development Plan for 2001-2010 and vision to 2020 called the 5th PDP (approved June 2001 through Decree 95/2001/QD-TTg).
- The Adjusted 5th PDP revised in 2003 (via Prime Ministerial Decree 40/2003/QD-TTg).
- The National Energy Development Strategy up to 2020 with vision to 2050 (approved by the Prime Minister on December 27, 2007 by Decree 1855/QD-TTg).
- The Power Development Plan for 2006-2015 with vision to 2025 called the 6th PDP (approved by the Prime Minister on July 18, 2007 through Decree 110/2007/QD-TTg).
- The draft Power Development Plan for 2012–2017 called the 7th PDP

The Energy Development Strategy is a broad “orientation” policy to guide energy development. The PDP is a detailed action plan including national and local electricity development in line with the national socio-economic development strategy and prepared by the Ministry of Industry and Trade (MOIT). The PDP covers all forms of power with hydropower receiving substantial treatment given its prominence as a leading source of energy in Vietnam. The GoV does not prepare a separate hydropower development plan – the national plan for hydropower development is an integral part of the PDP.

Each province prepares power development plans which implement the national strategy and plans within their territory. Provincial plans list the relevant large hydropower projects identified in the national plan in addition to “small” and “medium” projects initiated at local level. Many of the small and medium projects do not appear in the national PDP – only in the respective provincial PDPs. The EVN Institute of Energy (IE) is the main organization commissioned by national and provincial government to prepare the power strategies and plans. Under the Amended Environmental Protection Act 2005 and its SEA provisions however, the MOIT and provincial DOITs are identified as the plan “owners”. Even though IE is usually contracted to prepare the definitive provincial PDPs covering a five year period – once adopted by the Provincial People’s Committee and endorsed by MOIT, they can change on a yearly and even a monthly basis as new project proposals are submitted to DOIT by private developers. That means that sustainability issues and integration with other sectors on a spatial basis across a catchment becomes challenging.

In particular, the power development planning process is not well adapted to planning on an inter-provincial basis when a river basin falls within more than one province. Both planning and management occur mostly on a province by province level. The MARD Institute of Water Resources models and advises on water at the basin level, and the Institute of Energy also carries out initial analysis of hydropower potential for river basins. Yet, the basin wide analysis is not comprehensive from an environmental and socio-economic perspective and detailed planning quickly takes on an ad hoc project focus. Critical aspects of basin-wide systems dynamics become difficult to accommodate as development plans move into implementation.

The establishment of River Basin Planning Organisations under the Water Law 1998 is intended to help address this kind of limitation in existing development planning processes – but the experience with

RBOs in Vietnam has not been encouraging. A major initiative to establish an RBO for the Se San River Basin is now being mounted through the Vietnam National Mekong Committee as part of a regional initiative with funding and a loan from the World Bank. This initiative does provide an important opportunity for more effective planning of hydropower along with other water users in the Se San catchment.

### The Vietnam Development Strategy up to 2020 Vision to 2050

The Vietnam Energy Development Strategy up to 2020 with a Vision to 2050, prepared by the IE for the MOIT followed the passage of the Law on Electricity in the same year. The strategy identifies the need for a sufficient supply of energy to service the projected developments in the national socio-economic plan. It proposes the gradual formation of a state-oriented energy market with diversified ownership and business. The Strategy requires that the exploitation of all energy resources including water must be efficient and mitigate environmental impact in conformity with regional and international environmental standards to control pollution. The strategy prioritizes hydropower plants as a renewable resource and minimising negative environmental impacts.

Hydropower is the largest contributor to electricity production in the country (Table 2). By 2008, there were nine large and medium sized hydropower plants; the installed capacity of these existing plants was 4,198 MW. By 2010 around 50% of Vietnam’s hydropower potential was realised. That figure is expected to increase to 83% of hydropower potential by 2025. The estimated hydropower potential of Vietnam is an installed capacity of approximately 31,000 MW.

Type	No. of Power Projects	Installed Capacity (MW)	% of Total Capacity	Electricity Production GWh
<b>Hydropower</b>	12	4,393	32.5	20,833
<b>Coal</b>	3	1,545	11.4	8,925
<b>Oil &amp; Gas</b>	2	654	4.5	818
<b>CCGT</b>	4	4,248	24	19,424
<b>IPP / BOT</b>	N/A	3,668	27.6	16,772
<b>Total</b>	<b>24</b>	<b>13,512</b>	<b>100</b>	<b>66,773</b>

Table 2: Electricity Generation by energy source in Vietnam  
Source: 6th PDP 2007

Electricity generation is proposed to increase from 53 billion kWh in 2005 to 88-93 billion kWh in 2010 and 201-250 billion kWh by 2020<sup>90</sup> – i.e. to increase generation by up to five times over the next 15 years. It is anticipated that, by 2020, total hydropower capacity will reach 13,000-15,000 MW<sup>91</sup> or three times the current contribution of this sub-sector. Nonetheless, the contribution of hydropower to total

<sup>90</sup> Prime Ministerial Decree 176/2004/QĐ-TTg, 5 October 2004, Approval of the Vietnam Electricity Development Strategy in 2004-2010 and orientation to 2020.

electricity generation will actually reduce from 37% in 2005 to about 35% in 2020, due to major increases planned for generation of electricity from coal (see figure 21).

The revised Electricity Law entered into force in July 2005. The Law does not determine electricity development, but focuses on regulating the relationship between electricity suppliers, end-users and government. It stipulates that power development will pay attention to environmental protection (Article 4), and that investors will pay for compensation, resettlement and land clearance during construction of power projects (Article 12). The law requires that national power development plans should be issued for 10-year periods (Article 8). In the updated law of 2007 it stipulates that all activities should conform to the electricity development plans approved by the related authorities.

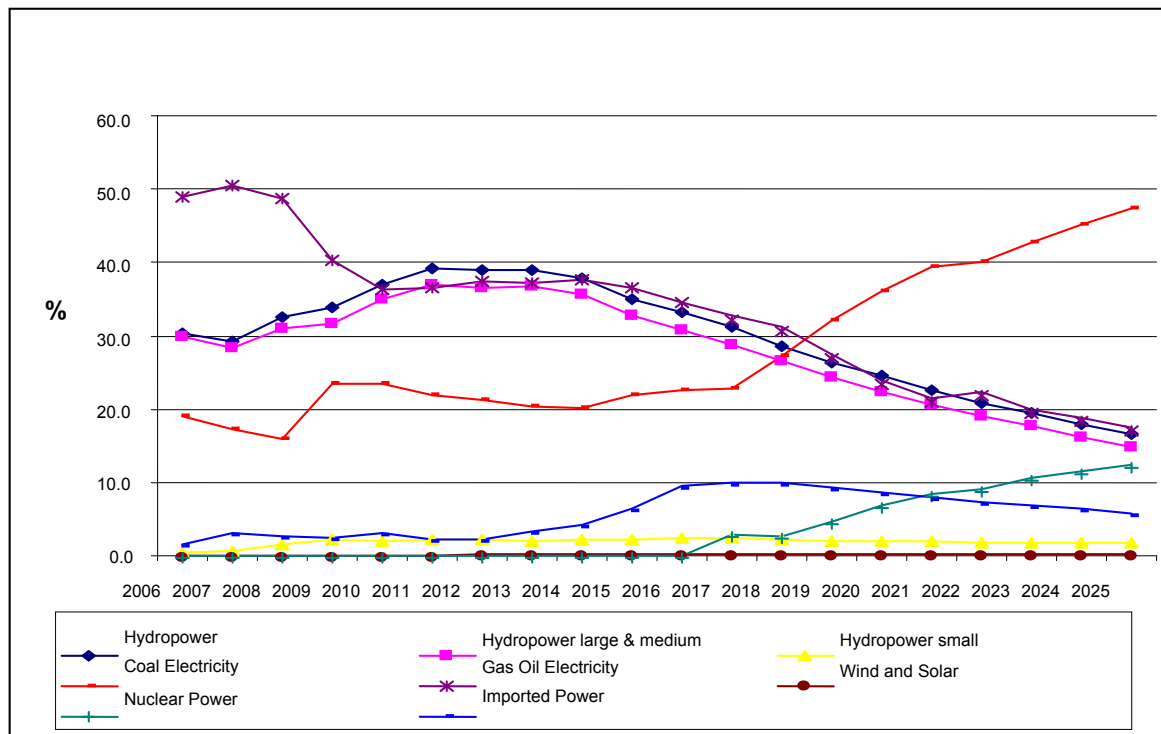


Figure 21: The Share of Power Generation Sources 2006-2025

Source: EVN, 2006, 6th PDP

### The National Power Development Plan

The policy framework for hydropower development is set out in a number of plans at central and local level and dealing with varying scales of projects. The most significant policy is the National Power Development Plan (PDP). Vietnam is implementing the 6<sup>th</sup> PDP and drafting the 7<sup>th</sup> PDP.

#### The 6th National Power Development Plan

The 6<sup>th</sup> PDP covers all power development from 2006 to 2015. Hydropower development is integrated with the analysis of other power sources in different chapters. The 6<sup>th</sup> PDP outlines the power balance from 2006 to 2015, with medium and large hydropower projects continuing to have a pivotal role in power supply through to 2025 (

Figure 222).

Nationwide electricity generating capacity is proposed to increase from 11,360 MW in 2005 to 25,500 MW by 2010 and 62,000 MW by 2020 - increases of 124% and 446% respectively.<sup>92</sup> As in the Energy Development Strategy, a significant proportion of those increases are proposed to be met by an increase in hydropower generating capacity.

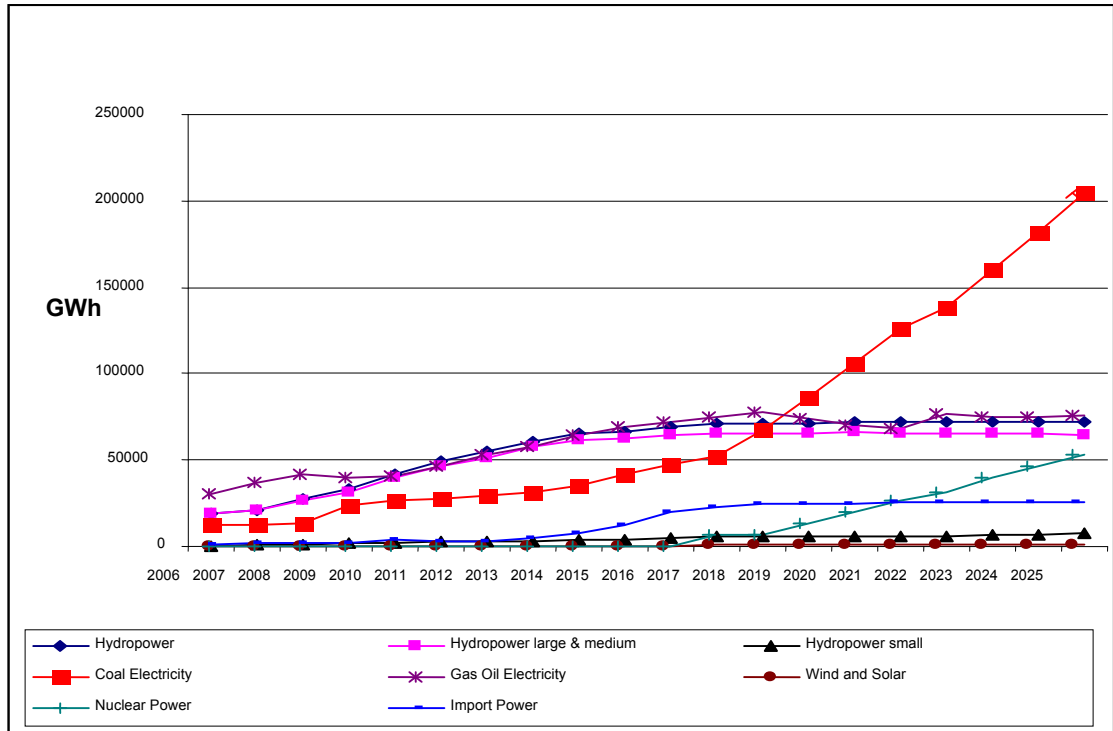


Figure 22: Power Generation by Sources 2006-2025

Source: EVN, 2006, 6th PDP

Despite a proportional reduction in its contribution to overall generation capacity by 2025, the absolute generation capacity of hydropower is expected to increase from 9,412MW in 2010 to 20,306 MW.

Type	Installed Capacity MW
In operation 2010	9,412
Under construction	2,296
Large planned	4,738
Other hydro (small and PS*)	3,860
<b>TOTAL HYDRO 2025</b>	<b>20,306</b>

Table 3: Hydropower Development Status in PDPVI

\*PS = Pumped storage plant

<sup>92</sup> Lam Du Son, EVN (2006) Hydropower Development Plan in Vietnam, presentation given at the *Pilot Strategic Environmental Assessment of the Hydropower Subsector in Vietnam Scoping Workshop*, Hanoi, 10-12 July 2006.

Large and medium size plants (i.e. > 30MW) will account for 4738 MW of installed capacity, and small hydropower and pumped storage plants will account for 3,860 MW<sup>93</sup> (Table 3).

PDP 6 refers to 73 existing and proposed hydropower projects (Map 1). However, most of the numerous small and medium dams proposed for each basin (e.g. some 60 in Quang Nam's Vu Gia – Thu Bong basin in addition to the 8 large projects listed in the PDP 6, and 92 in the Se San Basin in addition to the 7 listed in PDP 6) are not included in the PDP 6.

Construction of the national transmission grid and distribution connections will also expand. The length of the 500 kv grid system will increase from 3,255 to 8,883 km (an increase of 5,628 km). The length of the 220 kv grid system will increase from 4,295 to 16,916 km (an increase of 12,621 km), and the 110 kv grid system will increase from 10,290 to 25,949 km (an increase of 15,659 km).

---

<sup>93</sup> In addition a number of hydropower plants are under construction accounting for 2296 MW of installed capacity.





Map 1: Existing and Proposed Large Dams in Vietnam identified in the 6<sup>th</sup> PDP

### PDP Development Process

The MOIT is responsible for preparing and submitting the PDP for each ten year period to Government. The Ministry assigns the IE to draft the PDP in consultation with line agencies and international organisations who support the process such as JICA who funded technical inputs to the 6th PDP. Preparing a PDP is a long process, taking from 3-5 years. A comprehensive review of electricity sources and demand throughout Vietnam is required as well as consultation with all relevant ministries and review of all proposed electricity projects to be included in the plan.

The IE review of Vietnam’s electricity sources including hydropower aims to balance demand and supply – the projection of demand is a challenging and contentious issue based on past trends and many assumptions. The review process shown in Figure 23 involves consultation and inputs from a large range of stakeholders at each step. Provision of all MOIT approved hydropower master plans from the Energy Department of MOIT, EVN and PPCs for national, provincial and individual hydropower projects is key to identifying hydropower sources and capacity. All projects are then ranked according to capacity and year expected to commence operation within the ten year period of each PDP. If total estimated power generation is higher than expected demand, IE will propose to postpone certain projects; if total generation is lower than demand, the IE will propose sources for accelerating power construction.

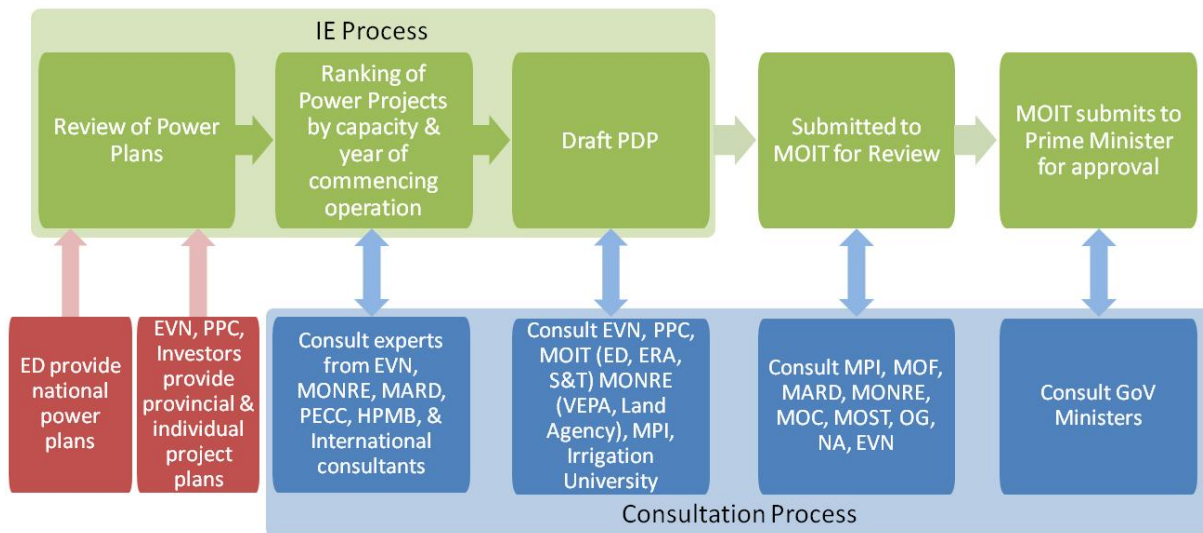


Figure 23: PDP Development Process  
Source: ICEM (2011)

All listed projects must connect to the national grid, must be able to sell power to the national grid, and must have the support of local and provincial authorities. In effect, often that means that appear in the respective provincial PDPs which may not have involved any cross sector consultation. Only medium and large hydropower projects and individually identified within the PDP. Small projects are grouped which can cause difficulties for individual projects in receiving national support in connecting to the national grid, increasing investment costs and prolonging construction.

