

# **Profile on Environmental and Social Considerations in Cambodia**

**December 2013**

**Japan International Cooperation Agency**

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## Abbreviations and Acronyms

ADB	Asian Development Bank
ADHOC	Cambodian Human Rights and Development Association
AFD	Agence Française de Développement
AIPP	Asia Indigenous Peoples Pact
AISC	Arsenic Inter-ministerial Sub Committee
AIT	Asian Institute of Technology
AP	Affected Persons
APSARA	Authority for the Protection and Management of Angkor and the Region of Siem Reap
ASEAN	Association of Southeast Asian Nations
BBC	British Broadcasting Cooperation
BD	Bidding Documents
BRP	Basic Resettlement Procedures
CAI-Asia	Clean Air Initiative for Asian Cities
CARD	Cambodian Agricultural Research and Development Institute
CBD	Convention on Biological Diversity
CC	Cadastral Commissions
CCC	Coral Cay Conservation
CCD	Climate Change Department
CCHR	Cambodia Center for Human Rights
CDC	Council for the Development of Cambodia
CED	Community Economic Development
CEDAC	Centre d'Etude et de Développement Agricole Cambodgien
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
CF	Community Forestry
CHRC	Cambodian Human Rights Committee
CI	Conservation International
CIA	Central Intelligence Agency
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CIYA	Cambodian Indigenous Youth Association
CLEC	Community Legal Education Center
CMAC	Cambodian Mine Action Centre

CNCC	Cambodian National Council for Children
CNMC	Cambodia National Mekong Committee
COMFREL	Committee for Free and Fair Elections in Cambodia
COMPED	Cambodia Education and Waste Management Organization
CPBC	Commune Planning and Budgeting Committee
CRDB	Cambodian Rehabilitation and Development Board
CRPD	Convention on the Rights of Persons with Disabilities
DANIDA	Danish International Development Agency
DCC	Department of Climate Change
DDT	Dichloro-diphenyl-trichloroethane
DED	Detailed Engineering Design
DFID	Department for International Development
DHRW	Department of Hydrology and River Works
DKCC	District/Khan Cadastral Commission
DMS	Detailed Measurement Survey
DoF	Department of Forestry
DoFi	Department of Fisheries
DPEC	Department of Environmental Pollution Control
DPWS	Department of Potable Water Supply
DRWS	Department of Rural Water Supply
DWRMC	Department of Water Resources Management and Conservation
EA	Environmental Assessment
EDC	Electricité du Cambodge
EIA	Environmental Impact Assessment
ELC	Economic Land Concession
EMA	External Monitoring Agency
EMP	Environment Management Plan
ESP	Education Sector Program
ETAP	European Environmental Technologies Action Plan
FA	Forestry Administration
FAO	Food and Agriculture Organization
FCPF	Forest Carbon Participation Facility
FIs	Financial Intermediaries
FS	Feasibility Studies
GCRMN	Global Coral Reef Monitoring Network

GDANCP	General Department of Administration for Nature Conservation and Protection
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEI	Gender Equity Index
GRM	Grievance Redress Mechanism
HA	Highlander's Association
HBF	Henrich Boll Foundation
HHTPP	HIV/AIDS and Human Trafficking Prevention Program
HPP	Highland Peoples Programme
HU	Health Unlimited
IBA	Important Bird Area
ICE	Identification Certificate for Elections
ICEM	International Centre for Environmental Management
ICESCR	International Covenant on Economic, Social, and Cultural Rights
ICOM	International Council of Museums
ICSO	Indigenous Community Support Organization
IDA	International Development Association
IEE	Initial Environmental Examination
IEIA	Initial Environmental Impact Assessment
IFAD	International Fund for Agricultural Development
IFC	International Financial Corporation
ILO	International Labour Organization
IMC	Inter-Ministerial Committee
IMU	Internal Monitoring Unit
ICSO	Indigenous Community Support Organization
IP	Indigenous People
IPCC	Intergovernmental Panel on Climate Change
IPEC	International Programme on the Elimination of Child Labour
IPNN	Indigenous Peoples NGO Network
IPOA	Indigenous Peoples' Organizations Alliance
IPP	Indigenous Peoples Plan
IPPF	Indigenous Peoples Planning Framework
IRAM	Indigenous Rights Active Members
IRC	Inter-Ministerial Resettlement Committee

IRC-WG	Inter-Ministerial Resettlement Committee Working Group
ITP	Indigenous and Tribal Peoples
IUCN	International Union for Conservation of Nature
IWGIA	International Work Group for Indigenous Affairs
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
KHR	Cambodian Riel
KRT	Kratié
KSP	Kampong Speu
LASED	The Land Allocation for Social and Economic Development Project
LDC	Least Developed Country
LGBT	Lesbian, Gay, Bisexual and Transgender people
LICADHO	Cambodian League for the Promotion and Defence of Human Rights
LMAP	Land Management Administration Project
MAFF	Ministry of Agriculture, Forestry and Fisheries
MDG	Millennium Development Goals
MEF	Ministry of Economy and Finance
MEK-WATSAN	Mekong Region Water and Sanitation
MFF	Mangrove for the Future
MIME	Ministry Industry, Mines and Energy
MKR	Mondulhiri
MLMUPC	Ministry of Land Management Urban Planning and Construction
MM	Minutes of meeting
MoE	Ministry of Environment
MoEYS	Ministry of Education, Youth and Sport
MoFA	Ministry of Culture and Fine Arts
MoI	Ministry of Interior
MOLVT	Ministry of Labor and Vocational Training
MoWA	Ministry of Women's Affairs
MoWRAM	Ministry of Water Resources and Meteorology
MPP	Municipality of Phnom Penh
MPWT	Ministry of Public Works and Transport
MRC	Mekong River Commission
MRD	Ministry of Rural Development
MSW	Municipal Solid Waste

MVI	My Village
NACHR	National Assembly Commission on Human Rights
NAMA	Nationally Appropriate Mitigation Action
NAPA	National Adaptation Programme of Action
NBSAP	National Biodiversity Strategy and Action Plan
NCC	National Cadastral Commission
NCDD	National Committee for Decentralization and Deconcentration
NCPO-C	National Cleaner Production Office-Cambodia
NFP	National Forest Programme
NGO	Nongovernmental Organisation
NIS	National Institute of Statistics
NMA	National Authority Management
NPA	National Plan of Action
NPCA	Nature Protection and Conservation Administration
NPDIP	National Policy on the Development of Indigenous Peoples
NRP	National Resettlement Policy
NSDP	National Strategic Development Plan
NSPS	National Social Protection Strategy
NSSF	National Social Security Fund
NTFP	Non-Timber Forest Products
NTFP-EP	Non-Timber Forest Products-Exchange Programme
NZAID	New Zealand Agency for International Development
ODA	Official development assistance
OP	Operational Policy
OPKC	Organization to Promote Kui Culture
PA	Protected Areas
PAPs	Project Affected Persons
PCM	Public Consultation Meeting
PIB	Public Information Booklet
PIM	Public Information Meeting
PKH	Ponlok Khmer
PMCC	Provincial/Municipal Cadastral Commission
PMO	Prime Minister's Office
POP	Persistent Organic Pollutant
PPWSA	Phnom Penh Water Supply Authority



PRSC	Provincial Resettlement Sub-Committee
PRSC-WG	Provincial Resettlement Sub-Committee Working Group
PVR	Preah Vihear
RAP	Resettlement Action Plan
RAPEC	Resettlement Action Plan Environmental Coordinator
RAT	Ratankiri
RCS	Replacement Cost Study
RD	Resettlement Department
RD-MEF	Resettlement Department of the Ministry of Economy and Finance
REDD	Reducing Emissions from Deforestation and Forest Degradation
REF	Rural Electrification Fund
RETP	Rural Electrification and Transmission Project
RGC	Royal Government of Cambodia
RoCK	Rainbow Community of Kampuchea
ROW	Right of Way
RPF	Resettlement Policy Framework
RPs	Resettlement Projects
RRC.AP	Regional Resource Centre for Asia and the Pacific
SADP	Southeast Development Programme
SBDIP	School-based Dropout Intervention Program
SCHR	Senate Commission on Human Rights
SCNC	Supreme Council on National Culture
SIDA	Swedish International Development Agency
SLC	Social Land Concession
SME	Small and Medium-sized Enterprise
SPS	Safeguard Policy Statement
STG	Steung Treng
STSLS	Suppression of Human Trafficking, Smuggling, Labor, and Sexual Exploitation
SWM	Solid Waste Management
TOR	Terms of Reference
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization

UNICEF	United Nation Children's Fund
UNIDROIT	International Institute for the Unification of Private Law
USAID	United States Agency for International Development
USDS	United States Department of States
VFC	Village Focus Cambodia
VIN	Voter Information Notice
WB	World Bank
WCCCs	New Women and Children's Consultative Committees
WCS	Wildlife Conservation Society
WEPA	Water Environment Partnership in Asia
WFCL	Worst Forms of Child Labor
WWF	World Wildlife Fund

## Executive Summary

In 2010, Japan International Cooperation Agency (JICA) announced its new JICA guidelines for environmental and social considerations. The guidelines present JICA's objectives and goals related to environmental and social considerations. The new guidelines address some key points, including the strengthening of the requirements for resettlement, the considerations for indigenous peoples, and information disclosure. In order to guarantee that the JICA guidelines are appropriately implemented and that compliance with local regulations is not compromised, this country profile for environmental and social considerations in Cambodia (hereinafter referred to as 'profile') was prepared. The profile is expected to serve as a source of information that can be used to integrate environmental and social considerations into the design of future projects in Cambodia.