### Operating, planned and proposed hydropower projects

The three PDPs (5<sup>th</sup>, Adjusted 5<sup>th</sup>, and 6<sup>th</sup> PDP) have listed over 80 distinct hydropower projects. The number of projects proposed has increased incrementally, and their capacity and time of commencement operation have been adjusted throughout. Projects included in early PDPs but not in the 6<sup>th</sup> PDP are considered to no longer be proposed for development.

The 6<sup>th</sup> PDP covers ‘large’ hydropower projects in detail but not projects under 30MW which only require provincial government approval and usually are not subject to detailed environmental assessment. Expensive small-scale projects also require central approval. The PDPs distinguish between power projects funded through EVN and projects to be developed through investments by other institutions and the private sector. Some projects will be developed by shareholding companies, which are jointly held between EVN (at least 51%) and other investors, for example, the Song Da Company. In most cases, such as the Hoa Binh hydropower project, EVN has contracted other companies to build dams (the Song Da Company in the case of Hoa Binh) but then taken over operations. The situation of ‘ownership’ of projects has changed, and continues to become more complex with an increasing number of investors.

According to the 6<sup>th</sup> PDP, hydropower projects will be concentrated in 10 main river basins in Vietnam, with 58 medium or large hydropower projects planned to be operating by 2020. Another 15 hydropower projects are planned for other basins in the country (although the precise locations are not always clear). Of the 73 medium and large hydropower projects proposed to be in operation by 2020, at least 13 are already in operation, 16 are under construction, and 11 are still in planning or feasibility stages.

### 4.3. Hydropower Planning & Development Process

Hydropower planning occurs at three different levels, and consists of three distinct stages from the design to construction of a project. A hydropower master plan fulfilling all legal requirements must be prepared for each river basin or province listing projects to be developed which is in turn approved by the MOIT. That “plan” is an evolving list of projects aiming to maximise the exploitation of a catchment for hydropower. It does not involve an integrated assessment of water resource use options and potentials. For each project on the list, an investment proposal must be created and endorsed by PPC and all licensing and contracts approved prior to construction.

#### *Regional, river basin and provincial hydropower plans*

EVN plans for hydropower development focuses on 10 river basins and relate only to large and medium projects. The 6<sup>th</sup> PDP assesses hydro capacity in those 10 river basins. The hydropower capacity of these river basins is estimated at 17660 MW, equalling 85.9 per cent of national hydropower capacity. River basins in north, central and southern Vietnam have a 9990 MW (55%), 4940 MW (27%), and 2870 MW(16%) capacity respectively.

The 6<sup>th</sup> PDP categorizes hydropower projects by the three large regions: north, central and south - not by Vietnam’s eight social-economic regions, river basins or provinces.

	<b>River basin</b>	<b>Capacity (MW)</b>	<b>Power Generation (TWh)</b>	<b>Density (TWh/Km2)</b>	<b>Share to total capacity (%)</b>
1	Ba	670	2,70	150	3.2
2	Ca	520	2,09	147	2.5
3	Da	6960	26,96	1400	32.3
4	Dong Nai	2870	11,64	436	14.0

5	Lo-Gam-Chay	1470	5,18	212	7.0
6	Ma	890	3,37	74	4.0
7	Se San	1980	9,36	700	11.2
8	Srepok	700	3,32	143	4.0
9	Tra Khuc – Huong	480	2,13	531	2.6
10	Vu Gia – Thu Bon	1120	4,29	475	5.1
<b>10 river basins</b>		<b>17660</b>	<b>71,67</b>	<b>423</b>	<b>85.9</b>
<b>All country</b>		<b>20560</b>	<b>83.42</b>	<b>250</b>	<b>100</b>

Table 4: Hydropower Capacity of Vietnam

Source: EVN, 2006, 6th PDP

Chapter 7 of the 6<sup>th</sup> PDP lists 82 large to medium projects and unspecified small projects for 2005-2025 and grouped them as follows:

- In the north, there are 32 large-medium projects, 2 small projects and a group of not-specified small projects
- In the Central, there are 36 large-medium projects, and three groups of not-specified small projects.
- In the South, there are 14 large-medium projects.

In its Decision 30/2006/QD-BCN, 31 August 2006, MOIT recognizes a hierarchy of hydropower plans for small projects. MOIT is responsible for approving the National Small Hydropower Development Plan. PPCs will approve Provincial small hydropower development plans as part of their overall PDPs with the agreement of MOIT. Normally, provincial plans for small hydropower projects also include the large and medium scale projects identified in the national PDP. For example, the Quang Nam PDP approved in 2006 and covering the Vu Gia – Thu Bon River Basin includes 8 large to medium projects (identified in the national PDP) and 34 small projects. That number of small projects has increased ad hoc to some 60 small projects since the provincial PDP was approved.

#### *Hydropower Master Plan Process*

A hydropower master plan for each region, river basin, province or individual project is required for approval by the MOIT.

#### *River Basin Master Plan*

EVN is the main party responsible for preparing river basin master plans and investing in the construction and management of large hydropower projects. EVN has delegated responsibility for projects in river basins to seven “Hydropower Management Boards” across Vietnam, located in:

- (i) Ha Noi
- (ii) Vinh, Nghe An Province
- (iii) Da Nang City
- (iv) Pleiku, Gia Lai Province
- (v) Buon Me Thuot, Dak Lak Province
- (vi) Ho Chi Minh City

(vii) Tuy Hoa city, Phu Yen Province

The Management boards can provide funding for plan development and hydropower project construction. In some situations, the management boards have collaborated on hydropower projects across basins with private companies and other state companies (for example, coal or mining companies). In turn, the management boards commission the Engineering Consulting Companies (PECC) to undertake necessary engineering, environmental and social studies and to draft hydropower master plans of projects. PECCs, like the Institute of Energy, were once part of EVN but are now being progressively privatised, although the relationships with their mother company remain intimate. PECCs provide necessary services to draft hydropower master plans including surveying, EIAs, cost estimations, technical design, Resettlement Action Plans, Ethnic Minority Planning Frameworks, detailed project design, pre-feasibility and feasibility studies. The PECCs undertake four steps in drafting a hydropower river basin master plan:

- (i) A review of data, including hydrology of the river basin;
- (ii) Data collection on existing hydropower projects in the river basin, including capacity, location, technical features;
- (iii) Ranking of hydropower projects based on a set of technical, financial, social and environmental criteria, with priority given to low cost and high capacity; and
- (iv) Define a hydropower development strategy for the river basin, outlining the priorities for and timing of construction.

Once completed, the Hydropower Management Board reviews the master plan and submits it to EVN for review and consolidation. The EVN in turn submits it to the Energy Department of MOIT for review and endorsement and then formally for Ministerial approval as shown in Figure 24. At various stages throughout this process several agencies may be consulted for technical inputs including:

- Institute of Energy on technical design matters;
- Irrigation University (IU); Western Highlands Agriculture & Forestry Science Institute (WASI) and Agricultural Planning Institute (API) of MARD concerning agricultural and forestry development and livelihoods issues;
- Institute of Sociology (IS) and Ethnic Minority Institute (EMI) of Vietnam Academy of Social Science (VASS) on social issues;
- MONRE (Land Management Centre, Water resource management agency, and Vietnam Environment Protection Authority VEPA) responsible for land use planning, water resource management and environment protection;
- Geology Institute of Vietnam Science Academy regarding landscape and ground/soil issues; and,
- Some international agencies such as Nippon Koei (Japan) and SWECO which often provide technical inputs supported by bilateral donors.

*Provincial Master Plan*

The DOITs are responsible for the preparation of provincial master plans which focus on small and medium hydropower projects. The DOITs engage the PECC servicing their region or IE to draft the hydropower master plan, and they are meant to consult with other ministries such as DONRE, DARD, DPI and PPC in its preparation – although the extent of consultation is often rudimentary and provincial plans have been approved without the input of relevant local agencies, especially affected districts. PECCs follow the process described earlier to complete the draft master plan and then submit it to DOIT

for review and submission to the PPC for review and comment before final approval by MOIT as shown in Figure 24.

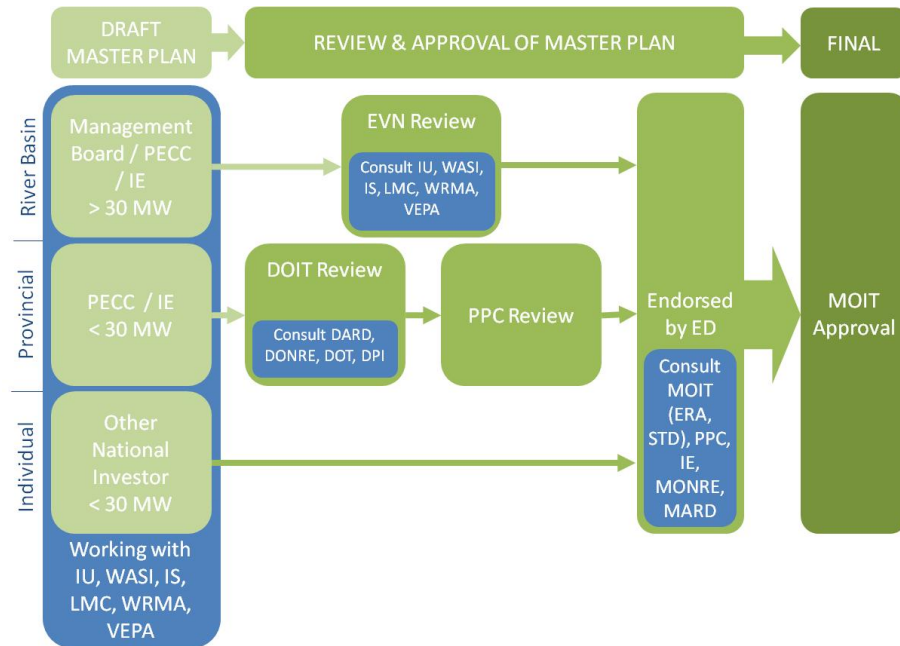


Figure 24: Master Plan Development Process & Consultation

Source: ICEM (2011)

Several other agencies are critical to key stages of the hydropower master plan and project processes at all levels. The National Power Transmission Corporation is particularly important in small projects and ensuring connection to the national grid through input and investment in transmission line connections. The Electricity Regulation Authority plays an important role in the project investment phase, setting the electricity price and facilitating power buying / selling contracts. VEPA and MONRE set guidelines for EIA and SEA of proposed projects.

#### *Plans for individual projects*

There are separate development plans for each hydropower project. The projects are classified into three groups:

1. *Very important hydropower projects:* Projects which require National Assembly approval (section 6.4.1 and Box 1 set out the criteria for this category of project)
2. *Medium and large projects:* Projects with a capacity of more than 30MW listed in the national PDP. These projects will be approved by MOIT.
3. *Small projects:* Projects that have a capacity of less than 30 MW will be planned through a provincial process with investment approved by PPCs on the agreement of MOIT.

The plans for nationally important hydropower projects which require NA approval will involve different institutions in the planning stages and a wide range of review and approval stages over many years. For example, preparing and approving the large and important Son La Hydropower Project took more than 5 years. Even now, in implementation this national project is accompanied by a five year environmental management planning project supported by the ADB.

While medium to large hydropower projects listed in the 6<sup>th</sup> PDP require MOIT approval, in some cases, approval of other institutions must be sought when other national legislation requires it (such as the Amended Environmental Protection Law 2005) or when problems arise. Other agencies become involved in all large scale projects. For example, MPI organized an Appraisal Committee to review the investment proposal for Yaly and Song Hinh hydropower projects (Decision 604/BKH/VPID, 5 November 1999). The PPC of Kon Tum Province issued the Decision on Strengthening Management of Activities on the Yaly Hydropower Project area (No. 07/CT-UB, 28 July 2000). The decision concerned activities of fishing, plant maintenance and illegal logging in and around the Yaly project area.

Plans for small projects may be established by independent investors and joint ventures in which case an individual hydropower plan is developed for the single project. In consultation with the DOIT, the PECC will be contracted to draft a master plan and undertake pre-feasibility studies. With approval from MOIT a feasibility study and investment plan is completed and may be included in grouping of small projects within the national PDP. A project which is not included in the PDP may face greater difficulty in attaining power and operation licences and selling power to the national grid.

#### **4.4. Linkages between hydropower planning procedures and related plans**

This section describes how the planning process and plans for hydropower link to other development plans, for example provincial socio-economic plans, other sector development plans (e.g. industry, mining, transport) land use plans, and development plans for economic regions and for river-basin plans.

##### **Development Plans**

###### *Overarching socio-economic development plans*

The 6<sup>th</sup> Power Development Plan and its hydropower content are built up on the basis of a range of other strategies and plans. The PDP is prepared to be consistent with the national socio-economic development plan. Chapter 3 in the 6<sup>th</sup> PDP was prepared based on the Power Development Strategy 2004-2010 and vision to 2020, the Party's 10 year Social Economic Development Orientation (2001-2010), and MPI's Social Economic Development Projection to 2010 and Vision to 2050.

The growth of GDP, population and industry (manufacturing, agriculture, services) are analysed as part of the national Social Economic Development Planning process with three projected development scenarios: high, middle and low. In 2006-2010, GDP growth is projected as 8.5% per year (high growth scenarios), or 7.2-7.5% in middle growth scenarios and 6-7% in low grow scenarios. When preparing the national PDP, estimates of energy demand growth of five major sectors (industry, service, agriculture, family consumption and others) were projected by MOIT and EVN for 2006 to 2025 based on the SEDP scenarios.

Hydropower is addressed in various regional development plans. The Government, through the Ministry of Planning and Investment Development Strategies Institute prepares plans for the eight economic regions and the three Economic Focal Regions to 2010 with a vision to 2020. Those plans do consider energy development. For example, the Development Plan for the Central Economic Focal Region identifies the development of various hydropower projects – Dakring 100 MW, Dakre 30 MW, Nuoc Trong 10 MW, and some isolated hydropower projects upstream on the Tra Khuc River (Prime Ministerial Decree 148/2004/QD-TTg, 13 August 2004 – a plan's approval is reflected in a Decree or decision of government).

At the provincial level, each province prepared its Social Economic Development Plan in 2006-2010, and some have a vision statement to 2020. Most provinces with hydropower potential address development of the sector in their overall SED plans. For example, in 2005, the Prime Minister issued Decree 148/2005/QĐ-TTg, 17 June 2005 on the Social Economic Development Plan to 2015 for Quang Nam Province. This decree proposes that Quang Nam PPC coordinates with central entities to implement power projects approved by MOIT such as the eight hydropower projects in the Vu Gia –Thu Bon river basin.

#### *Sector development plans*

Development plans and strategies that provide general development targets across most sectors in Vietnam for a ten year period with vision a further ten years are prepared at both national and ministerial levels. Many “sector” strategies are affected by hydropower such as: the Natural Disaster Mitigation Strategy to 2020; Comprehensive Poverty Reduction and Growth Strategy 2001-2010; Rural Clean Water and Sanitary Strategy to 2020; Strategy for Electricity Development 2004-2010 vision to 2020; Irrigation Development Strategy to 2020 vision to 2050; Fishery Development Strategy to 2020; Transport Development Strategy to 2020 vision to 2030; Water Resource Development Strategy to 2020; Natural Conservation/ Protection System Management Strategy to 2010; Environment Protection Strategy to 2010 vision to 2020; and the Forest Development Strategy in 2006-2020.

However, the 6th PDP in general and associated hydropower planning does not mention these development policies and the power agencies do not work actively with the respective sector ministries in their preparation to ensure hydropower is well integrated.

#### **Integration levels**

Opportunities for integration of hydropower plan into development plans for areas and other sectors exist at different levels:

1. *At central level*, EVN plans hydropower development (within the national PDP) and submits it to MOIT for review. MOIT passes it on to the GoV for approval. MPI is responsible for integrating the proposed and approved hydro plans into the 5-year National Social Economic Development Plan. Several MPI departments are involved in this integration process such as the Departments of Industry, of Regional Economic and of General Issues.
2. *At regional level*, the MPI is responsible for preparing development plans for the eight economic regions, and the MPI considers the hydropower plan and listed projects in this draft before submitting to Government for approval. MOIT and other government line ministries are required to comment on draft plans for economic regions.
3. *At Economic Focal Region level*, MPI in coordination with MOIT integrates the hydro plan into draft plans for the three EFRs, and passes these for approval to Government.
4. *At river basin level*: The Prime Ministerial Decree of May 2007 formally transferred all river basin planning to MONRE. MONRE has now been given responsibility for river basin planning and management. MONRE’s Department of Water Resources Management is preparing a Decree on River Basin Management which is intended to lay out the procedures and institutional arrangements for the process. MONRE’s combined mandate for land use planning, river basin planning and environmental management has potential to achieve integrated area wide development planning according to consistent environmental safeguards.
5. *At province level*, each PPC approves the provincial SED plan drafted by the DPI. DOIT and its energy division propose the power development plan including hydropower and DPI integrates this into the overall SED plan for the province.



6. *On the same river within a province*, there are different sector development plans issued by the Government, ministries, the PPC, and provincial departments such as industry, agriculture, fisheries, tourism, construction, transport, trade, land use planning and management, and biodiversity conservation on provincial and district level. At this stage, there is little planning linkage between these plans and those prepared by MOIT or the DOITs.

Most plans for the manufacturing and service sectors (for example, industry, agriculture, tourism) focus on increasing outputs on the assumption that energy for the purpose will be available through the national grid. They also assume an abundant supply of clean water. They do not analyse the supply and demand relationships with the power development plan. The hydropower plans have far reaching impacts on sector plans, especially at local level. The benefits of hydropower are recognised in some sector plans such as tourism, agriculture and fishery development. Power infrastructure is considered as an essential service. Power must be developed to meet the planned socio-economic development targets of other sectors. Therefore, power and hydro development is placed in the infrastructure services category that is structured after other manufacturing and service sector development projections have been made and approved.

There is great pressure on the energy sector to deliver power by whatever means. In that context, factors which would be seen to inhibit or delay power development are not given systematic treatment or equal weight unless a project is confronting local community and/or international opposition.

Provincial SED plans do not give due attention to the power implications of their socio-economic aspirations because the power sector “belongs to” EVN and other central companies (coal and construction) – their mandate to maximise hydropower development has a strong momentum and authority associated with it. Most power generation and all power transmission, as well as supportive infrastructure like hydrology stations are planned and managed centrally. The large and medium hydro plants in the province are planned by EVN. Provinces can plan and develop small-hydro but even here, central institutes and agencies become involved in their planning and development because of local capacity constraints. Economically, hydropower projects can bring significant benefits to provinces in terms of tax revenues, employment, and overall investment. Therefore they welcome power development plans despite having little involvement in their preparation and despite minimal consultation with provincial government departments.

#### 4.5. Integration of environmental and social factors into the hydropower planning process

This section analyses how and when environmental and social factors are considered in the hydropower planning process. The planning of hydropower development and the potential for integration of environmental and social concerns follows nine key steps (including plan preparation, proposal and approval at each step) as shown in Table 5.

Step	Conducted by	Activity	Environmental Assessment
1. Hydro potential study	▪ Water management Agency/MARD	▪ Build data base on water resource balance by river basin	No consideration of environment

	<ul style="list-style-type: none"> <li>▪ Hydro-Meteorology/ MONRE</li> <li>▪ Energy Institute/EVN,</li> <li>▪ IPS/MOIT</li> </ul>	<ul style="list-style-type: none"> <li>▪ Collect data on hydro regime of rivers</li> <li>▪ Check available data on hydro potential of river</li> </ul>	factors
2. Identify hydro projects (location, capacity)	EVN PECCs and institutions (Energy Institute/PECC 1,2,3,4)	Identify most likely locations of hydropower projects on rivers.	Mention of possible environment impact (eg flood control, landslides)
3. Prepare hydro components in PDP(national, province)	<ul style="list-style-type: none"> <li>▪ EVN EI, PECCs</li> <li>▪ MOIT/Government</li> <li>▪ DOIT/PPC/MOIT</li> </ul>	<ul style="list-style-type: none"> <li>▪ EVN/MOIT draft PD strategy and PDP.</li> <li>▪ Government approves</li> <li>▪ DOIT/PPC develop province PDP approved by MOIT</li> </ul>	Mention of environment considerations in investment
4. Pre Feasibility study for individual projects	Funded by investor, conducted by EVN EI and PECCs	Pre feasibility report on project construction	Estimation of area of land/forest to be occupied
5. Feasibility study	EVN EI and PECCs	Feasibility report	Identify land area for construction
6. Technical design	EVN PECCs	Technical design report	Little consideration of environmental issues
7. Investment estimation	EVN PECCs Organize EIA team	<ul style="list-style-type: none"> <li>▪ Investment proposal</li> <li>▪ MONRE approve EIA of large projects</li> <li>▪ MOIT approve EIA of large and medium projects</li> <li>▪ PPC approve EIA of small projects</li> </ul>	EIA report prepared and considered prior to final approval
8. Construction	Construction company	Construction of reservoir, dam, road, transmission line, pipelines, canals, resettlement areas	Environment protection commitments
9. Operation	Hydropower plant management board and sector agencies	Water management, resettlement, maintenance, watershed management	Environment protection commitments

Table 5: Steps and environmental assessment in hydropower planning  
Source: ICEM (2011)

### Environmental Impact Assessments

EIAs are required by law (AEPL 2005) for individual hydropower projects during the feasibility study phase. They are undertaken by project 'owners' such as EVN, or by contract to IE, MONRE/VEPA or one of the PECCs. MONRE organizes an Environmental Appraisal Committee for nationally important projects to be approved by Government or the National Assembly. MOIT organizes an EIA of medium to

large projects that are approved by MOIT. The PPCs authorize the DONRE or DOIT to organize EIA of small projects approved by the PPC.

Strategic hydropower development decisions are beyond the reach of environmental impact assessment focussing on projects unless the National Assembly demands a fundamental review of a nationally important project. MONRE's EIA guidelines for hydropower require that EIAs should "assess and select the site most suitable for hydropower works". In practice, project siting has usually been decided prior to EIA. EIAs are conducted to identify environment impacts and to bring them to the attention of concerned bodies and to argue for mitigation actions. At this late stage, often the budgets and staffing are not set in place within the responsible agencies or companies to easily accommodate environmental mitigation measures set out in EIA reports and environmental protection commitments. The commitment by investors of funds for environmental protection up front is now required under the Amended Environmental Protection Law 2005 but the systematic application of that provision and the estimation of what is appropriate levels of funding is yet to happen.

### **Environment Protection Commitments (EPC)**

The Law requires project owners to submit environment protection commitments to district People's Committees, and requires district/commune PCs to monitor their implementation. However, this process is poorly defined and implemented resulting in confusion and lack of understanding – with capacities and authorities at local level overridden by central level endorsements and involvement. Also, oversight of environmental mitigation measures, monitoring and reporting relating to hydropower has not been assigned to any institution to conduct regularly. Recently, DONREs have been able to consider these issues in provincial annual State of Environmental Reports. In extreme cases (mostly in manufacturing and processing food projects) when there are critical complaints from local populations or public media, local PCs (province, district, commune) will make specific decisions and request concerned institutions to take mitigation measures. Public complaints have been received by local and central governments relating to hydropower projects, primarily on the conditions for resettlement and illegal activities facilitated by new infrastructure.<sup>94</sup>

### **Strategic Environment Assessment (SEA)**

The AEPL SEA/EIA provisions are yet to significantly affect the hydropower planning process even though a relatively large number of SEAs have focussed on the sector. As of July 2006, SEA is legally required under Article 14 of the AEPL for national, provincial and inter-provincial strategies, planning and plans including:

- National socio-economic development strategies, planning and plans.
- Strategies and plans for development of sectors on a national scale.
- Socio-economic development strategies, planning and plans of provincial level or regions.
- Plans for land use, forest protection and development; exploitation and utilization of other natural resources in inter-provincial or inter-regional areas.
- Plans for development of key economic regions.
- General planning of inter-provincial river basins.

---

<sup>94</sup> For example, the Kon Tum PPC Decision 07/CT-UB, 29 July 2000 concerned illegal activities around the Yaly hydropower project facilitated by new infrastructure, but not environmental impacts caused directly by the project. The PC requested that (i) province police coordinate with Sa Thay district PC in monitoring illegal fishing and boating in Yaly reservoir; (ii) Forest protection department monitors illegal logging and intrusions on land assigned for tourism development; (iii) DOI monitors illegal mining; and (iv) PC of Sa Thay district and Kon Tum City punish law violators.

Responsibility for conducting SEA of plans falls on the state agency plan proponent. SEA reports will be appraised by an “Appraisal Council”, which will be established by the agency with legal authority to approve the plan. For national plans (ie those above sector level) this will function will be undertaken by MONRE.

The ALEP SEA provisions are supported by:

1. *Decree No. 80/2006/ND-CP (August 2006)*, which guides implementation, reporting and appraisal arrangements and includes a detailed list of strategies and plans that require SEA. The decree also outlines institutional responsibilities for SEA and SEA reporting requirements.
2. *Circular 08/2006/TT-BTNMT (September 2006)*, which provides detailed guidance and instructions on the implementation of the ALEP provisions relating to SEA. The circular also provides detailed guidance on the required contents on an SEA report.

Three substantial SEAs have been conducted with international support focusing on the hydropower sector:

- the World Bank, ICEM and BirdLife International SEA of the National Hydropower Plan with special reference to biodiversity (2006),
- the Asian Development Bank (ADB) and ICEM SEA of Hydropower Development in the Vu Gia – Thu Bon River Basin (2008) and
- the ADB and Stockholm Environment Institute (SEI) SEA of the National Power Development Plan (2009) all conducted with the Ministry of Natural Resources and Environment (MoNRE), the Ministry of Industry and Trade (MOIT) and Electricity of Vietnam (EVN).

The Mekong River Commission and ICEM SEA of Hydropower on the mainstream Mekong River (2010), involving Vietnam as a developer and purchaser is the most recent SEA on the sector.

Despite an SEA being required by law for submission and approval, its effectiveness continues to be limited – and the influence of the three SEAs is not reflected in Government plans and procedures. The IE and MOIT responsible for drafting the 7th PDP acknowledge that an SEA for development of PDP VII is required.<sup>95</sup> But generally due to budget limitations for undertaking SEAs, the organisation of effective and comprehensive SEAs is difficult. The responsibility for SEA of the PDP falls on IE-- the same agency responsible for drafting the PDP -- and is submitted to the MOIT responsible for energy development and endorsement of the PDP.

### National Assembly

The National Assembly has begun to focus on monitoring implementation of projects it approves. The Assembly has requested concerned ministries and government to report on progress of projects regularly and organizes field monitoring mission. In June 2006, following its approval of the AEPL, the NA reviewed criteria for projects of national importance (in Decision 05/1997/QH10 of 1997), and issued a new decision (Decision 66/2005/QH11, 29 June 2006). The Decision outlines project categories that should be submitted to NA for approval (Box 1).

---

<sup>95</sup> Sustainability assessment of Vietnam’s electricity planning (AusAID, M-POWER, CGIAR Challenge Program on Water & Food 2011)

Among the five criteria for identifying projects of national importance, three criteria concern environmental protection. The criteria defining projects of national importance are:

1. Projects that need more than VND20,000 billion of investment, in which government funds make up more than 20%.
2. Projects that have or will have potential impact on the environment including: (i) nuclear electricity plants and (ii) investment projects that need to change land use purpose of more than 200 ha of watershed protection forest land, or more than 500 ha of coastal protection forest land, or more than 200 ha of special-use forest land, excluding the land of national parks and natural conservation areas; and more than 1,000 ha of production forest land.
3. Projects that have to resettle more than 20,000 persons in mountainous areas and more than 50,000 persons in other areas.
4. Projects located in most national important places concerning national defence, security, or historical, cultural values, and
5. Projects that require special policy

Box 1: The National Assembly and Important Projects

Source: ICEM (2011)

Most of the newly proposed hydropower plants are in mountainous areas, and many affect large areas of forest land and local communities – requiring resettlement and long term social adjustments. Therefore many could be subject to the National Assembly regulation if the NA was fully informed and chose to take the initiative.

### **Integration of environmental concerns in the 6th PDP**

The 6<sup>th</sup> PDP itself takes initial steps to require the consideration of environmental concerns in hydropower development. The Plan refers to the ranking of 21 projects by financial-technical factors and economic, social and environment concerns in an impact assessment conducted by SWECO-STAKRAFT-NORPLAN as an input to formulation of a National Hydropower Plan (NHPS2 2004) (NHP 2007). The technical factors considered in the study include power generation, water supply and flood control. The social factors include rural electrification, health, education, road, local investment, and landscape. Environment factors taken into account in the study include water quality, forest clearing, inundated land area, biodiversity, heritage and resettlement. The ranking identified by the Study appears to have had no influence in the EVN and MOIT selection of projects to include in the PDP – all the project have been listed for development irrespective of the impact ranking and without added provision for mitigation.

The 6th PDP does note that environment management in the power sector is poor and lacks comprehensive coordination and integration at all levels. It proposes:

- *At national level:* establishing a national committee that could integrate energy development strategy and planning with economic development and environment.
- *At energy sector level:* the need to have one entity within the energy sector to coordinate environment protection relating to energy development in all sectors and in each sub sector. The entity should have sufficient authority to conduct an effective environment management function. Those proposals have yet to be fully implemented.

### **Social assessment and resettlement**

The Government gives great attention to resettlement issues – because so many hydropower projects require the movement of people away from the proposed reservoir and construction areas. The main

principle that the Government has defined for resettlement is that people moved should be better off in their new areas than in their former locations. In practice this is far from the case – with many resettlement experiences leaving communities fragmented and families with inferior dwellings and agricultural land and without long term support for health, education, agricultural extension and even water supply services.

Ethnic minorities, concentrated in the highland areas suitable for hydropower, are disproportionately affected by involuntary resettlement. There is only a general policy for resettlement for the whole nation (Decree 197 CP, 2004), no specific policy for ethnic minorities, even though among the poorest in the country and the focus of national *Program 135* (Socio-economic Development Program for Extremely Difficult Communes in Ethnic Minority and Mountainous Areas). In spite of government efforts to address poverty among different ethnic groups, ethnic minorities are vulnerable to chronic poverty. According to figures from the Vietnam Household Living Standards Surveys, while poverty rates amongst Kinh dropped sharply between 1993 and 2002 declines in poverty rates amongst ethnic minorities were more modest. In 2002, although ethnic minorities made up only 14 percent of the population, they accounted for about 30 percent of the poor – and they make up some 70% of total populations in upland areas where hydropower is concentrated.

Hydro-power can bring a number of important local benefits to ethnic minorities. The large hydro-power dams in remote areas sometimes bring improvements in public infrastructure through the construction of roads and other public amenities, such as schools, police stations and health stations. The small and medium sized reservoirs can help create new sites for local tourism, although often requiring high investment costs and generating marginal returns. Also, resettlement can result in improved living standards for displaced communities, if planned, implemented and financed effectively.

Yet there are fundamental problems with resettlement requiring long-term support to rehabilitation of livelihood sources and, where appropriate, to occupational changes. Resettlement sites are generally caught between two difficult options. Commonly they are characterized by insufficient production land where resettlement sites are relocated, or they have sufficient productive land but are located in more remote areas with limited access to main roads, markets, public services and/or other communities. Another key problem evident in many resettlement sites across Vietnam is poor quality construction for infrastructure and houses. Resettled communities are unable to benefit from infrastructure improvements on a long-term basis. Often, for example, families do not own motorized vehicles but resettlement sites require longer travel distances to land and resources. Water supply systems are often unreliable but the resettled families do not have the skills or the funds for maintenance and repair. Or resettlement areas are connected to the national electric grid and equipped with power supply equipment but families do not have money to pay for electricity.