To ensure that all relevant information is covered, a literature review of relevant regulations in the Royal Government of Cambodia (RGC), a revision of historical projects, interviews with local experts, and consultations with relevant agencies were conducted. A review of other donors' projects was also conducted to identify potential gaps between their safeguard policies and local regulations.

What follows is a key summary of the research conducted on environmental and social considerations in Cambodia.

### 1. Summary of Environmental Considerations

Cambodia shares a 2,438-km border with Thailand, Lao PDR, and Vietnam, and occupies an area of 181,035 km<sup>2</sup>. The geographic characteristics of Cambodia can be divided into five types: central plains, northern mountains, eastern highlands, south-western mountains and southern coastal region (for details please refer to Section 1.1.2). The climate of Cambodia is dominated by two monsoons: the northeast monsoon, which covers the dry season from December to April, and the southwest monsoon from May to November (Section 1.1.3).

Cambodia has considerable water resource potential mainly divided into three river systems: the Mekong River System, the Tonle Sap River System, and the river system flowing into the Gulf of Thailand. However, this potential has not yet been fully utilized and many areas in the central plains and plateaus lack water during the dry season (Section 1.1.4).

The abundance of water contributes to Cambodia being regarded as one of the most biologically diverse countries in its region. Thirty percent of the country is covered by wetlands, of which the principal ones are the Mekong River and the Tonle Sap River System. In addition, forest covers 57% of Cambodia's total land area. Forest resources are also a good source of income for the country and its people (Section 2.1). Cambodia's 440 kilometre-long coastline is scattered with mangrove wetlands, coral reefs, sea grass beds, and other coastal ecosystems, which play a significant role in ecosystem productivity (Section 2.5). In spite of this high availability of water sources in Cambodia that could be used for human consumption, the lack of infrastructure development and wastewater management means the country faces serious challenges with respect to the provision of safe drinking water. The sources of water pollution in Cambodia are associated with natural processes and human activities with the latter contributing severely to contamination levels including DDT (dichlorodiphenyltrichloroethane) pollution in the Mekong River Delta (Section 3.4).

Pursuing equitable economic prosperity, an improved quality of life through sustainable use, land protection, and management of these resources, the RGC developed a National Biodiversity Strategy and Action Plan (NBSAP) in 2002 (Section 2.2.1). The Environmental Protection and Natural Resources Management Law (1996) is the framework governing environmental protection, pollution control, and natural resource management in Cambodia. The law places responsibility for environmental protection in Cambodia with the Ministry of Environment (MoE) in collaboration with concerned ministries (Section 2.2.2). There is no law that explicitly relates to coral reef management, although Cambodia's Fishery Law notes the requirement of protecting Cambodia's rich marine living resources (Section 2.5).

Cambodia was the first country in South East Asia to establish protected areas. By 1969, 12% of the country's land area was protected. While the country's long period of civil war led to the collapse of this system, serious measures have been taken to conserve Cambodia's biodiversity since the 1990s. As of 2012, protected areas in Cambodia covered an area of 46,013 km<sup>2</sup>, representing 25.42% of the country.

Despite the strong central control of forestlands, poor regulation has caused problems in surface water management, land use, the depletion of forests, and soil degradation. Cambodia's rate of deforestation is the third worst in the world (Section 3.1).

Regarding ambient air quality, there is a general lack of data in Cambodia and most available data comes from extrapolations or estimations rather than actual measurements. However, rapid

urbanisation and industrialisation in Cambodia have contributed to the deteriorating ambient air quality of the country, especially in the capital and largest city in Cambodia, Phnom Penh. The country has no major main grid connection, and independent power producers are the largest electricity suppliers. Consequently, the principal source of energy is petroleum products, which also negatively affects air quality (Section 3.3).

Soil contamination is another environmental issue in Cambodia. The main sources of soil contamination are industrial activities and leftover unexploded landmines from the civil war. Landmines planted on the surface of the land, or just beneath its surface, have the most direct impact on soil quality and composition. When a landmine explodes, it destroys surrounding vegetation, and shatters and displaces the soil, making it vulnerable to water and wind erosion. Clearing landmine areas also requires the ploughing of large areas of land that tears up and damages vegetation and biological diversity (Section 3.1).

To address these environmental issues, the RGC enacted the Law on Environment Protection and Natural Resources Management in 1996 and the Sub-decree on Environmental Impact Assessment Process in 1999, both of which set a legislative basis for environmental assessment by stipulating the necessity of conducting environmental impacts assessments (EIA) in Cambodia depending on the project's type, size, and capacity. Additionally, MoE proposed a new Law on Environmental Impact Assessment in November 2013. Based on the EIA Sub-Decree, the MoE has made the following declarations public:

1. The Prakas (Declaration) on General Guidelines for Conducting Initial and Full Environmental Impact Assessment Reports (2009)
2. The Joint Prakas (Declaration) on the Establishment of Service fee for Reviewing report of EIA and Monitoring the Project implementation (2000 and 2012).

The decision as to whether an Initial Environmental Examination (IEE, also referred to as Initial Environmental Impact Assessment (IEIA) in Cambodia) or an EIA (also referred to as Full Environmental Impact Assessment (FEIA)) is required for a project is based on the type, size and location of the project proposed (Section 5.2). While public participation is mentioned in legal documentation on environmental assessment, no detailed requirements on public participation in either the IEIA or EIA procedure are provided.

Although the legal framework and institutional capacity regarding IEE/EIA are relatively well developed, Cambodia faces challenges enforcing the regulations. As a result, there is low implementation rate of environmental assessments. Actions such as introducing criminal

sanctions for companies and individuals who do not comply with EIA requirements in the new EIA law are expected to improve the rate of implementation (Section 5.6).

## 2. Summary of Social Considerations

Cambodia guarantees equal rights to all its citizens through Article 32 of the Cambodian constitution (Sections 4.1). Additionally, the constitution also declares that the RGC ‘shall recognise and respect human rights as stipulated in the United Nations Charter, the Universal Declaration of Human Rights, the covenants and conventions related to human rights, and women’s and children’s rights (Section 4.2).

Since the surrender of the remaining elements of the Khmer Rouge in 1999, the country has progressed significantly and the poverty headcount of Cambodia has fallen from 47% of the population in 1994 to 35% in 2004, and 30% in 2007. However, Cambodia is still listed as a Least Developed Country (LDC) and the vulnerability of some groups such as ethnic minorities has been persistent (Section 4.4.1).

The RGC recognises 24 indigenous groups in 15 of its 23 provinces. They are generally vulnerable and marginalised (Section 4.4.2). There are no specific national laws focusing on the comprehensive rights of indigenous peoples and ethnic minority groups in Cambodia but there are some laws, regulations, and policies that are relevant to the development of indigenous people’s communities. The main law regarding the development of indigenous peoples is the National Policy on the Development of Indigenous Peoples (NPDIP) which focuses on: culture, education and vocational training, health, environment, land, agriculture and water resources, infrastructure, justice, tourism, industry, mines, and energy. It aims to improve the livelihoods of indigenous peoples as well as their quality of life by, among others, the equitable distribution of natural resources and improving education (Section 7.2). While this policy is a step towards the development of indigenous peoples, there is still a lack of resources, technical support, and political will to achieve the expected results (Section 7.5).

Among the areas that remain an issue in Cambodia due to the effects of the Khmer Rouge and the civil war is private land ownership. During this period, land ownership was abolished and all records were destroyed. While private land ownership was restored, it is still difficult to prove ownership and there are still many inconsistencies in the land registration process in Cambodia (Section 6.1). Currently, land acquisition is regulated by both the Constitution and the Land Law (Section 6.2). The legal system relevant to land acquisition and involuntary resettlement

including these laws is not always comprehensive. For example, under the Land Law of 2001, those who have occupied a ROW or public property are not entitled to any compensation or social support. In addition, the Land Law provides that persons having assets on road and rail ROWs will be held accountable if their failure to relocate results in delays in works of public interest (Section 6.5).

Administration of legislation and policy related to involuntary resettlement falls under the mandate of the Ministry of Economy and Finance (MEF) through its Resettlement Department (RD-MEF). The RD-MEF also serves as secretariat to the Inter-Ministerial Committee on Resettlement (IRC), which is convened for projects requiring land acquisition and involuntary resettlement except for energy related projects where Electricité du Cambodge (EDC) is responsible for both land acquisition and involuntary resettlement (Section 6.2).

Land alienation in Cambodia continues, and communities including vulnerable indigenous peoples' communities can face involuntary resettlement for mining, tourism, and hydropower projects. The Law on Expropriation allows the RGC to confiscate the properties of Cambodian citizens if the government needs the land for the 'benefit of the nation' (Section 7.5.2). Indigenous peoples rely on the forest for their livelihood, and land rights and logging, mining, and other large-scale developments have a negative impact on their livelihood. In losing their source of livelihood, they are forced to leave their traditional homes and move elsewhere (Section 7.5.3).