In addition, institutional arrangements on resettlement do not enable the long-term and comprehensive support to ethnic minority because:

- (i) The authority responsible for resettlement is set up at district level for individual HP projects (District's Council for Compensation and Resettlement). This limits a) the involvement of different central departments in supporting the ethnic minority; b) the authority to manage and enforce hydro developer commitments; and, c) the mobilization of other financial sources for supporting ethnic minorities.
- (ii) Current regulations on resettlement and compensation do not make the investors fully responsible for all financial costs and socio-economic risks they create for the community, especially in the long-term. They focus mainly on short-term construction of resettlement sites

and on compensation for household land. The investor's responsibility to the relocated population ends once the resettlement site is complete and people have relocated there. Any further financial or other responsibilities are then shifted either to the local government (e.g., via support payments) or the resettled people themselves.

Under the Land Law and its regulations only those with land certificates are compensated in resettlement (Annex 3 sets out laws and regulations governing resettlement). Many ethnic minority families have been outside the formal land allocation system and do not have certificates either for the land on which their houses are located or the agricultural, forest and fishing grounds they rely on for subsistence.

Over the decade the policy and legal framework has significantly changed which has impacted on how resettlement is conducted. The overall direction of these changes has been to clarify land ownership issues and strengthen the role of provinces in the planning and management of state budgets for development purposes, with specific provisions that clarify roles and responsibilities under decentralisation and that enhance the role of local communities in decision making. These changes reflect the key overall direction of government policies, which is towards decentralisation of most aspects of development planning including resettlement. This has had significant impacts on the preparation and construction of hydropower projects by promoting the planning, implementation and supervision role of the People's Committee at provincial, district and commune level. In effect what has often happened is that authority and supervision has been decentralized, without adequate budget and integrating mechanisms for effective and long term support to resettled peoples.

Decentralisation has made the institutional arrangements for reviewing the social impacts of hydropower on poverty and ethnical minorities especially complex as illustrated in Box 1.

Some of the more important issues that are relevant to land use, acquisition, and resettlement under the Land Law 2003, are summarized as below:

- The GoV reserves the right to allocate land and determine its usage;
- Compensation for recovered agricultural and rural residential land will be in the form of new land of the same purpose of use or, if no new land is available, cash equivalent to the land use right value of the recovered land (Article 42(2) and (3)). In the latter case, the land use right value is established as the value of similar land under normal market conditions, as determined on an annual basis by PPCs (Article 56).
- Resettlement zones will be developed for people having residential land recovered and having to move their places of residence. Resettlement zones will be developed for many projects in the same area and will provide living conditions that are equal to or better than the conditions in the former places of residence. In areas where there is no established resettlement zone, people will receive cash for recovered residential land and priority to purchase or lease State owned dwellings (Article 42(3)).
- Families and individuals who have been allocated land have the right to exchange their land for another piece; transfer their right to use land to another party; and rent, bequeath, or use their land as collateral;
- People's Councils at all levels are responsible for the administration of land use in their localities; the People's Committees at all levels are responsible for managing land issues in their domains;

- The GoV reserves the right to expropriate land when truly necessary, in cases of national defence or security, or national and public interest. In these cases, under Article 27, the land user will be compensated for loss of land or assets<sup>9</sup>.

Decree No. 197/2004/ND-CP regulates the eligibility and procedures for compensation, assistance and resettlement in the event of State recovery of land. The principles underlying compensation are:

- (i) recovery of land from eligible persons shall be compensated;
- (ii) in the event, the affected person is not eligible for compensation, consideration will be given to forms of assistance;
- (iii) compensation for affected land will be in the form new land allocation with the same purpose of use or, if no such land is available, cash compensation equal to the value of land use rights at the time of recovery; and,
- (iv) outstanding financial liabilities associated with land to be recovered will be deducted from the amount of compensation or assistance money.

The Decree and Circular No. 116/2004 TT-BTC set out in detail the types of compensation for different types of users and losses; assistance policies; provisions for individual and group resettlement; and, the roles and responsibilities for implementation of resettlement projects.

In a small number of cases when international funds are involved in developing a hydropower project, additional safeguards apply and greater care is taken to implement integrated support programs for affected communities. For example, ADB is funding the large Song Bong 4 project in Quang Nam Province. According to ADB policy all project interventions affecting indigenous peoples must be:

- Consistent with the needs and aspirations of affected indigenous peoples;
- Compatible in substance and structure with affected indigenous peoples' culture and social and economic institutions;
- Conceived, planned, and implemented with the informed participation of affected communities;
- Equitable in terms of development efforts and impact;
- Not imposing the negative effects of development on indigenous peoples without appropriate and acceptable compensation.

#### **Box 2: Institutions responsible for considering poverty and ethnic minority matters in hydropower development**

The issues of poverty and ethnic minorities are assessed within the following administrative structures:

##### **1. Central level. Steering committee for poverty reduction with the following members:**

- Vice Prime Minister, Head of Steering Committee
- Minister of Ministry of Labour, Invalids and for Social Affairs, Head of Steering Committee
- Vice Minister of Ministry of Labour, Invalids and Social Affairs, member
- Vice Minister of Ministry of Planning and Investment, member
- Vice Minister of Ministry of Agriculture and Rural Development, member
- Vice Minister of Ministry of Health, member
- Vice Minister of Ministry of Education and Training, member
- Vice Minister of Ministry of Committee of Ethnic Minorities (CEMMA), member

##### **2. Provincial level. Steering committee for poverty reduction with the following members:**



- Vice Chairman of the Provincial People’s Committee, Head of Steering Committee
- Head of Department of Labour, Invalids and Social Affairs, Vice Head of Steering Committee
- Vice Head of Department of Planning and Investment, member
- Vice Head of Department of Agriculture and Rural Development, member
- Vice Head of Department of Health, member
- Vice Head of Department of Education and Training, member
- Vice Head of Department of Ethnic Minorities (DEM), member

3. District level. Steering committee for poverty reduction with the following members:

- Vice Chairman of the District People’s Committee, Head of Steering Committee
- Head of Department of Labour-Invalid and social, Vice head of Steering Committee
- Vice Head of Department of Planning, member
- Vice Head of Department of Agriculture and Rural Development, member
- Vice Head of Department of Health, member
- Representative of District Farmers’ Association, member
- Representative of District Women’s Union, member
- Representative of District Fatherland Frontier, member

4. Commune level. Steering committee for poverty reduction with the following members:

- Vice Chairman of the Commune People’s Committee, Head of Steering Committee
- Representative of Commune Communist Party, member
- Representative of Commune Women’s Union, member
- Representative of Commune Fatherland Frontier, member
- Representative of Commune Farmers’ Association, member
- Representative of Commune Communist Youth Union, member
- Leaders of the Villages in the Commune

#### 4.6. Consideration of resettlement during hydropower planning process

Social impacts in HP planning are considered at various stages of hydropower planning summarized below:

1. **Pre-feasibility studies:** the consideration of social impacts at this stage focuses on the most critical issues for example:
  - Area of land that HP will take for construction and reservoirs
  - Number of households to be impacted
  - Number of people to be moved to allow construction to proceed
  - Area of agricultural land to be lost. This land is assumed to have a Land Use Certification. The land without LUC, for example forest land and slopping land that local people are using is not considered.
2. **Feasibility studies:** social impacts assessment at this stage:
  - Update data from the Pre-feasibility study
  - Define land available for agricultural production for those to be resettled. This estimation depends on potential land for agricultural production (eg suitable soils, flat and near water resource).
  - Define land available for housing for resettlements. In calculation for resettlement, all households will have the same area for housing and small gardens.

- Assessing the water resource for resettlement, both for drinking and agricultural production. This land is around area of agricultural land. However the water resource assessment is often not well done and people have faced serious problems when resettled including the drying up of wells provided in the resettlement package.
- Road construction to connect to resettlement areas. This clarifies the main road map.

3. **Investment Planning**, cost for resettlement is estimated and key plans prepared including:

- *Land acquisition plan for resettlement*, including land for housing and agricultural production.
- *Resettlement plan*, including compensation cost, time, places, number of people to be resettled, and design of house construction. There are two options in resettlement - first people could be moved to existing settlements to be integrated with local people; second people will be moved to new locations to live in newly established villages. The resettlement locations (i) can be far from the hydropower project and far from areas of traditional associations. In this case people have no direct contact with the HP plant, or (ii) close to the HP project. Then people still have some contact with the project, for example fishing and boating in the reservoir, and cultivation and non timber forest product gathering around reservoir.

*Other factors assessed at this stage include:*

- Connected road construction
- Water for drinking
- Irrigation for agricultural production
- Schools and education services
- Health center and services
- Electricity supply
- Funding arrangements for resettlement. Province People's Committee will assign its organizations for example DARD, district authority to coordinate with investors in the resettlement process.
- Arrangements re certification and allocation of land for resettlement. Province People's Commttees signs the approval on Land allocation and Land Reclassification to the HP investor. District People's Committee signs approval land allocation and provide LUC to resettled households.
- The resettlement plan includes a training plan for people who prefer to change their employment after resettlement.

4. **HP Construction**, resettlement plan is implemented including:

- Clearing land for resettlement
- Construction of access road. The quality and progress of road construction is always a problem in resettlement as generally roads are without sewage, are not hard surfaced and are not accessible in raining season.
- Construction of houses, including water supply (could be the wells or water tanker), electricity connection. There are cases where the population has increased since the time from HP feasibility planning to HP construction (often several years). New families have faced problems being allocated houses and land as their names are not on the list for resettlement. Houses can be constructed by the construction company or by re-settlers. In many cases, the house is constructed by a construction company without consultation. Often in those cases, the re-settlers do not feel comfortable with the houses for a variety of reasons, for example they:

- differ significantly from traditional houses
- are too hot with cement roof and few windows,
- are not stable and not resistant to strong wind,
- are not water proof in strong rain,
- are not convenience for family life (eg no private spaces for couple, no fireplace)
- Removal of people and their effects
- Removal of cemeteries
- Conducting archeology surveys
- Collect timber in area to be inundated and sharing of resources where there community ownership
- Allocation of agricultural land for households. There are cases where the land has been too poor for agricultural production, or too small to sustain households.
- Provide food and money for living in first three months – often inadequate and create serious problems beyond that time.
- Construction of schools and health center. But there have been cases where communities are without teachers and nurses for extended periods.

**5. Handover for operation of project:**

- Start to accumulate water in reservoir.
- Final removal people from their old land and houses
- In new resettlement, people and local authority continue to complete resettlement plan. But often funds are not available in a timely or adequate manager for road improvement, irrigation updated, equipment for schools and health center and maintenance. Many unforeseen issues arise once communities are in place with need to be addressed but for which there is no clear responsibility or resources.
- Cultural life. The loss of cultural life in community is not considered in many HP projects but which has serious consequences. For example traditional villages have traditional village hall, festivals, worshipping patters linked to their old location.

	<b>1. HP Pre-feasibility plan</b>	<b>2. HP Feasibility plan</b>	<b>3. HP Investment plan</b>	<b>4.HP construction</b>	<b>5.HP handover for operating</b>
Area of land that HP will take for construction and reservoirs	Estimate area	Update data	Estimate area of land reclassification from forest and agricultural land to construction land	Investor receives land	Investor manage land
Number of households will be impacted	Estimate number	Update data	Estimate number of houses to construct in resettlement	Construct house  Construct village hall	House repaired

Number of people will have to move out for HP construction	Estimate population	Update data	Estimate number of people to receive food supply in the first time of resettlement	Moving plan Receive food support	
Area of agricultural land will be lost for HP construction	Estimate area	Update data Find place with land available	Estimate cost for land clearing for agricultural production	Allocate to household with LUC	Cultivate
Water provision		Find water sources in new places	Make well, construct irrigation system	construction	Maintenance
Road connected		Estimate road connection (length, wide)	Costing road construction	construction	Upgrade
School			Estimate number of class rooms	construction	Equipment, recruit teachers
Health center			Consider to have health center	construction	Provide equipment, recruited nurses
Electricity			Design grid connection	Construction connection	
Cut timber			Notice	Timber cut	
Archeology			Notice	Conduct	

Table 6: Resettlement planning process during HP planning  
Source: ICEM (2011)

#### 4.7. Power development and purchase agreements

Project development agreements (PDAs) and power purchase agreements (PPAs) are two important mechanisms and decision points in the HP development process. To date PPAs have been restricted to the financial and technical aspects of the government purchasing electricity from the hydropower project owner. In many cases, the developer and the purchaser are the same organization - EVN. PPAs have not been used to achieve broader social or environmental goals. The same applies to PDAs which have been concerned only with the economic and technical feasibility of a project.

## Power development agreements

The HP project PDA comprises two kinds of agreements.

- Agreement for HP project Pre-feasibility and Feasibility studies prepared by EVN in case of large HP projects identified in the PPD, or Provincial People's Committees for projects listed in provincial HP plans, and submitted to MOIT for approval. This agreement allows EVN or a PPC to conduct study HP projects in detail prior to committing them to the PPD or province HP plan.
- Agreement for HP project investment is prepared by investors, endorsed by EVN and approved by MOIT for PDP projects, and endorsed by DOIT and approved by PPC for projects in the province HP plan. To enter into a PDA, an investor has to establish a HP company licensed by MPI or DPI. Once they have an endorsed PDA agreement, the company must prepare a Project Investment plan, and have it approved prior to commencement of construction.

EVN is by far the main hydropower investor at both national and local level. Other investors include other state companies such as the large Song Da infrastructure company and LILAMA joint-stock company and national companies in the oil-gas and coal mining sectors. To date there are no foreign private investors in the HP sector.

The projection of power demand for development is the key to govern PDA negotiation. Those demand projections are also undertaken by EVN and its Institute of Energy. That situation where the developer also projects national power demand obviously creates potential conflict of interest situations – this difficulty is progressively being addressed by the privatization of EVN components as separate entities.

Hydropower PDAs have tended to be easier to process than other power resources because it is cheaper in power generation, cleaner in operation (from a pollution viewpoint) and its capacity to be a highly decentralized power source that brings revenues to local authorities, especially poor provinces.

## Power Purchase Agreements

Power Purchase Agreements are made between the HP investor and EVN which manages the national grid system. The Electric Power Trading Company of EVN is mandated to sign PPAs. The PPA is considered and drafted during preparation of the HP investment plan. The PPA includes issues on how much power will go to national grid, estimated purchase price, and commitments relating to the connecting transmission line and its location.

The regulation for PPAs is MOIT decision N. 41/2010/TT-BCT on 14 December 2010. The Decision defines the following responsibilities:

The Power Regulation Authority (PRA) is responsibility for:

- Appraisal and final submission to MOIT on annual power pricing
- Appraisal and approval of PPAs
- Resolving problems and conflicts associated with PPAs

EVN is responsible for:

- Drafting the annual power price to submit to the PRA for approval
- Submission of PPAs to the PRA for approval

The HP Investor is responsible for

- Negotiating the PPA

PPAs are shaped and resolved around several factors including:

- The power demand/ shortage
- Amount of power that investor will sell
- Electricity price that investor offer to EVN
- Current electricity price
- Status of transmission line connected between HP project and national grid system

#### 4.8. Hydropower project management

The approach to hydropower project management is not conducive to taking integrated and collaborative approaches to water management on a river or in a basin. It is project specific with on site managers having little authority to take initiative in reaching agreements with other water uses or to introduce approaches which improve access or environmental services.

HP project management is shaped by the individual investor's institutional arrangements. Large investors such as EVN or LILAMA that have large complex structures with different operations besides HP take a two stage project management approach:

1. **Set up HP Management Board.** The function of HP MB is to manage HP construction following technical design and to coordinate with local authorities in resettlement following provisions of the HP investment plan. In HP construction supervision, a HP MB has different divisions following the various construction activities such as: land clearance, dam construction, machine purchase and install, resettlement. The HP MB is disbanded after construction completion and handover HP project to operate.
2. **Set up a HP company.** The investor establishes a HP company to operate HP project after construction. The HP company has overall responsibility for HP project operation including reservoir management, water discharge, power generation and sale, and engineering maintenance. The HP company has one director and 2-3 vice directors, and some divisions such as administration and finance, technical, and maintenance. The HP company director is responsibility for reporting to the investor.