Among the gaps with international donor's safeguards is that there are no particular laws and regulations specifying the information disclosure in the context of involuntary resettlement in Cambodia, although Environmental Impact Assessment (EIA) Guideline ensures information disclosure and public consultation (Section 6.3.2).

To date, resettlement projects have been conducted on an *ad hoc* basis, with some projects having a resettlement plan developed for that specific project, while others have none. In recent years the government has adopted the resettlement policies of donor agencies on a project-by-project basis (Section 6.5).

# **Chapter 1**

## **Country Overview**





# 1 Country Overview

## 1.1 Overview

### 1.1.1 Map of the Country



Source: UN (2004)

**Figure 1.1.1: Map of Cambodia**

### 1.1.2 Location and Topography

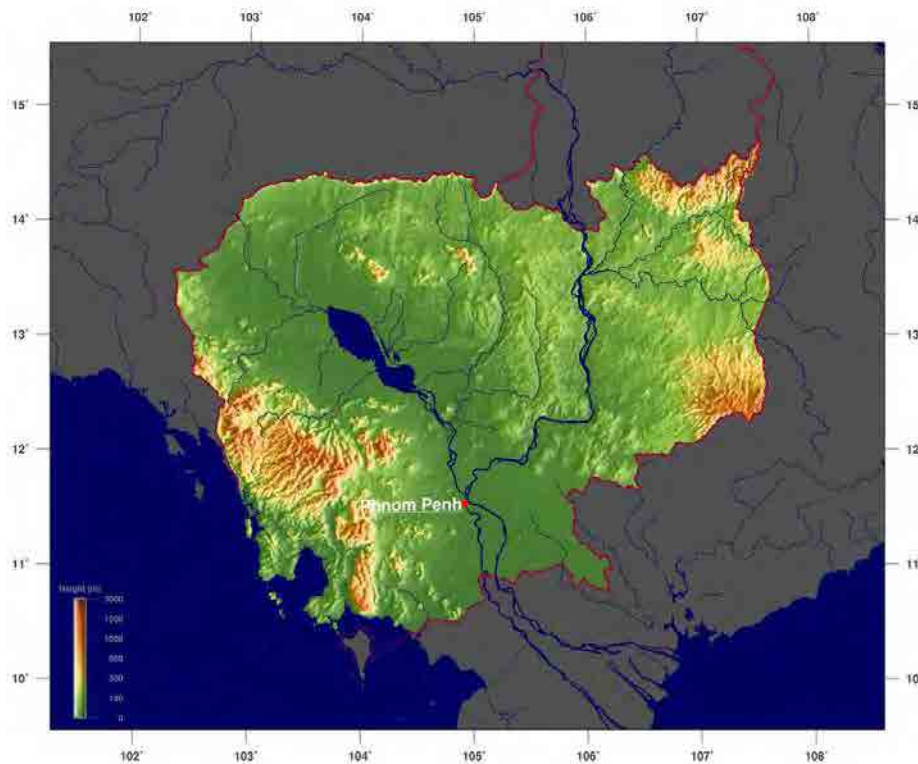
Cambodia, known officially as the Kingdom of Cambodia, is located between 10° and 15° N latitudes and 102° and 108° E longitudes, occupying an area of 181,035 km<sup>2</sup>. It shares a 2,438-km border with Thailand (in the north and west and along the Gulf of Thailand in the south), Lao PDR (in the north) and Viet Nam (in the south and east). The maximum length of the country is approximately 580 km from east to west and 450 km from north to south, and it has a total boundary of 2,600 km, of which approximately five-sixths is land and one sixth is a coastline. Approximately 86% of the total land area lies within the Mekong Catchment

(EURONET Consortium 2012).

The dominant features of Cambodia's landscape are the large, almost centrally located, Tonle Sap (Great Lake), the Bassac River and the Mekong River system, which crosses the country from north to south. Topographically, the country is divided into two distinct parts:

- 1) The central low-lying plains and the flat coastal areas
- 2) The mountainous ranges and high plateau surrounding the low-lying land.

Surrounding the central plains, which cover three quarters of the country's area, are the more densely forested and sparsely populated highlands, comprising the Cardamom and Elephant Mountains in the southwest and west; the Dangrek Mountains to the north, adjoining the Korat plateau of Thailand; and the Ratanakiri plateau and Chlong highlands in the east, merging with the central highlands of Vietnam (MoE 2009).



Source: GinkgoMaps (2012)

**Figure 1.1.2: Topography Map of Cambodia**

The geographic characteristics of Cambodia can be divided into five types: central plains,

northern mountains, eastern highlands, southwestern mountains, and the southern coastal region.

a) Central plains

The central plains of the Kingdom of Cambodia are low-lying alluvial plains which surround the Tonle Sap area; the Mekong River delta lies in the southeast section of the plain. This region dominates the country and occupies most of its central area. Transitional plains extend outward from this region, with thin forests at elevations no higher than several hundred feet above sea level.

b) Northern mountains

Along the Cambodian-Thai border to the north, the Cambodian plain borders a sandstone escarpment that marks the southern boundary of the Dangrek Mountains. A southward-facing cliff, stretching for more than 300 km from east to west, rises abruptly from the plain at a range of 180 to 550 metres.

c) Eastern highlands

East of the Mekong River, the transitional plains merge with the eastern highlands and extend forward into Laos PDR and Vietnam. This is a region of mountains and plateaus with lush forests.

d) Southwestern mountains

In the southwestern part of Cambodia, there are two distinct mountain ranges, the Cardamom Mountains and the Elephant Mountains. These two mountains form another region extending between the Tonle Sap and the Gulf of Thailand, and act as a physical barrier along the country's coast. The Mount Aural at a height of 1,813 metres is the highest mountain in Cambodia and is located in this area.

e) Southern coastal region

The southern coastal region facing the Gulf of Thailand is a narrow lowland strip that is heavily wooded and sparsely populated. This area is isolated from the central plains, with the southwestern highlands located in between. (WEPA 2012)

### 1.1.3 Climate

The climate of Cambodia is dominated by two monsoons:

- 1) The northeast monsoon (dry season from December to April)
- 2) The southwest monsoon (rainy season from May to November; about 90% of the rainfall occurs during this season)

The average annual temperature is about 32°C. The hottest months of the year are April and May; the coldest months of the year are December and January. Seasonal temperature differences are relatively small. The annual average humidity is about 80% throughout the country.



Source: World Weather and Climate Information (2013)

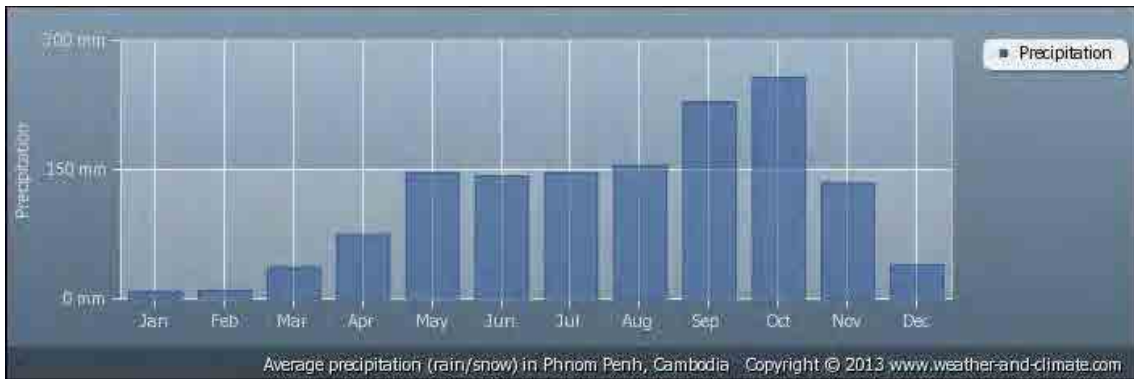
**Figure 1.1.3: Average minimum and maximum temperatures over the year**



Source: World Weather and Climate Information (2013)

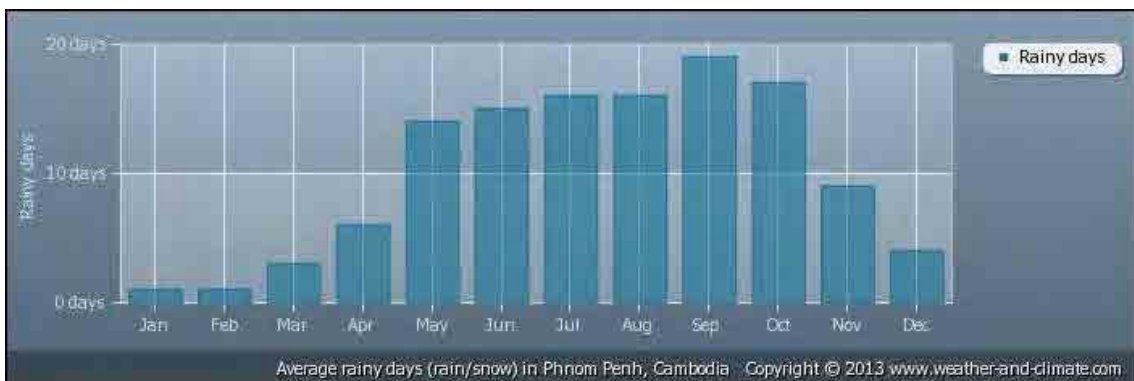
**Figure 1.1.4: Average humidity over the year**

Rainfall in Cambodia is distributed according to geographical characteristics, with high rainfall in coastal and mountainous areas and low rainfall in the central flood plains. The maximum 24-hour rainfall is about 200 mm. September and October are the wettest months.