Small investors who focus on HP operation directly supervise all HP construction and operation. The investor could be an individual or group. The investor must have a registered HP company before construction. The HP company can be a Limited or Joint-venture company. The investor (i) sub-contracts a construction company to build the HP project and (ii) appoints HP company workers. In cases where the company is registered as a joint-stock company, a HP management board and board director is appointed. The management board is representatives of stakeholders who invest in the HP project. The MB is responsible for fund management, reviewing policy (tax, electricity pricing), interaction with local authorizes, and the resolution of problems and disputes, for example, in water discharge for local

needs in irrigation. The Board Director has 1-2 vice directors responsible for technical operation of the HP project.

The operation of a HP project is required to follow the regulation of water accumulation and discharge to sustain power generation. The operational management of water reservoir is approved by different levels:

- (i) Management of reservoir that relates to other reservoirs in same river is approved by MONRE. MONRE is preparing the guidance for inter-reservoir regulation following government decree 1879/QD-TTg on 13 October 2010.
- (ii) Management and operation of reservoirs which are listed in the national PDP is approved by MOIT
- (iii) Management of reservoirs in provincial HP plans are endorsed by DOIT with comment from DONRE, DARD, then approved by the PPC

The investor and its management boards re responsibility for HP operation including reservoir management. There is no single institution which oversees the operation of HP projects. HP projects are accountable to their investors only. The Power Regulation Authority holds information on power generation from HP projects, but it does not have other information on HP operation. In special cases, EVN as the power purchaser and MOIT as decision maker on HP development have requested HP projects to submit operational information, for example during electricity shortages and large floods. But it is not regular or comprehensive information gathering process.

#### **4.9. Hydropower as multiple use facilities**

The multiple use of HP project is defined in the HP master planning process, at the Pre-feasibility study stage. Each HP project is proposed for one or more of three purposes:

- (i) HP generation
- (ii) Irrigation
- (iii) Flood control

Water transport, tourism, environmental flows or fisheries are not considered in the feasibility study process. These uses are may be considered in HP planning if introduced by other organizations which are given an opportunity to comment or review early planning documents. But that is rare and often projects can go all the way to final design stages before other sector agencies become aware of them. In most cases, hydropower projects are designed with a single purpose – power production.

The MOIT is the final decision maker in defining multiple use options when it approves the HP Master plan. The multiple use options for HP projects is based on local water demand and consumption defined by the HP technical design team. HP investors often commit to contribute to irrigation and flood control to garner the agreement of local people and authorities. But the experience has shown that HP investors underestimate the water and operational requirements of irrigation and flood control to minimize investment costs and maximize profits.

Formally the government and EVN are committed to multiple-use of HP reservoirs and water resources. Hydropower developers must follow the multiple use principle in the national PDP. In practice most project designs move forward on the basis of power production as the single objective. Other uses are considered once the project is operational.

Following construction and during operations, the HP company has overall responsibility in managing the allocated land area and associated infrastructure, for example, the HP station, reservoir, and transmission lines. However, its enforcement powers are limited to the area immediately around the HP station. The use of the reservoir for activities such as fishing, transport, and tourist is not within the HP company's mandate. Local authorities can allow local people to run activities on the reservoir without consultation with HP company. If irrigation and flooding control is included in the HP project design, local authorities will request the HP company to regulate water for these purposes. Ad hoc requests such as this can be made for environmental flows if downstream town are suffering water quality issues or if fishing habitats are affected. An example is the regular requests to reservoir managers made by the HCMC PPC for releases to flush out pollution in the city during droughts. Such requests are rare.

Land around HP projects is used for forest or agriculture production – HP managers are not involved in this use if it is on land outside their immediate jurisdiction. Most large hydropower projects are in isolated mountainous areas in which pumping and piping of water for irrigation – and where fisheries and tourism activities are not economically feasible. Therefore once a project is in place, the opportunities for multiple use are very limited.

## Conclusions

In summary, this brief review of hydropower development planning shows that:

- The national plans for hydropower development are integrated into the national PDP. There is no separated chapter concerning hydropower in the PDP and no distinct national hydropower development planning document.
- The 6<sup>th</sup> PDP includes 73 large hydropower projects – 13 are already in operation.
- Small and medium hydropower projects are not clarified in detail as individual projects in the national PDP but are considered in provincial PDPs.
- Small hydropower projects face greater difficulty connecting to and selling power to the national grid as they are not clarified in detail.
- In the national PDP, hydropower projects are not grouped by river basins, by provinces or by the eight socio-economic regions, but they are grouped by the three large regions (north, central, south) in the country.
- There are no hydropower development plans by river basin that include all small, medium and large scale projects (although in cases where most of a river basin falls within one province – such as the Vu Gia – Thu Bon in Quang Nam – the provincial PDP effectively becomes the river basin plan).
- Some provinces have approved provincial Power Development Plans which include all hydropower projects within their territory. One river basin may cover different provinces, but outside the Water Law and some pilot river basin organizations, there is no mechanism for integrated hydropower planning or to increase coordination between provinces in preparing provincial plans for hydropower development.



- Hydropower projects are funded and managed by many different investors although EVN is by far the dominant force in shaping both planning and implementation of the sub-sector at the national level and the IE and PECC at provincial levels.
- MOIT is responsible for the approval of hydropower planning at central and provincial levels.
- Often, there are many hydropower projects on one river and in one river basin. But there are no procedures for planning projects for cumulative environmental impacts and to promote coordination among projects on the same river for water and environmental management.
- Hydropower planning in Vietnam has been given top priority by the government. Environmental protection and livelihoods of local people is traded off and receives secondary consideration.
- Local communities have little voice in negotiating during the hydropower planning process. While some may prefer to move, there is no choice involved.
- The EIA process would be improved by ensuring assessments are undertaken by an independent body not involved in the planning process selected by MONRE with results submitted independently to the People's Council and National Assembly for consideration rather than to local PC's.
- Dissemination of EPC requirements and process to district and commune PCs, hydropower project 'owners' and provincial level authorities would help to define responsibilities and procedures. Introducing monitoring by organisations involved in project implementation and encourage feedback to PCs from monitoring agencies will improve implementation and transparency of EPC process.
- An independent agency should be responsible for undertaking SEAs that does not participate in strategy or master plan preparation. Due to the potentially high social and environmental impact of hydropower projects, all SEA reports should be submitted to the National Assembly for approval and increased monitoring of SEA implementation is critical to ensure greater consideration of environmental factors in hydropower planning.

Concerning social effects, the SEA on hydropower on the Vu Gia Thu Bon River Basin made the following recommendations to improve institutional and operational aspects of hydropower planning and implementation:

**Integrated government service delivery for ethnic minorities:** Hydropower projects create radical changes in the life of affected ethnic people. A range of central and local government departments need to be involved in the delivery of integrated support programs including agriculture, forestry, fishery and labor. The preparation and implementation of an Ethnic Minorities Development Plan associated with each project requires the collaborative delivery of services and resources from central, provincial and district/commune governments. There is a need to:

- (i) lift the provision of services to the provincial level so that financial and technical sources can be mobilized effectively (presently, the authority responsible for these issues individual hydropower projects is with District's Councils for Compensation and Resettlement); and
- (ii) require that all government agencies make their contributions according to one agreed and integrated plan.

**Long-term adjustment programs for resettled communities (10-15 yrs):** Current difficulties suffered by ethnic minorities are created by short-term and piecemeal resettlement programs. They focus mainly on short-term construction of the resettlement site and the compensation for taking land from households. The investor's responsibility to the relocated population normally ends once the resettlement site is complete and people have been relocated. Any further financial or other responsibilities are then shifted either to the local government (e.g., via subsidies) or the resettled people themselves. The relocation of

affected people to the resettlement site should be seen as the start of the resettlement project, which is followed by long-term adjustment support program of 10 to 15 years to restore previous productive capacity and living standards. The long-term adjustment program should be:

- (i) Based on a participatory approach
- (ii) Tailored to local needs, including activities such as:
  - Occupational change support and training
  - Preferential credit and start-up investment funds
  - Community forestry and agro-forestry
  - Agricultural and forestry extension services
  - Health and education awareness raising such as on HIV/AIDS, other socio evils
  - Culture/tradition conservation programs
- (iii) Contribute to and coordinate with national programs

The long-term adjustment program should be carried out in such a way that it maintains and enhances the productive capacity of the community

**Financial & non-financial commitment by investors:** Regulations on resettlement and compensation do not make the investors fully responsible for all financial costs and socio-economic risks they create for the community, especially in the long-term. The proposed actions make investors responsible for the costs of mitigation.

Specific actions proposed include:

- Setting up the central legislation for contractual arrangements between the provincial level inter-sector group on ethnic minority and the hydropower investors (eg through a separate decree/provision on the resettlement of ethnic minority)
- Financial provisions for long-term support in various schemes, for example, from each project a combination of:
  - (i) one-off payments
  - (ii) regular installments for defined periods
  - (iii) a percentage of revenue

Financial commitment of the investors to cover potential risks and costs to affected ethnic minority communities and local authorities such as: loss of income sources, costs for law enforcement training and delivery to local police and local forest protection rangers

## 5. OVERALL SYNTHESIS

The overall synthesis focuses on the three objectives defined earlier in the introduction. First, we identified and discussed the obstacles in the current policy, legal and organizational frameworks that regulate hydropower planning. Second, we brought to light opportunities and potential entry points to accommodate the creation of better linkages between hydropower development and people's livelihoods in general. As with regard to its recommendations for the preferred livelihoods options, this will be incorporated as part of the final project output. This policy review and institutional analysis will be complemented by detail analysis on institutional arrangements at the local level, to be undertaken in from June to August 2011. The complimentary linkages highlight our multi-level policy analysis, as well as our iterative research approach in linking policy formulation with actual practices.

## 5.1. Obstacles

Existing policies and legal frameworks on land-water-environment management in Lao PDR, Cambodia, and Vietnam do not provide sufficient basis for consistent, clear, and transparent decision-making processes with regard to hydropower development in each of the three countries. At national level, hydropower development is governed by multiple government agencies operating in a multi-level social/legal field of more than one legal order (Griffiths 1986).

In Lao PDR, this state of legal pluralism is most evident in WREA's and NLMA's inability to link hydropower development as an integral part of the country's water resources and land management policy (both in terms of EIA review and land concession agreement). In Cambodia, hydropower development is directed primarily by MIME, with limited involvement from MoWRAM and MoE. Like WREA, MoE plays an important role in reviewing the EIA for hydropower projects. Yet, it lacks access to the overall decision-making process not only with regard to project sites selection, but also in defining the overall scope of hydropower development as part of the country's power system planning. Similarly, in Vietnam, though river basin planning occurred extensively through different administrative level involving different government agencies both at national and provincial level, the planning still follows sectoral development approach with hydropower, water resources and environment aspects separated from one another. Thus, while each government agency is equipped with its (cross) sectoral mandates, tasks and responsibilities, during the policy implementation the actual compilation of these mandates, tasks and responsibilities results in unclear operational boundary and to a certain extent a condition for power vacuum. This power vacuum is most apparent in all three LMB countries when hydropower projects proceed following primarily private sector actors' investment interest, rather than any existing plan defined by the countries governments.

The state of legal pluralism which reflects the current 'problem' in hydropower policy formulation and implementation in the three Lower Mekong Basin (LMB) countries is rooted in the overall shortcomings of power systems planning at national level, in which hydropower sector planning is part of. In both Lao PDR and Cambodia, hydropower planning is reduced to 'project development list' comprised of potential hydropower projects private investors can select to invest, construct and operate regardless of their strategic/actual significance for the country's development in general. Similarly, in Vietnam, the application of existing plan in hydropower development is determined mainly by the funding availability (often come from the private sector actors). In this context, hydropower planning is approached as a means to increase private investors' involvement in the sector development, projected to have positive effects on the country's economic growth as the government's underlying rationale in hydropower development.

The government's rationale in hydropower development is shaped by several factors. First, the absence of power system planning in both Lao PDR and Cambodia should be understood within the context of each country's financial inability to develop its hydropower potential, and thus their reliance on private sector financing. In Lao PDR, the government attempts to cope with this lack of financial source by encouraging private sector actor as Independent Power Producer (IPP) to develop the country's hydropower potential. While integrated power system planning would be beneficial in shaping the country's development strategies for the long-run, given the current financial circumstances, the government's priority for IPP does not result in the formulation of such a plan. Similarly, while such a plan does exist in Vietnam, the plan materialization became problematic when private sector financing is required.

Second, in line with the country's national socio-economic development plan, hydropower sector is perceived as the country's economic means to increase economic growth (both through revenue collection and as major preconditions for economic development). In this context, cross-sectoral planning becomes less important as compared to the sector's role/ability to absorb private sector investments as to meet the government's investment targets. Put differently, the rationale to either regulate or plan is side lined by the need to encourage private sector investment in hydropower development to promote economic growth and increase export revenue. Government rules and regulations have the tendency to facilitate private investors' interests rather than to strictly regulate and control their conducts, as government depends on the incoming financial sources to generate export revenue and increase economic growth.

The state of legal pluralisms, the condition for power vacuum, and the rationale behind power sector development in LMB countries allow private actors to assert its dominance in shaping the overall implementation of hydropower projects, hardly linked with the national hydropower development plan (even when such plan exists like in the case of Vietnam). Private sector actors become the ad-hoc decision makers in hydropower development context, through their direct role in shaping rules and procedures at the project level.

## 5.2. Opportunities

Within the context of private sector dominance vis-à-vis the state of legal pluralism in Mekong hydropower development, we identified the following opportunities, entry points to improve current linkages between hydropower development and people's livelihoods.

First, we highlight the importance of government's investment strategies as one of the driving factors behind current rapid speed of hydropower development. In Lao PDR, for instance, the government's attempt to shape the revenue development sustainably follows the logic of: economic growth leads to increase in revenue collection and poverty reduction. This logic prompts the government to be very active in building up and strengthening the conditions for economic growth. It also determines GoL's strategy to eradicate poverty by ensuring sufficient investment from the private sectors, assuming that this investment will automatically ensure economic growth and reduce poverty. The question remains, however, how economic growth, revenue collection and poverty reduction can be optimally linked. Sustainable hydropower should be focused on accommodating direct linkages between government's revenue collection and poverty reduction funds. At present, this link is present in almost all government's general policies, but remains vague in terms of policy application. Within the energy sector, the role of hydropower in poverty reduction can be clarified by linking revenue from IPP with government's budget for rural electrification.

Second, we highlight the potential importance of public participation as decisive element to shape better linkages between hydropower development and people's livelihoods in future hydropower decision-making processes. Public participation was mentioned in the existing policies and legal frameworks as a crucial element to be included in the overall process of hydropower development projects primarily related to impact assessment, resettlement, mitigation measures and environment management and monitoring plan. At present, public participation occurred mainly at project level, as designed, arranged, conducted, and monitored by private sector actors. The actual significance of public participation could be increased by enlarging its scope and coverage beyond the procedural context of hydropower development project. Public participation should be anticipated not only during the course of hydropower development project, but also during the project actual operation as such that it could

improve local population's (especially the affected people) access to the overall decision-making process with regard to hydropower dam operation.

Third, we identify the importance of incorporating the EIA as an integral part of hydropower project feasibility study. As it became evident from the policy review and institutional analysis, EIA was formulated as a separate entity in hydropower development, not linked to cost-benefit analysis conducted by private sector actors in their feasibility study. The disintegration significantly reduces EIA's potential role in shaping the overall design of hydropower development projects (i.e. selection criteria in dam design). As the EIA often was formulated at a later stage in hydropower decision-making process, it acts merely as a mitigation measure, with no potential role to influence the overall process of hydropower dam design, construction, and operation, if not downplaying the overall assessed impacts altogether.

Last but not least, we identified the issue of land titling as a potential entry point and a means to give greater voice to rural community and potentially affected people to hydropower decision-making processes in particular, and other development-related interventions in general. As the current situation shows that most land in the rural areas do not have any legal titles. This condition highlights the vulnerable position of the rural community that uses the land vis-à-vis hydropower development projects' interest in terms of land concession.

### **5.3. Recommendations**

Based on the defined opportunities, the following recommendations are proposed.

First, linkages between government's strategy to promote economic growth and government's objective to reduce poverty should be made more explicit in terms of policy formulation and implementation. The establishment of Poverty Reduction Fund (PRF), for instance should be accompanied with structural measures to address poverty linking government revenues from hydropower with government expenditure in relevant sectors (health and education).

Second, in line with the basic principles in the country's national socio-economic development plans (decentralization, good governance), we proposed that the issue of public participation in hydropower development projects to be mainstreamed as part of general awareness campaign. Local population and potentially affected people should be made aware about the existing rules and procedures in hydropower development in relation to their rights and access to natural resources (land, water and the environment). Currently, this awareness raising took place within each individual project set-up, conducted under the leadership of private sector actors (the respective power companies). While this current set-up indirectly obliges private sector actors to follow the defined rules and procedures, it also highlights the potential conflict of interest that might occur when private sector actors become the only de-facto decision maker in shaping the overall process of public participation.