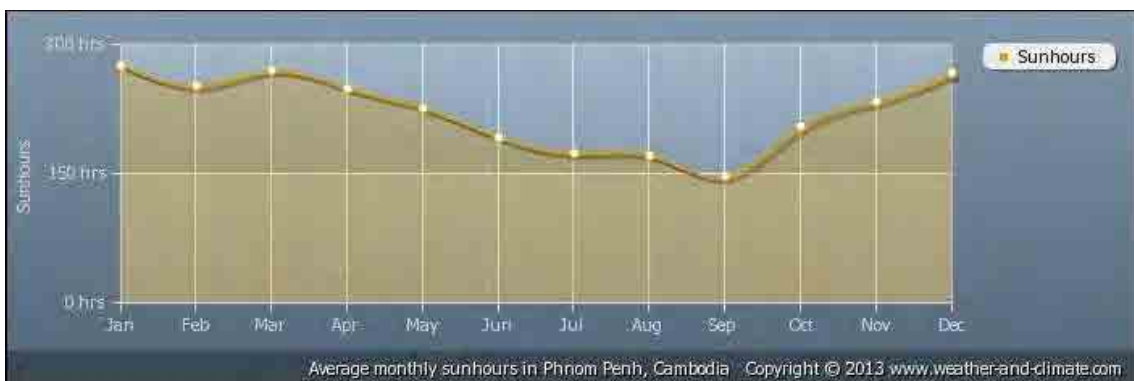
Source: World Weather and Climate Information (2013)

**Figure 1.1.5: Average monthly precipitation over the year**



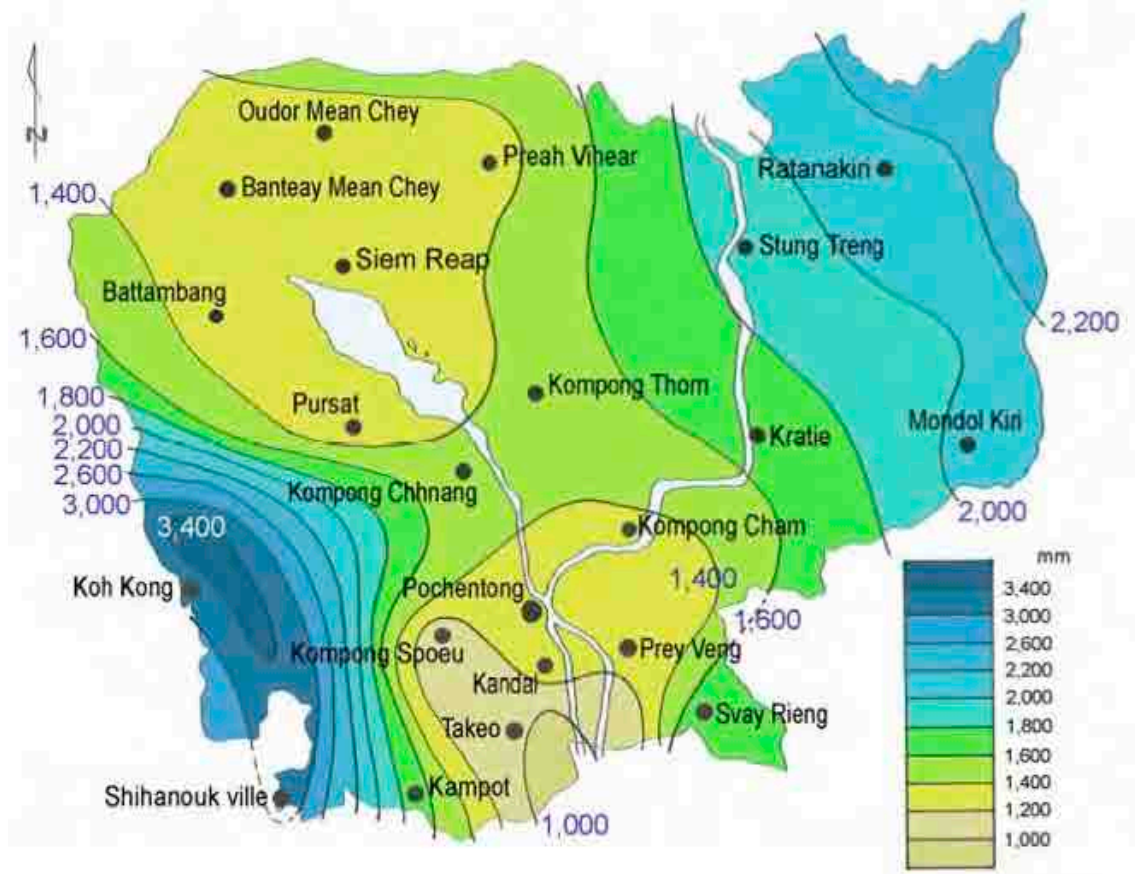
Source: World Weather and Climate Information (2013)

**Figure 1.1.6: Average monthly rainy days over the year**



Source: World Weather and Climate Information (2013)

**Figure 1.1.7: Average monthly hours of sunshine over the year**



Source: Tes (2010)

**Figure 1.1.8: Distribution of Annual Rainfall (1981–2004)**

Three climatic zones have been defined for the country: (i) the coastal and mountainous area of the southwest: Temperatures are generally high with little variation between seasons, and they can fall below 20 °C in the coldest months; (ii) the central plains which include the Mekong River and the Tonle Sap Lake: Again, temperatures are generally high, with little variation between seasons. Monthly temperatures range from 25 °C (in January) and can rise to 40 °C (in April), the warmest month before the start of the rainy season. The coldest temperature is below 15 °C in December and January. The mean temperature is approximately 25 °C; and (iii) the northern and north-eastern regions: Temperatures are high during the hottest and coldest months. The mean temperature is normally 25 °C in the lowlands and 20 °C in the highlands (WEPA 2012).

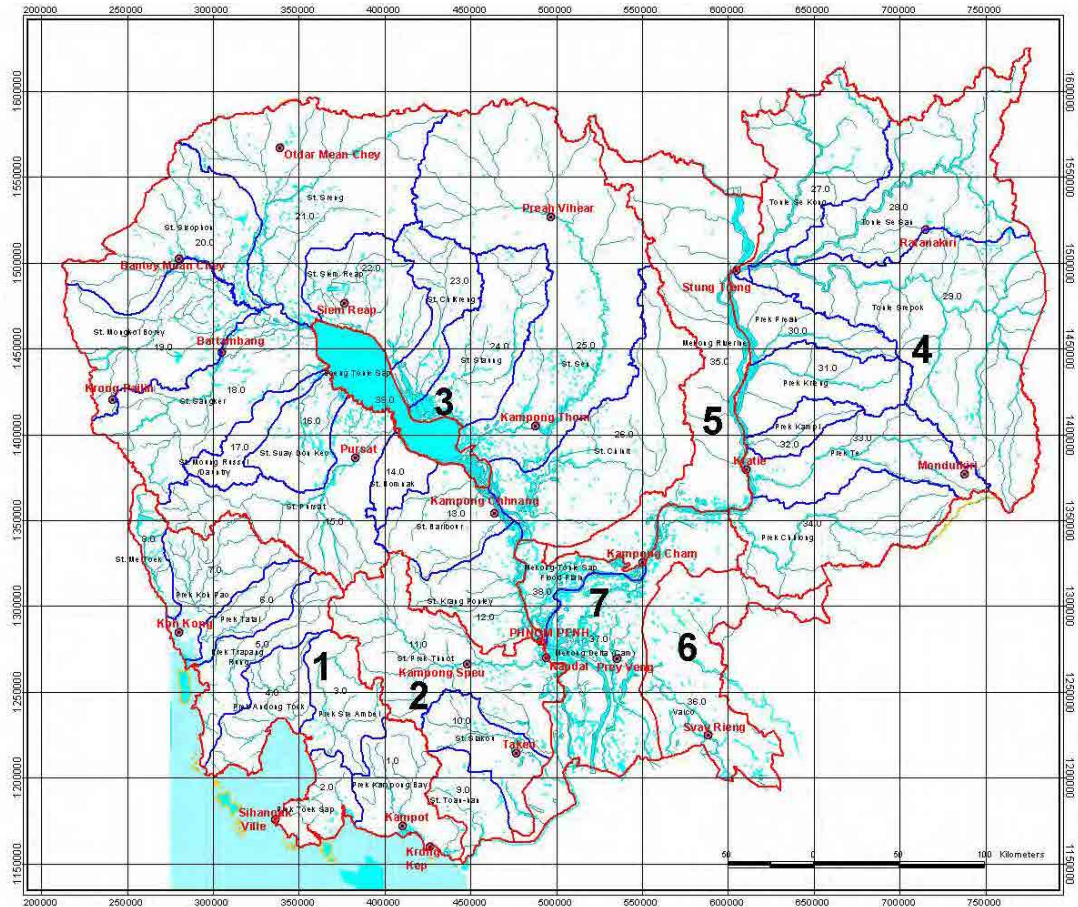
#### 1.1.4 River Systems

Cambodia has considerable water resource potential, with abundant surface water and aquifers and a high level of seasonal rainfall. However, this potential has not yet been developed for agriculture, industrial or household use. In spite of the abundance of water sources, many areas in the central plains and plateaus lack water in the dry season and are therefore dependent on unreliable rainfall patterns (WEPA 2012).