The proposed awareness raising program could be initiated at district and provincial level, with involvement from district/provincial government, civil society groups and others with direct access to village communities where hydropower projects were proposed or planned. Elements of the awareness raising program should include basic information with regard to project procedures and rules in relation to compensation arrangements, formulation of mitigation and environment management plan. In addition, spatial mapping exercise should form an integral part of the program, in terms of improving local population's ability to project future impacts from hydropower development. Last but not least,

this awareness raising program should be structurally supported by better information disclosure applied by government agencies at different administrative levels.

Third, EIA formulation and review should be incorporated into the project's feasibility studies. While the incorporation can be considered as a structural issue, its application does not require structural revision of the existing policies and legal framework. Current policies, rules and regulations on EIA can still be applied accordingly. It is the sequence of the EIA formulation and review that need to be moved up the hydropower development procedural ladder. The idea to change the sequence of EIA review should be presented to the relevant government agencies in hydropower development. In Lao PDR, for instance, the idea can first be presented to Water Resources Environment Administration (WREA) and Ministry of Energy and Mines (MEM), prior to more general discussion led by the Ministry of Planning and Investment (MPI) involving other government agencies.

Finally, in line with the issue of land titling we suggested the provision of sufficient budget to ensure the completion of current land titling program in the rural area. Furthermore, we propose the incorporation of the agency responsible for approving land concession as part of the negotiation processes in the different stages of hydropower development (i.e. concession agreement, project development agreement).

## REFERENCES

- Anderson EP, Pringle C & Rojas M. 2006. *Transforming tropical rivers: an environmental perspective on hydropower development in Costa Rica*. Aquatic Conservation: Marine and Freshwater Ecosystems, vol. 16, pp. 679-693
- Andersson E, Nilsson C & Johansson ME. 2000. *Effects of river fragmentation on plant dispersal and riparian flora*. Regulated Rivers: Research and Management, vol. 16, pp. 83-89.
- Asian Development Bank. 2000. Country Report: Cambodia WATER RESOURCES MANAGEMENT IN CAMBODIA. <http://www.adb.org/water/NARBO/2004/Training-Program/country-report-CAM-MWRM.pdf>
- Asian Development Bank. 2007. Compensation and Valuation in Resettlement - Cambodia, People's Republic of China, and India
- Baird, Ian G. 2009. Best Practices in Compensation and Resettlement for Large Dams: The Case of the Planned Lower Sesan 2 Hydropower Project in Northeastern Cambodia. Rivers Coalition in Cambodia, Phnom Penh.
- Baird, Ian G. 2009. *The Don Sahong Dam: Potential Impacts on Regional Fish Migrations, Livelihoods and Human Health*. POLIS Project on Ecological Governance.
- Baltzer et al. 2001. *Towards a vision for biodiversity conservation in the Forests of the Lower Mekong Ecoregion Complex*. Hanoi: WWF Indochina Program.

Baran E., P. Starr, and Y. Kura. 2007. Influence of built structures on Tonle Sap fisheries. Cambodia National Mekong Committee and the WorldFish Center. Phnom Penh, Cambodia. 44 p.

Bernez I, Haury J, & Ferreira MT. 2002. *Downstream effects of a hydroelectric reservoir on aquatic plant assemblages*. Proceedings of the 2<sup>nd</sup> Symposium on European Freshwater Systems.

Bunn S and Arthington A. (2002). *Basic principles and ecological consequences of altered flow regimes for aquatic biodiversity*. Environmental Management, vol. 30, pp. 492-502.

Cambodia Development Policy Research Institute. 2008. Framing Research on Water Resources Management and Governance in Cambodia: A Literature Review. Working Paper 37. Phnom Penh, Cambodia. 50 pages. [www.cdri.org.kh/webdata/download/wp/wp37e.pdf](http://www.cdri.org.kh/webdata/download/wp/wp37e.pdf)

Daufresne M and Boet P. 2007. *Climate change impacts on diversity of fish communities in rivers*. Global Change Biology, vol. 13, pp. 2467-2748.

Do Duc Quan, Deputy Director General of Energy (Power) Department, MOIT. Presentation to Workshop on Power Development, 7<sup>th</sup> January 2010

Dudgeon D. 2000. *Large scale hydrological changes in tropical Asia: Prospects for biodiversity*. Bioscience, vol. 50, pp. 793-806.

FIVAS (2007) *Ruined river, Damaged lives: Impacts of the Theun-Hinboun Hydropower Project on Downstream Communities in Lao PDR*. The Association for International Water Studies.

Foran T., Wong T. and Kelley S. 2010. Mekong hydropower development - a review of governance and sustainability challenges. M-POWER Research Network. Final Draft. Pp. 68. [http://www.mpowernetwork.org/Knowledge\\_Bank/Key\\_Reports/PDF/Research\\_Reports/Foran\\_Wong\\_Kelley\\_2010.pdf](http://www.mpowernetwork.org/Knowledge_Bank/Key_Reports/PDF/Research_Reports/Foran_Wong_Kelley_2010.pdf)

Grainne Ryder. 2009. Powering 21st Century Cambodia: A Primer for Rethinking Cambodia's Electricity Future. The NGO Forum on Cambodia and Probe International. 141p. [http://cmsdata.iucn.org/downloads/mekong\\_region\\_water\\_resources\\_decision\\_making.pdf](http://cmsdata.iucn.org/downloads/mekong_region_water_resources_decision_making.pdf)

Griffiths J. 1986. What is legal pluralism? *Journal of Legal Pluralism* Vol. 24:1-55.

Guillet D. 1998. Rethinking legal pluralism: local law and state law in the evolution of water property rights in Northwestern Spain, *Comparative Studies in Society and History* Vol. 40 (1): 42-70.

ICEM (2003) *Vietnam national report on protected areas and development*. Indooroopilly: Review of Protected Areas and Development in the Lower Mekong River Region.

ICEM (2007) Pilot Strategic Environmental Assessment in the Hydropower Sub-sector, Vietnam. Final Report: Biodiversity Impacts of the hydropower components of the 6th Power Development Plan.

Prepare for The World Bank, MONRE, MOI & EVN, Hanoi, Vietnam.

ICEM (2008) Strategic Environmental Assessment of the Quang Nam Province Hydropower Plan for the Vu Gia-Thu Bon River Basin, Prepared for the ADB, MONRE, MOITT & EVN, Hanoi, Vietnam.

International Energy Agency Implementing Agreement for Hydropower Technologies and Programs Annex III: Hydropower and the Environment: Present Context and Guidelines for Future Action. Volume I: May 2000. Pg. 9-12 [In "Continental Energy Sector Issues" the Canadian Energy Research Institute 2004]

Jansson R, Nilsson C, and Renöfält B (2000) Fragmentation of Riparian Floras in Rivers with Multiple Dams. *Ecology*: Vol. 81, No. 4, pp. 899-903.

Jansson R. 2002. *The Biological Cost of Hydropower*. Prepared for Coalition Clean Baltic.

Ledec G and Quintero JD. 2003. *Good Dams and Bad Dams: Environmental Criteria for Site Selection of Hydroelectric Projects*. Prepared for The World Bank.

Meach Mean 2008. The Lower Sesan 2 Dam: Potential impacts of relocation on affected communities. EarthRight Mekong School, Earth Rights International, Stung Treng, Cambodia.

Middleton, C. 2008. Cambodia's Hydropower Development and China's Involvement International Rivers and the Rivers Coalition in Cambodia. 77p.

Middleton, C. and Chanthy, S. 2008. Chinese Involvement in Cambodia's Hydropower Sector. Presentation made at the Royal University of Phnom Penh on 18 January 2008.

<http://www.internationalrivers.org/files/Cambodia%20hydropower%20and%20Chinese%20involvement%20Jan%202008.pdf>

Ministry of Industry, Mines and Energy. 2003. Renewable Energy Action Plan. Phnom Penh, Cambodia.

Ministry of Industry, Mines and Energy. 2007. Power System Development Plan (2007- 2022). Phnom Penh, Cambodia.

Ministry of Planning. 2011. Achieving Cambodia's Millennium Development Goals: Update 2010. [http://www.un.org.kh/undp/knowledge/publications/cambodia-millennium-development-goals-report-2010?app\\_id=1](http://www.un.org.kh/undp/knowledge/publications/cambodia-millennium-development-goals-report-2010?app_id=1)

Ministry of Water Resources and Meteorology. 2006. Strategic Development Plan 2006-2010. Phnom Penh, Cambodia.

MOSTE (1995) Biodiversity Action Plan for Vietnam, Ministry of Science, Technology and Environment, Government of Vietnam

Nilsson C and Berggren K. 2000. *Alterations of riparian ecosystems caused by river regulation*. *Bioscience*, vol.50, pp. 783-792.



Nilsson C., Reidy A., Dynesius M., and Revenga C. (2005). *Fragmentation and Flow Regulation of the World's Large River Systems*. Science, vol. 308, pp. 405-408.

Öjendal J., Mathur V. and Sithirith M. 2002. Environmental Governance in the Mekong: Hydropower Site Selection Processes in the Se San and Sre Pok Basins. Stockholm Environment Institute. Report Series No. 4. 72p.

Ovesen, Jan, Ing-Britt Trankell and Joakim Öjendal. 1996. When Every Household is an Island: Social Organization and Power Structures in Rural Cambodia, Uppsala Research Reports in Cultural Anthropology #15, Department of Cultural Anthropology, Uppsala University, Stockholm, Sweden.

Peter King, Jeremy Bird, Lawrence Haas. 2007. The Current Status of Environmental Criteria for Hydropower Development in the Mekong Region - A Literature Compilation. Asian Development Bank, Mekong River Commission Secretariat and WWF. pp. 143.

Robert A. R. Oliver, Patricia Moore and Kate Lazarus, eds. (2006). Mekong Region Water Resources Decision-making: National Policy and Legal Frameworks vis-à-vis World Commission on Dams Strategic Priorities, IUCN, Bangkok, Thailand and Gland, Switzerland. x + 98pp.

Royal Government of Cambodia. 2003. National Development Policy (2003 to 2008). Phnom Penh, Cambodia.

Royal Government of Cambodia. 2004. National Water Resources Policy. Phnom Penh, Cambodia.

Royal Government of Cambodia. 2004. Rectangular Strategy for Growth, Employment, Equity and Efficiency. Phnom Penh, Cambodia.

Royal Government of Cambodia. 2010. Rectangular Strategy for Growth, Employment, Equity and Efficiency. Phase II. Phnom Penh, Cambodia.

Royal Government of Cambodia. 2006. The National Strategic Development Plan 2006-2010. Phnom Penh, Cambodia.

Royal Government of Cambodia. 2009. Declaration of the Royal Government on Land Policy. Phnom Penh, Cambodia.

Royal Government of Cambodia. 2010. Achieving Cambodia's Millennium Development Goals, Update 2010. Ministry of Planning, Phnom Penh, Cambodia.

Royal Government of Cambodia. 2010. The National Program for Sub-National Democratic Development 2010-2019. Phnom Penh, Cambodia.

Sheaves M. et al (2008) *Ecological attributes of a tropical river basin vulnerable to the impacts of clustered hydropower developments* Marine and Freshwater Research 59(11) 971–986

Soussan J. et al (2009) *Harnessing Hydropower for Development: A Strategic Environmental Assessment for Sustainable Hydropower Development in Vietnam*, Stockholm Environment Institute

(SEI), Stockholm, Sweden

The NGO Forum on Cambodia. 2010. Compilation of NGO Submissions to Line Ministries/Agencies as the NGO Comments on the First Draft NSDP Update 2009-2013. Pp93. [http://www.ngoforum.org.kh/eng/dip/olddipdocs/DPP\\_compiled-comment-NSDP%20update%2027%20Jan%202010\\_Eng\\_Final.pdf](http://www.ngoforum.org.kh/eng/dip/olddipdocs/DPP_compiled-comment-NSDP%20update%2027%20Jan%202010_Eng_Final.pdf)

Tordoff A. et al (2002) *Sourcebook of Existing and Proposed Protected Areas in Vietnam: Second Edition BirdLife in Indochina*, Vietnam Programme / MARD / World Bank / Royal Netherlands Gov.

Tordoff, A. W. ed. (2002) *Directory of Important Bird Areas in Vietnam: key sites for conservation*. Hanoi: BirdLife International in Indochina and the Institute of Ecology and Biological Resources.

Tordoff, A. W., Baltzer, M. C., Davidson, P., Fellowes, J., Ha Quy Quynh and Tran Thanh Tung (2007) *Ecosystem Profile: Indo-Burma Biodiversity Hotspot, Indochina Region*. Washington DC: Critical Ecosystem Partnership Fund.

UNESCO. 2007. The National Strategic Development Plan Cambodia, 2007. Development strategies that work Country experiences presented at the ECOSOC Annual Ministerial Review. <http://webapps01.un.org/nvp/frontend!policy.action?id=76> University of Gothenburg. 2009. Cambodia Environmental and Climate Change Policy Brief. School of Business, Economics and Law.

Whitten, A. and Kottelat, M. (1996) *Freshwater biodiversity in Asia: with special reference to fish*. World Bank Technical Paper No. 343. Washington D.C.: The World Bank.

World Bank. 2006. Environmental Impact Assessment Regulations and Strategic Environmental Assessment Requirements Practices and Lessons Learned in East and Southeast Asia. Safeguard Dissemination Note No. 2. Pp. 74 <http://www.worldbank.org/eapenvironment/sea-asia>

World Bank 2010, The Vietnam Development Report 2010: Modern Institutions

World Bank 2011, The Vietnam Development Report 2011: Natural Resource

World Commission on Dams (WCD). 2000. *Dams and Development – A New Framework for Decision Making*. 404pp

WWF (2007) Implementing Landscape conservation – Ecoregional conservation in a priority landscape in Vietnam: An assessment of the WWF MOSAIC project in Quang Nam Province, Vietnam

Zhai Hong Juan et al (2007) *Regional ecosystem changes under different cascade hydropower dam construction scenarios in the LRGR* State Key Joint Laboratory of Environmental Simulation and Pollution Control, School of Environment, Beijing Normal University.

## **ANNEX 1: NATIONAL LAWS AND OTHER LEGAL INSTRUMENTS RELATED TO RESETTLEMENT (VIETNAM)**

1. The main National Laws and other Legal Instruments related to resettlement include the following
2. Land Law of Vietnam issued on July 14, 1993. Amendment Law issued on November 26, 2003.
3. Decree No. 197/2004/ND-CP by the Government, dated on December 03, 2004 on compensation, support and resettlement when land is reclaimed by the Government.
4. Decree No. 181/2004/ND-CP by the Government, dated on October 29, 2004 on implementation of Law of land 2003.
5. Decree No. 188/2004/ND-CP by the Government, dated on November 16, 2004 on method for defining price of land and price schedule for types of land.
6. Circular No. 114/2004/TT-BTC by Ministry of Finance, dated on November 26, 2004 on instructions for implementation of Decree No. 188/2004/ND-CP by the Government, on method for defining price of land and price schedule for types of land.
7. Circular No. 116/2004/TT-BTC by Ministry of Finance, dated on November 26, 2004 on instructions for implementation of Decree No. 197/2004/ND-CP by the Government, on compensation, support and resettlement when land is reclaimed by the Government.
8. Decree No. 64/CP by the Government, dated on September 27, 1993 on hand-over of agriculture land for households and individuals for long-term use of agricultural production purposes.
9. Circular No. 05/BXD-DT by Ministry of Construction, dated on February 9, 1993 on instructions for definition of area in use and grading of houses.
10. Decision No. 132/2002/QD-TTG by the Prime Minister, dated on October 8, 2002, on solutions of production land for minority people in Mid-Highland.
11. The Grassroots Democracy Decree 79/ND-CP, issued in 2003, aimed to increase community participation in local decision-making, especially planning and budgeting.
12. Decree 33 and, Guideline 2215 to provincial Departments of Planning and Investment for “Rolling-out the development of the provincial socio-economic plan taking into account the Comprehensive Poverty Reduction and Growth Strategy” issued by MPI in April 2004.
13. The Revised State Budget Law came in force in January 2004. This new law simplifies but strengthens the legal arrangements between central and local levels.
14. Decision 80 on the establishment of Community Supervision Boards was issued by the Ministry of Home Affairs In 2005, to improve the role of the community in decisions about infrastructure selection, implementation, supervision and monitoring.
15. Decree No. 12/2009/ND-CP issued by the Government 10 February 2009 is to improve the decentralization of investment management and construction. The Decree 12/2009/ND-CP states that: depending on particular conditions of each locality, the chairman of the provincial people committee will specify the chairman of district and commune people committee to make decision on investment into projects with fund financed by the state banks
16. Decree No. 84/2007/ND-CP dated 25 May 2007, additionally stipulating the grant of land use right Certificates, recovery of land, exercise of land use rights, order and procedures for compensation, support and resettlement upon land recovery by the State, and settlement of land-related complaints.
17. Circular No.69/2006/TT-BTC dated 02 August 2006, amending and supplementing the Finance Ministry's Circular no. 116/2004/TT-BTC of December 7, 2004, which guides the implementation of the Government's Decree no. 197/2004/ND-CP of December 3, 2004, on compensation, support and resettlement upon land recovery by the state.
18. Decree No.17/2006/ND-CP dated January 27, 2006, amending and supplementing a number of articles of the Decrees guiding the implementation of the Land Law and Decree No. 187/2004/ND-

CP on transformation of state companies into joint-stock companies.