Many rivers, streams and lakes and their tributaries provide tremendous water resources for development. These water sources can be divided into three systems: the Mekong River System, the Tonle Sap River System, and the river system flowing into the Gulf of Thailand (WEPA 2012).

The basins of the Mekong, Bassac and Tonle Sap (Great Lake) and their tributaries occupy about 80% of Cambodia's territory. The Mekong River runs through Cambodia for about 500 km. The Bassac River splits from the Mekong at Phnom Penh and flows in parallel down into the South China Sea. The Tonle Sap is fed by direct runoff from its own catchment area, and by inflow from the Mekong River. The water level in the lake varies over a 10 m range in response to seasonal runoff, and its area ranges from 2,700 to 13,000 km<sup>2</sup>. Annual water flow of the Mekong River into Cambodia is about 410 billion m<sup>3</sup>. The flow out of Cambodia to Vietnam being about 500 billion m<sup>3</sup>, the internal flow equals to 90 billion m<sup>3</sup> (Tes 2010).



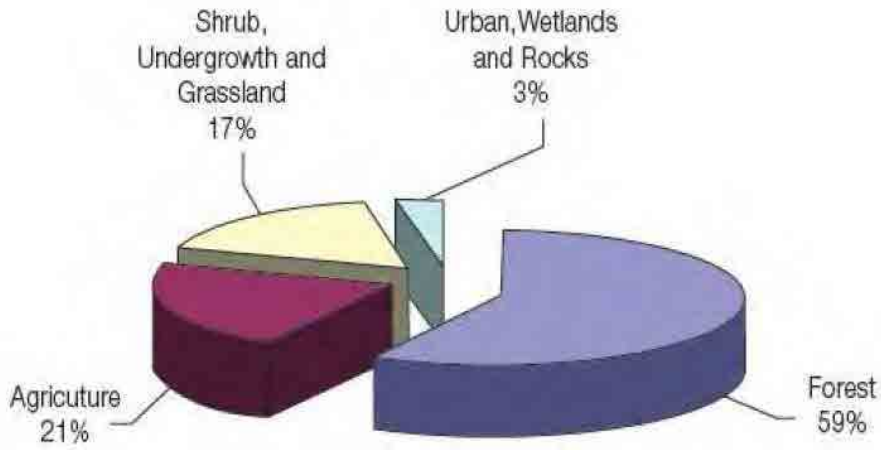


Source: Department of Hydrology and River Works (2008)

**Figure 1.1.9: River Systems of Cambodia**

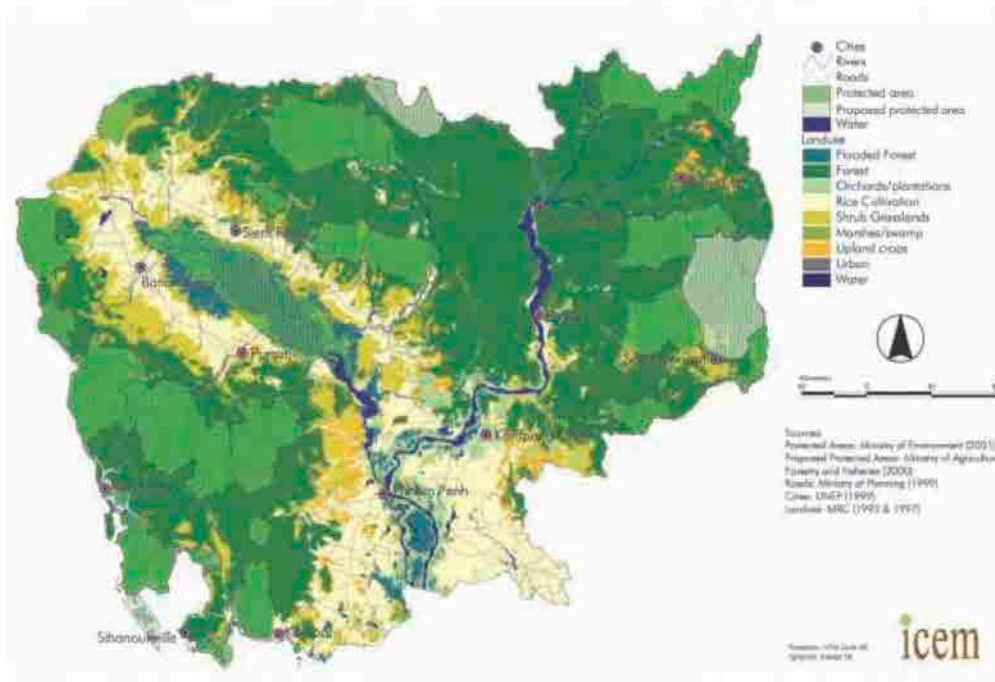
### 1.1.5 Land Use

The MAFF published a chart in 2001 to represent the overall distribution of land use in Cambodia, including 59% forest cover (see Figure 1.1.10). Since then the Forestry Administration has reported a forest cover figure of 57% (2010), despite the obvious rapid expansion of urban areas for residential and industrial land use (EURONET Consortium 2012).



Source: EURONET Consortium (2012)

**Figure 1.1.10: Land Use Distribution in Cambodia**



Source: ICEM (2003)

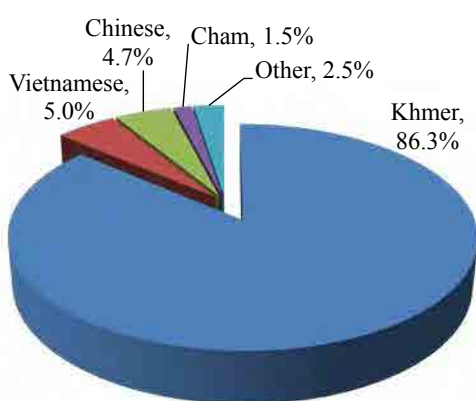
**Figure 1.1.11: Land Use in Cambodia**

### 1.1.6 Demographics

According to the 2008 Census, the estimated population of Cambodia was 13,395,682 as of March 3, 2008 (National Institute of Statistics 2008), while according to the latest estimate by the CIA, the population has increased to 15,205,539 as of July 2013 (CIA 2013). The 2008 Census also states that 51.36% of the population is female. The average rate of annual

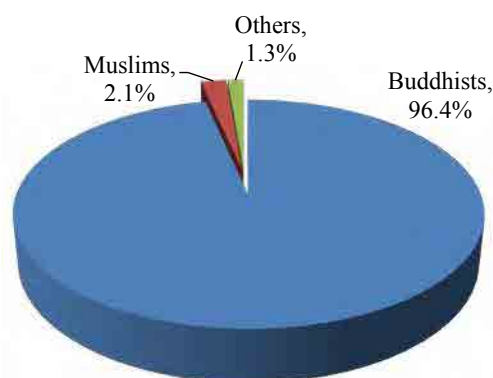
population growth between 1998 and 2008 was 1.54%. Cambodia’s population density was 75 people/km<sup>2</sup> (national average). Among provinces, Kampong Cham had the largest population and Phnom Penh had the highest density (4,571 people/km<sup>2</sup>) (National Institute of Statistics 2008).

The largest ethnic group in Cambodia is Khmer, comprising 86.3% of the total population, followed by 5% Vietnamese, 4.7% Chinese, 1.5% Cham, and 2.5% indigenous peoples and other minority ethnic groups. The indigenous peoples and ethnic minority groups are generally marginalised and vulnerable, and the vulnerability is linked with the characteristics of Cambodian social and economic factors. With regards to religion, 96.4% of the population were Buddhists, 2.1% were Muslims, 1.3% was specified as ‘other’, mainly consisting of highland tribal groups, and the rest unspecified (CIA 2013). Khmer is the official and most widely used language. French and English are also used in the country.



Source: CIA (2013)

**Figure 1.1.12: Ethnic Groups in Cambodia**



Source: CIA (2013)

**Figure 1.1.13: Religion in Cambodia**

## 1.2 Legal and Administrative Systems: Environmental and Social Considerations

Cambodia was a protectorate of France from 1883 to 1953, administered as part of the colony of French Indochina. On 9 November 1953, under the reign of King Norodom Sihanouk, Cambodia gained independence from France. Even after its independence, Cambodia experienced a number of hardships due to the Cambodian Civil War, which lasted roughly from 1970, when Norodom Sihanouk was ousted in a coup, to 1993. In 1993, Norodom Sihanouk was restored as King of Cambodia, but all power lay in the hands of the government established after elections sponsored by the United Nations Transitional Authority in Cambodia (UNTAC). The stability established following the conflict was shaken in 1997 by a

coup d'état led by then-Second Prime Minister Hun Sen against the non-communist parties in the government. In recent years, reconstruction efforts have progressed and led to some political stability through a multiparty democracy. The kingdom is a constitutional monarchy whose head of state is Norodom Sihamoni, a monarch chosen by the Royal Throne Council. The head of government is Hun Sen, who is currently the longest serving leader in South East Asia and has ruled Cambodia for over 25 years.

### 1.2.1 Legal System

The hierarchy and definitions of Cambodian legal norms are shown in Table 1.2.1.

**Table 1.2.1: The hierarchy and definition of Cambodian main legal norms**

Hierarchy	Class	Definition
1.	Constitution	Supreme norm of the Cambodian legal hierarchy Adopted by the constituent assembly; promulgated by the King.
2.	Constitutional Law	Revision or amendment of the Constitution, voted for by the National Assembly with a majority of two-thirds of all members
3.	Law ( <i>Kram</i> )	Designates either the promulgated law or the act of promulgation of a law signed by the King or, in his absence, by the acting chief of state; countersigned by the Prime minister and the interested minister.
4.	Decree ( <i>Kret</i> )	Highest norm that may be enacted by the executive power within the framework of its regulatory power. Signed by the King or, in his absence, by the acting head of state; generally countersigned by the prime minister and the interested minister.
5.	Sub-Decree ( <i>Anukret</i> )	Regulation adopted by the prime minister and countersigned by the interested minister.
6.	Declaration ( <i>Prakas</i> )	Regulation adopted by a minister (or the governor of the National Bank for banking issues)
7.	Circular ( <i>Sarachor</i> )	Ministerial implementation measure

Source: Council of Jurists (2000)

In Cambodia, the Law on Environmental Protection and Natural Resource Management,

enacted on 18 November 1996, is the framework law for environmental protection. Its objectives are:

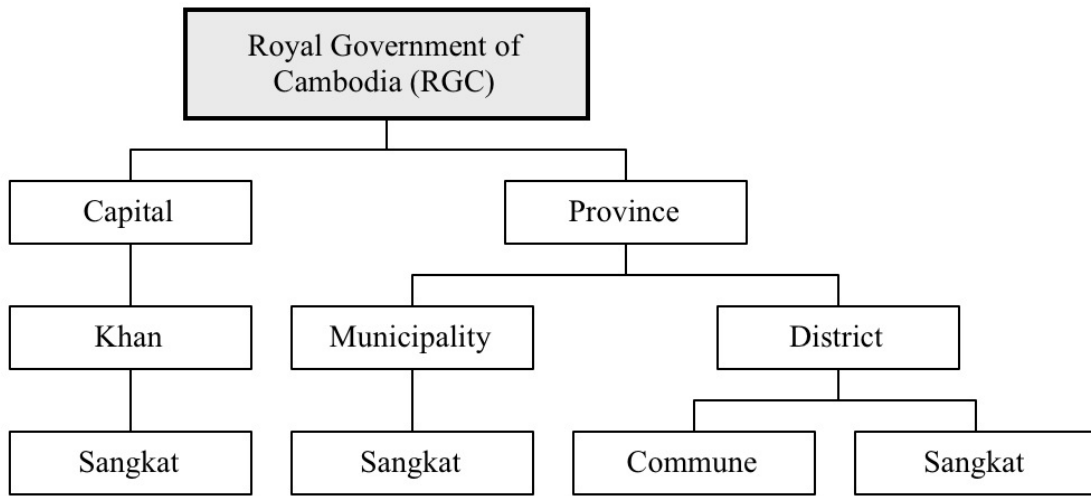
- to protect and upgrade environmental quality and public health by means of prevention, reduction and control of pollution
- to assess the environmental impact of all proposed projects prior to the issuance of a decision by the Royal Government
- to ensure the rational and sustainable preservation, development, management and use of the natural resources of the Kingdom of Cambodia
- to encourage and create an opportunity for the public to participate in the protection of the environment and the management of natural resources
- to suppress any acts which may have a negative effect on the environment.

For a schedule of major domestic environmental laws in Cambodia, see Table A-1 in the Appendix.

### 1.2.2 Administrative Divisions

The capital and largest city is Phnom Penh, the political, economic, and cultural centre of Cambodia. Cambodia's administrative zones consist of 23 provinces (*khaet* in the Khmer language) and the capital Phnom Penh, a special administrative area. Thus, for practical purposes Cambodia has 24 provinces. The capital is further divided into 8 districts (*khan* in the Khmer language) and the districts into 76 communes (*sangkats*). The 23 provinces are subdivided into 159 districts (*srok*), which are further divided into 35 communes (*khum*), and 26 municipalities, which are further divided into 1,510 communes (Oinuma 2009).

The administrative system in Cambodia is depicted in Figure 1.2.1.



Source: Oinuma (2009)

**Figure 1.2.1 Administrative System in Cambodia**



Source: Nations Online Project (2013)

**Figure 1.2.2: Administrative Divisions of Cambodia**

**Table 1.2.2: Cambodia's 23 Provinces and 1 Municipality**

Province/Municipality	Capital	Population	Area (km <sup>2</sup> )
Phnom Penh Municipality	Phnom Penh	1,325,681	758
Banteay Meanchey Province	Sisophon	678,033	6,679
Battambang Province	Battambang	1,024,663	11,702
Kampong Cham Province	Kampong Cham	1,680,694	9,799
Kampong Chhnang Province	Kampong Chhnang	471,616	5,521
Kampong Speu Province	Kampong Speu	716,517	7,017
Kampong Thom Province	Kampong Thom	630,803	13,814
Kampot Province	Kampot	585,110	4,873
Kandal Province	Ta Khmao	1,265,805	3,568
Koh Kong Province	Koh Kong	139,722	11,160
Kep Province	Kep	35,753	336
Kratie Province	Kratie	318,523	11,094
Mondulkiri Province	Senmonorom	60,811	14,288
Oddar Meanchey Province	Samraong	185,443	6,158
Pailin Province	Pailin	70,482	803
Preah Sihanouk (Sihanoukville) Province	Sihanoukville	199,902	868
Preah Vihear Province	Phnom Tbeng Meanchey	170,852	13,788
Pursat Province	Pursat	397,107	12,692
Prey Veng Province	Prey Veng	947,357	4,883
Ratanakiri Province	Banlung	149,997	10,782
Siem Reap Province	Siem Reap	896,309	10,299
Stung Treng Province	Stung Treng	111,734	11,092
Svay Rieng Province	Svay Rieng	482,785	2,966
Takeo Province	Takeo	843,931	3,563

Source: National Institute of Statistics (2008)

**Table 1.2.3: Cambodia's Provinces and Districts**

Province/Municipality	District	
Phnom Penh Municipality	Chamkar Mon	Dangkao
	Doun Penh	Meanchey
	Prampi Meakkara	Ruessei Kaev
	Tuol Kouk	
Banteay Meanchey Province	Malai	Mongkol Borei

Province/Municipality	District	
	Ou Chrov	Phnum Srok
	Preah Netr Preah	Serei Saophoan
	Svay Chek	Thma Puok
Battambang Province	Aek Phnom	Banan
	Battambang	Bavel
	Kamrieng	Koas Krala
	Moung Ruessei	Phnom Proek
	Ratanak Mondol	Samlout
	Sampov Lun	Sangkae
	Thma Koul	
Kampong Cham Province	Batheay	Chamkar Leu
	Cheung Prey	Dambae
	Kampong Cham	Kampong Siem
	Kang Meas	Kaoh Soutin
	Krouch Chhmar	Memot
	Ou Reang Ov	Ponhea Kraek
	Prey Chhor	Srei Santhor
	Stung Trang	Tboung Khmum
Kampong Chhnang Province	Baribour	Chol Kiri
	Kampong Chhnang	Kampong Leaeng
	Kampong Tralach	Rolea B'ier
	Sameakki Meanchey	Tuek Phos
Kampong Speu Province	Aoral	Basedth
	Chbar Mon	Kong Pisei
	Odongk	Phnum Sruoch
	Samraong Tong	Thpong
Kampong Thom Province	Baray	Kampong Svay
	Prasat Balangk	Prasat Sambour
	Sandan	Santuk
	Stoung	Stueng Saen
Kampot Province	Angkor Chey	Banteay Meas
	Chhuk	Chum Kiri
	Dang Tong	Kampong Trach
	Kampong Bay	Kampot
Kandal Province	Angk Snuol	Kaoh Thum