19. Circular No.06/2007/TT-BTNMT dated 02 July 2007 guiding the implementation of a number of article of decree 84/2007/ND-CP dated 25/05/2007 providing additional regulations on granting land use right certificates, retrieving land, paying compensation, resettling, settling complaints and denouncements.
20. Circular No.126/2007/TT-BTC dated 30 October 2007 guiding the formulation of the cost estimation, utilization and liquidation of the cost for the implementation of compensation, support and resettlement for the construction of transportation works over the administrative areas of difficult regions.

## **ANNEX 2: INSTITUTIONAL ARRANGEMENTS OF RELEVANCE TO HYDROPOWER DEVELOPMENT**

Vietnam's administrative structure is divided into four levels of government: (1) national level, (2) province (*tin*) and city (*thanh po*), (3) rural district (*huyen*), urban district (*quan*) and town (*thi xa*), (4) ward/precinct (*phuong*), town districts (*thi tran*) and communes (*xa*) and village (*thon*) and hamlet (*xom, ap*) in rural areas.

The national level includes the National Assembly, the President, the Government and its various Ministries and agencies, the People's Supreme Court and the Supreme People's Procuracy. Each level of state administration at the local government level (*i.e.*, province, district and commune) has a corresponding People's Council and People's Committee, with the People's Council being the administrative agency of the state in the locality with the People's Committee being its executive agency.

The main institutions of relevance to hydropower development and its environment and social implications are described in this annex.

### **Ministry of Natural Resource and Environment (MONRE)**

At the National level, MoNRE, which was established by the National Assembly in 2002, leads environmental management in the country. Article 121, chapter 13 of 2005 LEP (No. 52-2005-QH11) outlines the responsibilities of MoNRE for State administration of environment protection. It also mandates that all ministries, ministry-level agencies and other Government bodies to cooperate with MoNRE in carrying out environmental protection within their sectors and in establishments under their direct supervision.

In order to guide the implementation of the 2005 LEP, the Government issued Decree No 81/2007/ND-CP on 23 May 2007 on regulating professional units on environment protection at authorities and state-owned enterprises. According to this decree, a Department of Environment will be established within Ministry of Industry and Trade (MOIT), Ministry of Agriculture and Rural Development (MARD), Ministry of Health, Ministry of Construction (MOC), and Ministry of Transport and Ministry of Fisheries (which has now been subsumed under MARD). In other ministries and/or ministerial level organizations where Departments of Science and Technology exists, these departments will be renamed as Departments of Science, Technology and Environment. These departments will assist the ministers in promulgating and

implementing environmental protection laws, programs and projects in the fields of their state management. To date, some of the Ministries have not established their own Environment Department, as is the case of the MoC.

In 2008, the Prime Minister issued a decree mandating the functions, tasks, powers, and the new organizational structure of MoNRE.<sup>96</sup> The decree upgrades the former Vietnam Environment Protection Agency (VEPA) of MoNRE into a General Department of Environment (to be the Vietnam Environment Administration [VEA]) which will function like a small ministry within MoNRE with its own departments (including an international department), institutes, and centers. In September 30, 2008, the Prime Minister issued Decision No. 132/2008/QD-TTg defining the functions, tasks, powers and organizational structure of the VEA. Under this decision, the VEA acts as a subsidiary body under MoNRE and functions to advise and assist MoNRE in the field of state management of environment and to provide public services in compliance with the laws.

Overall the Ministry of Natural Resource and Environment (MONRE) is responsibility for drafting and management of policy and strategy on natural resources and environment approved by the National Assembly and Prime Minister. The main sectors under MONRE management (including providing guidance to other sectors) are:

- (i) *Land use planning*, land allocation, compensation for resettlement
- (ii) *Water resource management*: water resource planning and strategy, water resource management and utilization, water use license, standing body of National Council on Water Resource, and MeKong River Committee of Vietnam.
- (iii) *Mineral resource mangement*: conduct mineral resource inventory study, mining license,
- (iv) *Environment*: monitoring of nature protection, biodiversity conservation, environmental quality, national standards on environment and waste; national reporting on the state of environment, guidance and systems for Strategy Environment Assessment and Environment Impact Assessment, monitoring environment protection commitments and management plans, managing the Vietnam Environment Fund.
- (v) *Hydro Meteorology* system and climate change
- (vi) *Mapping* and topographical survey
- (vii) *Marine systems and islands* resource management

MONRE has 3 business companies, 14 public service organizations, 9 departments, 5 agencies, and three General Agencies such as the Vietnam Biodiversity Agency. Entities most related to hydropower development are the Vietnam Environment Protection Agency – now Vietnam Environment Administration (approving SEA and EIAs), Agency for Water Resource Management, the General Agency for Land Management (ie land allocation and resettlement). A structure diagram of MONRE appears at Figure 2.1.

### **Vietnam Environment Administration**

The VEA includes the Departments of Environmental Assessment and the new Vietnam Biodiversity Agency (Figure 2.2)

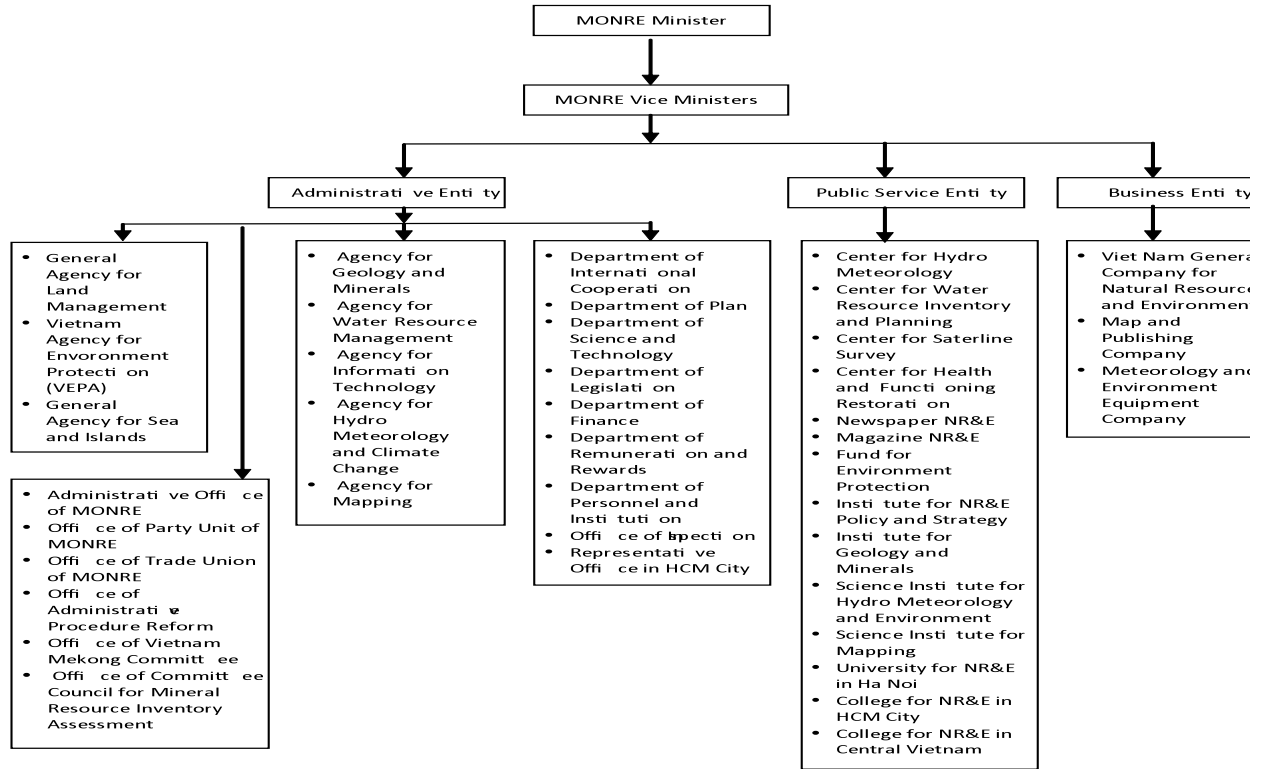


Figure 2.1: MONRE organization structure

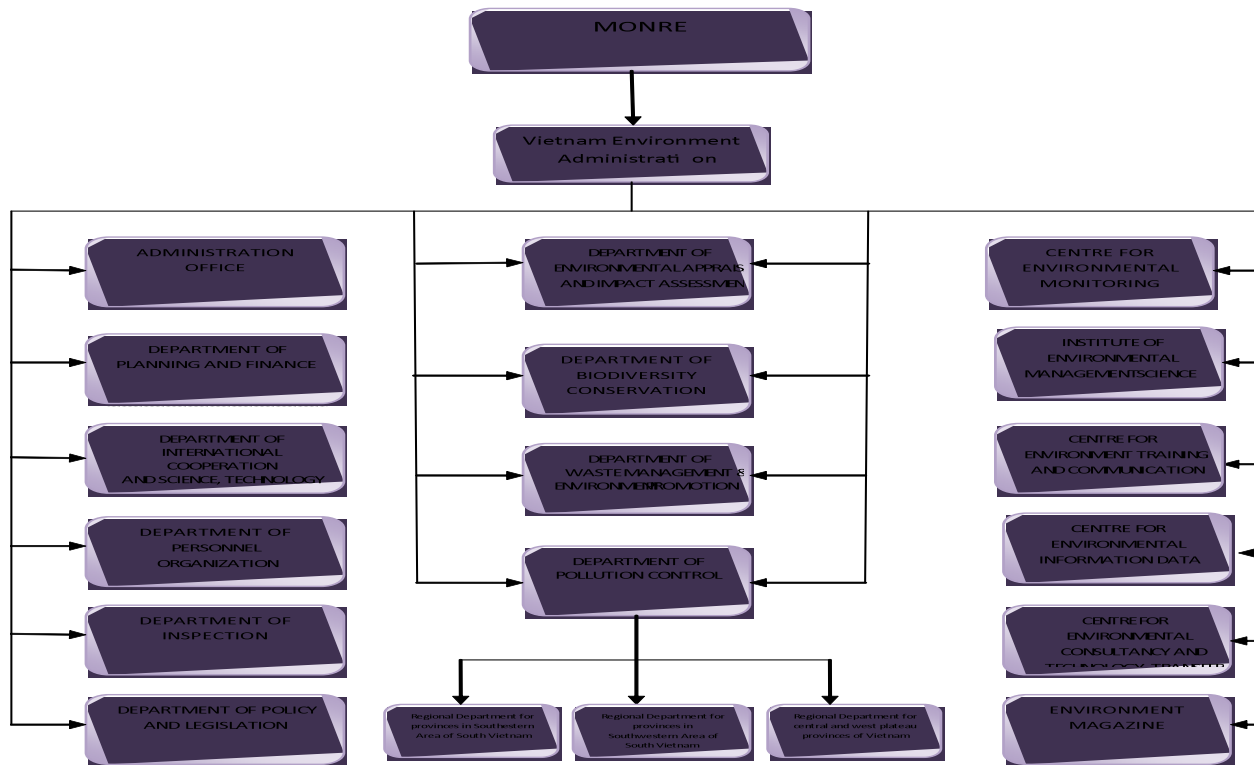


Figure 2.2: VEA organization structure

### **Ministry of Industry and Trade (MOIT)**

The Ministry of Industry and Trade (MOIT) is responsible for administrative management of industry and trade covering the key sector of energy development. Like other ministries it has responsibilities for drafting law and policy within its mandate for submission to government for approval. It prepares National Master Plans and Development Strategies covering its sectors. It also appraises regional economic development strategies for the industrial and energy concerns. MOIT is responsible for issuing decisions, technical norms and guidance on implementing government approved industry and power development policy. It is required to provide guidance on licensing in electricity production and to monitor performance.

Overall it is the main authority behind electricity, power and renewable energy development. It must review and endorse the national power development plan prior to submission to government and it approves power development plans of provinces. MOIT announces the list of electricity projects calling for investment and prepares the electricity price framework for government approval. Linked functions include approval of the new energy and renewable energy master plan and associated implementation oversight. Figure 2.3 provides a structure diagram of MOIT and ministerial responsibilities.

MOIT is a large ministry – but only a few of its functions have direct relevance to this study. Minister Vu Huy Hoang has direct responsibility for the energy sector including state management of Vietnam National Oil and Gas Group (PetroVietnam), Electricity of Vietnam (EVN), and Vietnam National Petroleum Corporation (PETROLIMEX). Deputy Minister Hoang Quoc Vuong supports the Minister in direct state management of Electricity of Vietnam and has oversight of the Energy Department, Electricity Regulatory Authority, and the Agency for Industrial Promotion and Industrial Safety Techniques and Environment Agency.

The MOIT Industrial Safety Techniques and Environment Agency was established in 2008<sup>97</sup> to:

- a) Develop and organize the implementation of programs, plannings, plans, projects, and proposals of environmental protection in industry and trade; participate in appraising general reports surveying and assessing strategies, plannings, and plans of appropriate exploitation and use of natural resources and environmental protection within the management scope of Ministry of Industry and Trade;
- b) Direct, guide, manage and control wastes, environmental incident response and prevention, environmental pollution control, environment restoration; and provide information and reports of environment situation in accordance with laws;
- c) Organize appraisal and submit to the Minister for approval of strategic environmental assessment reports, and environmental impact assessment reports;
- đ) Take the lead in coordinating units or agencies under related Ministries and bodies for guiding implementation of environmental protection requirements;
- e) Guide and organize implementation of environmental monitoring; collect statistics and manage the environmental database system in the sector that supports state management tasks of the Ministry;

g) Take the lead in managing the environmental protection network in agencies and businesses within the management scope of the Ministry.

The Agency has Department of Environmental Impact Assessment and Appraisal and Department of Environmental Management.

### **Electricity of Vietnam (EVN)**

Electricity of Vietnam (EVN) is a state-owned enterprise established in 1995. It is engaged in generation, transmission and distribution of electricity in the whole country. EVN is a large complex of business units and services in the process of privatization. For example, EVN's electricity generating units are being transformed into independent companies and, eventually, the creation of a fully competitive electricity market is envisaged – but the process is slow. In anticipation, a new power sector regulator (ERAV) has been created.

EVN has 93 member entities, including 27 branches, 39 companies, 5 public service organization and 22 joint-venture companies. In 2005, EVN's gross turnover was 40,600 billion VND (more than \$2.5 billion), with the profit of 3,200 billion VND (\$200 million). Currently, the total value of the corporation is 115,707 billion VND (approximately over \$7 billion). There are about 80,000 employees, in which 50,000 are working in the area of electricity and telecommunications sales in all cities and provinces of Vietnam. Now, EVN has 7 power companies and 5 consulting entities (including the Institute of Energy and the PECs which conduct environment studies), 9 thermo and hydroelectric plants, 5 transmission entities, 2 companies producing power equipment and 3 power vocational schools. EVN Telecom is also an independent member of the corporation.

The EVN oversees the various entities or business units engaged in generation, transmission, distribution, and associated service functions along commercial lines. These business units are grouped as either dependent (generation and transmission entities attached to EVN accounts) or independent accounting units (distribution and supply entities detached from EVN accounts). In spite of strong government regulation of power tariffs, the EVN is capable of raising profits out of its operations and to source external funds subject to approval of appropriate government agencies for infrastructure development, network expansion, and human resource management.