Province/Municipality	District	
	Kandal Stueng	Khsach Kandal
	Kien Svay	Leuk Daek
	Lvea Aem	Mukh Kampul
	Ponhea Lueu	S'ang
	Ta Khmau	
Koh Kong Province	Botum Sakor	Kampong Seila
	Kiri Sakor	Koh Kong
	Mondol Seima	Smach Meanchey
	Srae Ambel	Thma Bang
Kep Province	Damnak Chang'aur	Kep
Kratie Province	Chhloung	Kratié
	Preaek Prasab	Sambour
	Snuol	
Mondulkiri Province	Kaev Seima	Kaoh Nheaek
	Ou Reang	Pechreada
	Senmonorom	
Oddar Meanchey Province	Anlong Veng	Banteay Ampil
	Chong Kal	Samraong
	Trapeang Prasat	
Pailin Province	Pailin	Sala Krau
Preah Sihanouk (Sihanoukville) Province	Mittapheap	Prey Nob
	Stueng Hav	
Preah Vihear Province	Chey Saen	Chhaeb
	Choam Khsant	Kuleaen
	Rovieng	Sangkom Thmei
	Tbaeng Meanchey	
Pursat Province	Bakan	Kandieng
	Krakor	Phnom Kravanh
	Sampov Meas	Veal Veng
Prey Veng Province	Ba Phnum	Kamchay Mear
	Kampong Leav	Kampong Trabaek
	Kanhchriech	Me Sang
	Peam Chor	Peam Ro
	Pea Reang	Preah Sdach
	Prey Veng	Sithor Kandal

Province/Municipality	District	
Ratanakiri Province	Andoung Meas	Banung
	Bar Kaev	Koun Mom
	Lumphat	Ou Chum
	Ou Ya Dav	Ta Veang
	Veun Sai	
Siem Reap Province	Angkor Chum	Angkor Thum
	Banteay Srei	Chi Kraeng
	Kralanh	Prasat Bakong
	Puok	Siem Reap
	Soutr Nikom	Srei Snam
	Svay Leu	Varin
Stung Treng Province	Sesan	Siem Bouk
	Siem Pang	Stueng Traeng
	Thala Barivat	
Svay Rieng Province	Chantrea	Kampong Rou
	Romeas Haek	Rumduol
	Svay Chrum	Svay Rieng
	Svay Teab	
Takeo Province	Angkor Borei	Bati
	Borei Cholsar	Doun Kaev
	Kaoh Andaet	Kiri Vong
	Prey Kabbas	Samraong
	Tram Kak	Treang

Source: Statistics Bureau of Japan (2009)

### 1.2.3 National Plans

#### National Strategic Development Plan (NSDP)

The Government of Cambodia has the task to prepare a National Poverty Reduction Strategy (NPRS) in order to qualify for Poverty Reduction Credits from the International Monetary Fund (IMF) and the World Bank (WB). In coordination with line Ministries and External Development Partners (EDPs) the Government of Cambodia prepared the National Poverty Reduction Strategy. In 2006, the NSDP, incorporating the Third Socio-Economic Development Plan and NPRS 2006–2010, was announced as the ‘Rectangular Strategy’. The

NSDP was developed by the Ministry of Planning (MoP) with participation and consultation from all stakeholders including government Ministries and institutions, EDPs, and civil society.

The NSDP also conforms to the Cambodian Millennium Development Goals (CMDGs), which were announced in 2003, and following the new policies inaugurated in Cambodia in July 2008. It has been extended until 2013. The NSDP is the single overarching document containing the Royal Government of Cambodia's (RGC) priority goals and strategies. It directs all public policy to the reduction of poverty and the achievement of other CMDG and socio-economic development goals for the benefit of all Cambodians. It synthesises and prioritises the goals of the NPRS and the CMDGs and is intended to align sector strategies and planning cycles to the overall long term vision, as well as to guide EDPs to align and harmonise their efforts towards better aid-effectiveness and higher net-resources transfer than hitherto. Furthermore, the NSDP confirms Good Governance as an overriding issue and asks all donors to assist in the realisation of NSDP priorities. RGC tries to make up the transition of international assistance from single projects and technical support to a sector wide approach and financial support in the future (MoP 2013).

**Goals of NSDP Update 2009-2013**

- Eradicate extreme poverty and hunger
- Achieve universal primary education
- Promote gender equality and empower women
- Reduce child mortality
- Improve maternal health
- Combat HIV/AIDS, malaria and other diseases
- Ensure environmental sustainability
- De-mining, UXO and victim assistance

The past RGC national development plan and the planning process of the current NSDP are as follows:

The first national development plan, the National Programme to Rehabilitate and Develop Cambodia (NPRD), was adopted the year after the RGC was formed in 1993. This plan aimed to rebuild and rehabilitate the country's social, physical and institutional infrastructure. Based on this vision, the first five-year Socio-Economic Development Plan (SEDP I, 1996–2000), which focused on macro-economic growth, social development and poverty alleviation, was

implemented. Together with SEDP I, the Public Investment Programme (1996–1998) was enacted so that domestic and external development cooperation could be channelled to priority areas (RGC 2010). SEDP I was considered a major achievement of the RGC. The plan has also served as a guideline for assistance from donors and aid agencies, including Japan (Teramoto 2001).

The second Socio-Economic Development Plan (SEDP II, 2001–2005) was prepared towards the end of SEDP I. Like the first SEDP, the second plan also focused on economic growth and poverty reduction. At the time, the development of the private sector was crucial to achieve poverty reduction and to improve Cambodians' livelihoods and quality of life. Following the preparation of SEDP II, the government prepared its own set of (CMDGs), which conformed to the broad Millennium Development Goals set for all countries to achieve by 2015 at the UN Millennium Summit in 2000. In addition, the National Poverty Reduction Strategy (NPRS) was also adopted in December 2002 (RGC 2010).

In July 2004, the Rectangular Strategy was proposed by Prime Minister Hun Sen. This strategy synthesised key elements from the CMDGs, SEDP II and NPRS. The Rectangular Strategy framework was used to form the third five-year development plan, the National Strategic Development Plan (NSDP, 2006–2010). This was an overarching plan to achieve the nation's highest-priority goals (RGC 2010).

Following the fourth General Elections held in 2008, the RGC announced that Rectangular Strategy Phase II would succeed the previous strategy. The NSDP was updated based on the framework of Rectangular Strategy Phase II. This update was planned for the years 2009–2013. The NSDP update recognises the importance of the global financial crisis and its impact on the poverty of the country (Keane et al. 2010).

In terms of private sector growth, the RGC wants to increase foreign investment in the country. The government plans to streamline investment procedures through a 'single window' mechanism managed by the Cambodia Investment Board (CIB) and the Council for the Development of Cambodia (CDC), and also through guaranteed protection of foreign investment. Other strategies that attract foreign investment have also been put into place. For instance, business registration procedures have been streamlined, and chambers of commerce have been set up at provincial levels. IP laws were also strengthened and initiatives were taken to promote Cambodia's garment and tourism sectors (Keane et al. 2010).

#### 1.2.4 Relevant Organisations

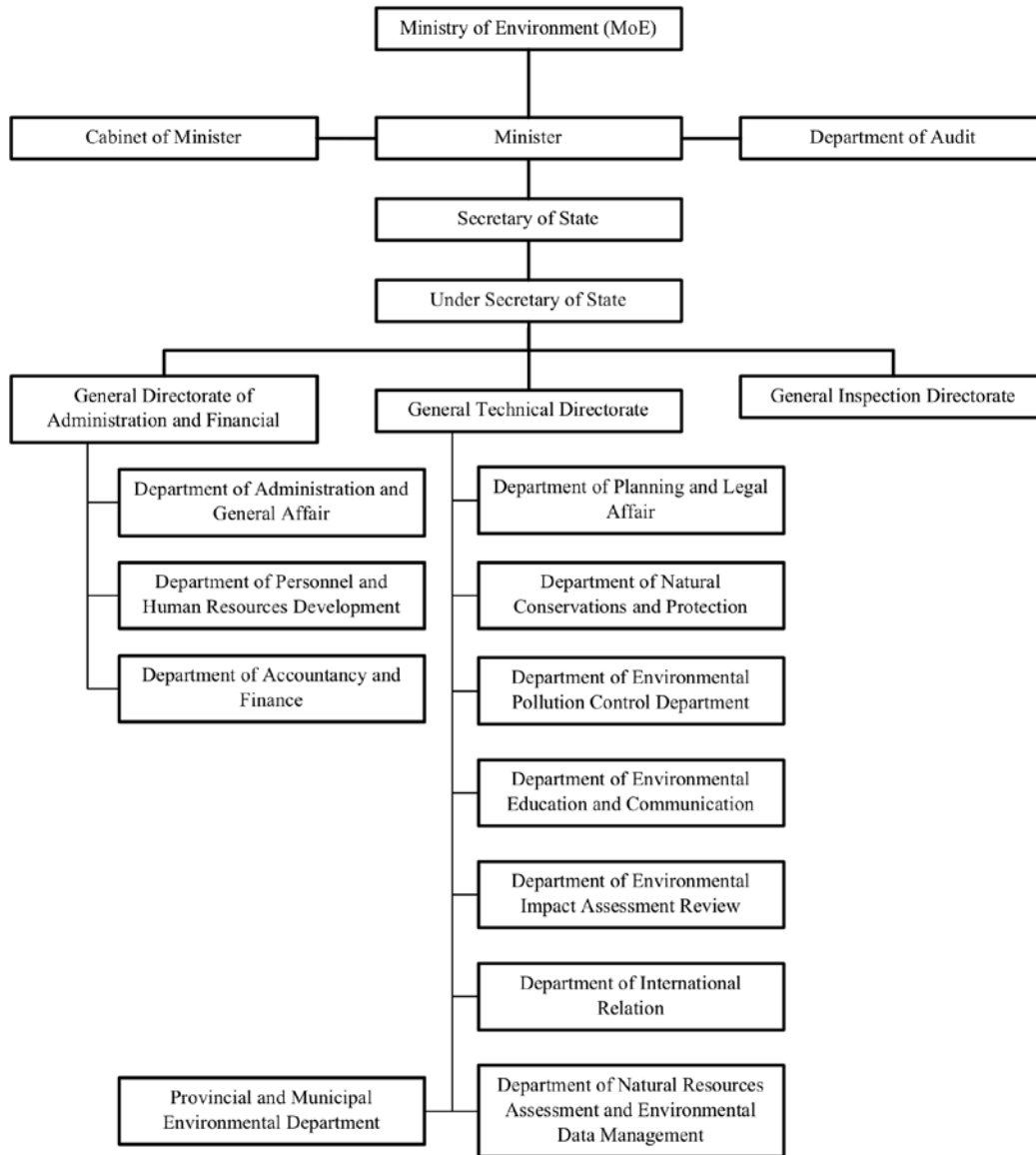
Cambodia currently has 25 ministries, as shown in Table 1.2.3. It also has a Council of Ministers, consisting of the head of each ministry.