Dependent accounting units under EVN include the National Load Dispatch Center, fourteen main power plants, four transmission companies, and the Institute of Energy. The independent accounting units are seven distribution power companies, four design and engineering companies, two power equipment manufacturing companies, and one electric telecommunication company.



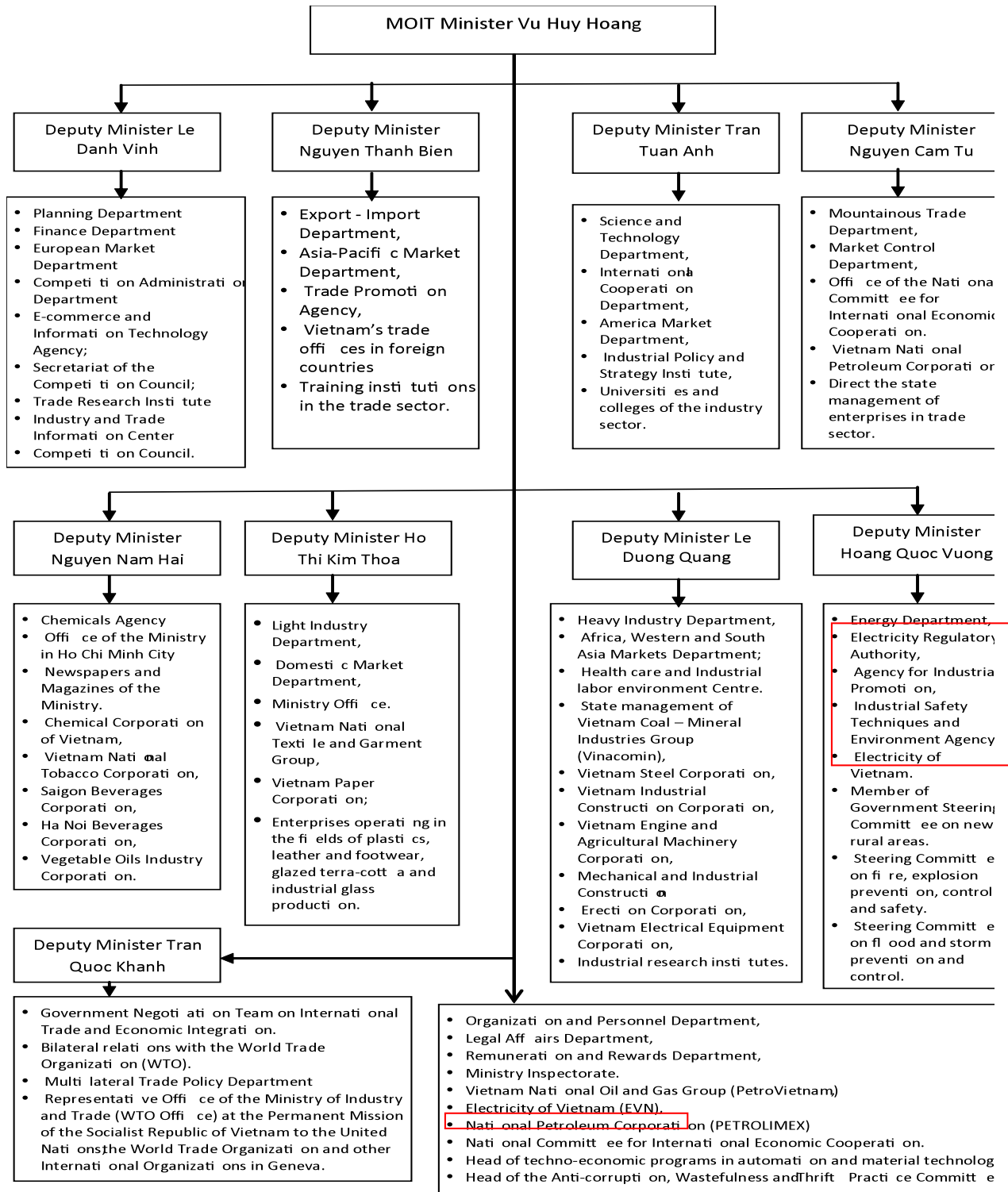


Figure 2.3: MOIT organization structure

EVN has a small environment division as well as the four consulting companies which conduct all its environmental assessments and resettlement plans. The PECCs are described below.

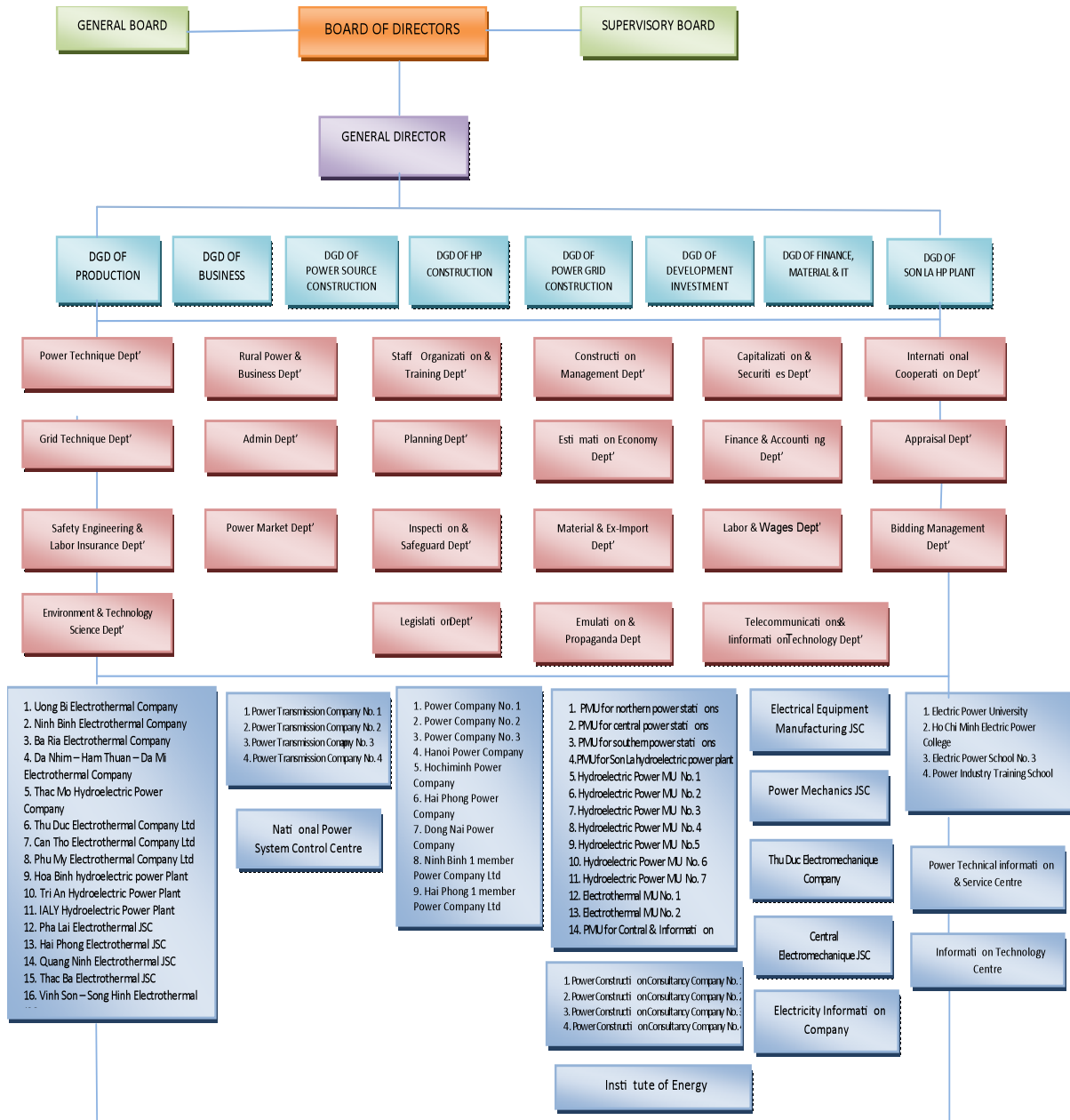


Figure 2.4: EVN organization structure

Source: <http://www.pecc1.com.vn/images/sodoevn.html>

## **The Institute of Energy**

The Institute of Energy falls under EVN with the intention of making it an independent institute. Currently there is the anomalous situation where EVN is the planner and developer of Vietnam's power sector, including preparation of the national power development plan through IE. The Institute functions as an expert advisory group on energy policy and technologies. Increasingly IE operates as a consulting company involved in bids for power development and planning projects. Its functions include:

- Prepared national energy demand forecast in the period up to 2025 by economic sector and by primary and final energy.
- Prepared Master Plans on National Electric Power Development, preparing Sixth Master Plan on National Electric Power Development (2006 - 2015, perspective up to 2025) and the current Seventh Master Plan including large and medium hydropower
- Prepared master plan on national electrification and rural electrification.
- Prepared power development plans for provinces, cities including Hanoi Capital, Ho Chi Minh city, large industrial areas such as Dung Quat, Ba Ria – Vung Tau along the road 51 in Ba Ria – Vung Tau province, territorial areas such as the north- west area, triangle area of 7 provinces on border lines between Vietnam-Laos, Vietnam-Cambodia and hundreds of districts, towns throughout the country.
- Prepared report on small hydropower development planning for the whole country.
- Involved in research on and making proposals to the Government on national energy policies.
- Conduct assessment of potential and effective exploitability of primary energy resources such as coal, oil & gas, hydro, nuclear, renewable energies etc.
- Prepared PFS and FS reports of many power generation projects which use different fuels (coal, oil, gas) and different technologies (steam turbines, gas turbine combined cycle, diesel) of which there are some important projects such as Uong Bi extension TPP, Hai Phong TPP, Ninh Binh extension TPP, Hai Phong 2 TPP and some others with project owners outside power sector.
- Prepared technical design, total cost estimate, bidding documents and carried out EPC bid evaluation and EPC contract negotiation for Hai Phong 2x300 MW TPP, Ninh Binh 300 MW TPP. These are the first projects in which Institute of Energy carried out technical design of large power plants as a main designing consultant (sub-consultant was a foreign Consultant).

IE has a managing Council with 11 members, and technical divisions for:

- International cooperation
- Economic Forecast and Energy Demand Management
- Hydropower
- Center for Renewable energy and CDM
- Science and Technology
- High voltage electricity
- Electricity system development
- Consulting Center for Thermot, Nuclear Power and Environment
- Consulting Center for Energy and Technology Transfer

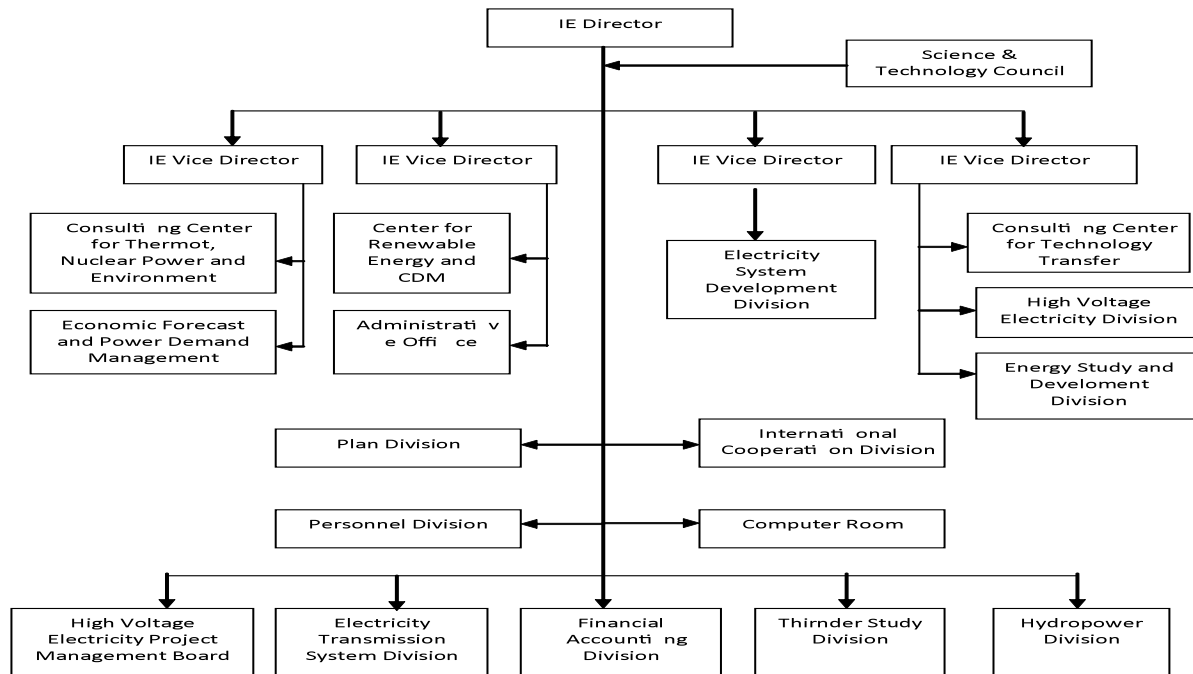


Figure 2.5: Vietnam Institute of Energy organization structure

### Power Engineering Consulting Joint Stock Company 3

The Power Engineering Consulting Joint Stock Company 3 is one of four consulting companies under EVN specialized in implementation of construction consultancy for power source and network projects such as thermal power plants, hydro power plants, power transmission lines, power substations, renewable energy projects and other industrial projects. The four PECCs are critical to the consideration of environmental and social issues in power development. To date they are the main entities taking on all the detailed work for environmental assessments and social studies relating to large and medium hydropower development in the country. They were to technical units of EVN but are now semi independent companies (Figure 2.6). Their functions include:

- Research and assessment of environment impact of projects (EIA).
- Planning compensation settlement, resettlement action plans (RAP), ethnic minority planning framework (EMDP), master planning on resettlement and compensation for power plant and power network projects.

The main functions of the PECCs include:

- Investigation, survey on topography, geology, hydrometeorology for power plant and network projects.
- Planning for power development in the provinces, cities, districts, towns, townships, industrial zones and power complexes.
- Design and total cost estimates of power plants, transmission lines, and substations projects from 15kV to 500kV.
- Advice for establishment of investment projects, design, cost estimates for energy projects.
- Advice for establishment of bidding documents, organization and evaluation of procurement, construction bidding documents in domestic and international.- Advisory for construction

- supervision, and project management of power plant and power network projects.
- Advice for appraisal of consultancy documents such as: planning, investment projects, technical design, cost estimate, detailed design drawings etc.
- Quality control and testing of construction materials.
- Advisory for fabrication of steel towers and concrete structures for power network and telecommunication & SCADA projects.- Advisory for monitoring the displacement of hydraulic works of hydro power plants, industrial and civil construction projects.
- Measuring and drawing land boundary, establishment of cadastral maps for land clearance of construction projects

The PECC 3 Information Technology and Environment Department is a separate department responsible for performing environmental impact assessment and compensation and resettlement plans of all thermal power, hydropower, wind power, transmission line and substation projects.

The IT&E Dept has prepared Environmental Impact assessments (EIA), Strategic environmental Assessments (SEA), Environmental protection commitment (EPC), Environmental management plans (EMP), Environmental protection schemes (EPS), Resettlement plans (RP), Social impact assessments (SIA), Ethnic minority development plans (EMDP), Master plan for the compensation, support and resettlement reports which fully complied Vietnam's laws and regulations as well as regulations of the international financial agencies such as the WB, JBIC, ADB and IFC.

Up to now, PECC3 had more than 30 EIA reports approved by MONRE and DONREs of provinces and more than 80 Environmental Standard Registration (ESR), EPC and EPS reports were ratified by local District people's committees.

Some projects with both EIA and RP were implemented from 2005 to 2008:

- Large and medium hydropower projects: Song Bung 4 (with installed capacity of 156MW – loaned by ADB), Song Bung 2 (100MW), Song Bung 3 (12MW), Song Bung 3A (20MW), Song Bung 4A (45MW), Song Bung 5 (85MW), Da M'Bri (70MW), A Luoi (150MW) and supplementary A Luoi (170MW), Nam Ngum 4 (225MW, Lao People's Democratic Republic), Eawy (5MW), Vinh Son 2&3 (92MW), Vinh Son 5 (18MW), Thuong Lo (10MW), Ta Luong (3 MW);
- Small scale hydropower plants planning project of Thua Thien – Hue, Ninh Thuan provinces and inspection consultant for Srepok 4, Dak Kong 1, Dong Nai 5, etc. projects.