**Table 1.2.4: Ministries in Cambodia**

No.	Name of Ministry
1.	Ministry of Agriculture, Forestry and Fisheries
2.	Ministry of Commerce
3.	Ministry of Culture and Fine Arts
4.	Ministry of Economy and Finance
5.	Ministry of Education, Youth and Sports
6.	Ministry of Environment
7.	Ministry of Foreign Affairs and International Cooperation
8.	Ministry of Health
9.	Ministry of Industry, Mines and Energy
10.	Ministry of Information
11.	Ministry of Interior
12.	Ministry of Justice
13.	Ministry of Labour and Vocational Training
14.	Ministry of Land Management, Urban Planning and Construction
15.	Ministry of National Defence
16.	Ministry of Parliamentary Affairs and Inspection
17.	Ministry of Planning
18.	Ministry of Post and Telecommunication
19.	Ministry of Public Works and Transport
20.	Ministry of Religions and Cults
21.	Ministry of Rural Development
22.	Ministry of Social Affairs, Veterans and Youth Rehabilitation
23.	Ministry of Tourism
24.	Ministry of Water Resources and Meteorology
25.	Ministry of Women's Affairs

Among these ministries, the Ministry of Environment (MoE) is the key governmental agency responsible for environmental protection and conservation of natural resources. Figure 1.2.3 shows the organisational structure of the MoE in Cambodia. Critical functions of MoE include collecting and summarising water quality monitoring data from public water areas and other

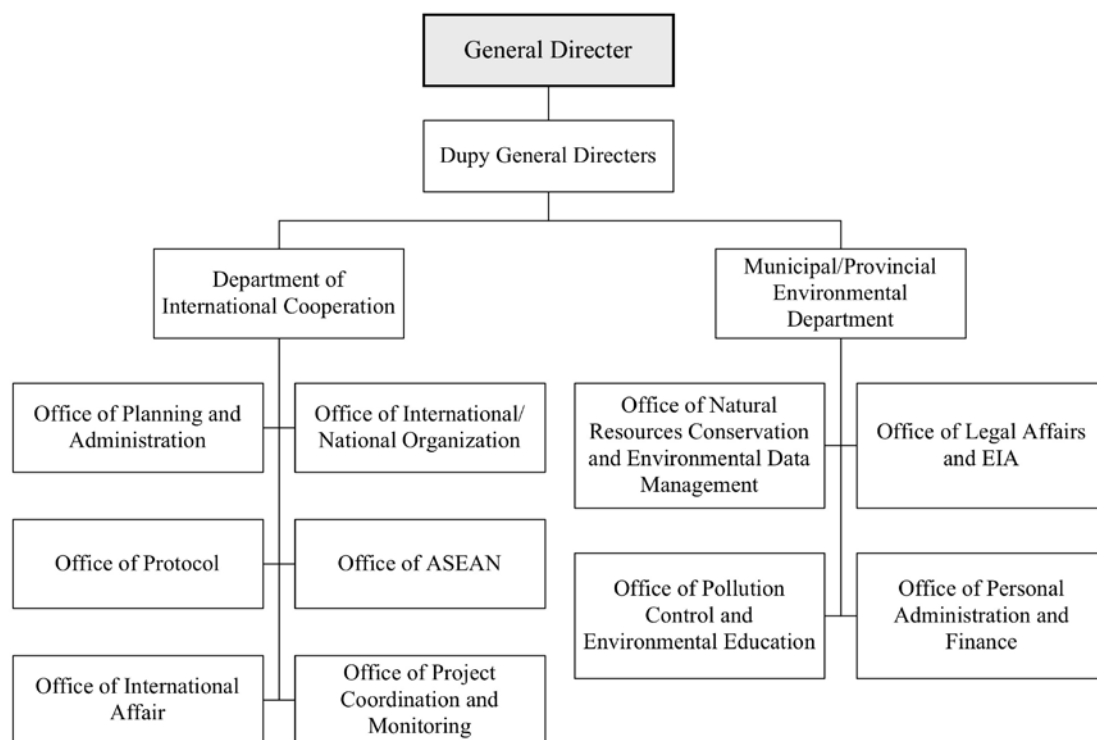
pollution sources, assessing the current status and future trends of the aquatic environment and natural resources, preparing and implementing legislation for environmental protection and natural resources management, and issuing permits to factories for treated wastewater discharge based on national effluent water quality standards (WEPA 2013).



Source: WEPA (2013)

**Figure 1.2.3: Organisation Chart of the Ministry of Environment**

At the municipal/provincial level, each municipality or province has its own environment department. Figure 1.2.4 depicts the organisational arrangement of municipal/provincial departments of environment (PDEs).



Source: JICA (2012)

**Figure 1.2.4: Organisational Chart of Municipal/Provincial Departments of Environment (PDEs)**

### 1.3 Overview and Contact Details of Relevant Organisations

#### 1.3.1 Governmental Organisations and Research Institutions

Table 1.3.1 presents a list of governmental organisations and research institutions working in the environmental and social sectors in Cambodia.

**Table 1.3.1: List of Governmental Organisations and Research Institutions related to Environmental and Social Considerations in Cambodia**

Organisations	Assigned Roles	Contact Address
Office of the Council of Ministers	The primary body of the executive branch of the Royal Government of Cambodia.	Address: 41 Russian Federation Blvd, Phnom Penh Tel: +855-23-880619, 12-881966 Fax: +855-23-880619 Email: ocm@cambodia.gov.kh

Organisations	Assigned Roles	Contact Address
Ministry of Environment (MoE)	The Ministry of Environment (MoE) is the key agency responsible for environmental protection and natural resources conservation. The MoE is responsible for protected areas, flooded forests and mangroves inside protected areas. It is also in charge of other environmental issues, as well as environmental monitoring and assessment and the implementation of international environmental treaties.	Address: 48 Sihanouk Blvd., Tonle Bassac, Chamkar Morn, Phnom Penh Tel: +855-23-427894 Fax: +855-23-212540 Email: moe-cabinet@camnet.com.kh
The General Department of Administration for Nature Conservation and Protection (GDANCP)	The General Department of Administration for Nature Conservation and Protection (GDANCP) of the MoE hosts the Department of Climate Change (DCC), which acts as the secretariat for the National Climate Change Committee (NCCC). The GDANCP is responsible for assisting the MoE with managing Protected Areas (PA) in Cambodia and for developing and implementing the Protected Areas Strategic Management Plan.	Address: Ministry of Environment, 48 Sihanouk Blvd., Tonle Bassac, Chamkar Morn, Phnom Penh Tel: +855-23-6445222
Ministry of Industry, Mines and Energy (MIME)	MIME is responsible for developing, implementing and managing government policy, strategy and plans with regard to energy, mineral extraction, and industry (including SMEs). MIME is responsible for developing, planning and coordinating electricity sector policy, though new projects and plans are subject to EIA under the jurisdiction of MoE.	Address: 45 Norodom Blvd., Phnom Penh Tel: +855-23-211751 Fax: +855-23-428263 Email: info@mime.gov.kh URL: www.mime.gov.kh
Ministry of Water Resources and Meteorology (MOWRAM)	Responsibilities include development and implementation of water resource strategy, determination of water potential, and collection and management of	Address: 47 Norodom Blvd., Phnom Penh Tel: +855-23-882160, 724-327 Fax: +855-23-426345, 213428



Organisations	Assigned Roles	Contact Address
	meteorological data.	Email: <a href="mailto:mowram@cambodia.gov.kh">mowram@cambodia.gov.kh</a> URL: <a href="http://www.mowram.gov.kh">www.mowram.gov.kh</a>
Ministry of Land Management, Urban Planning and Construction	In charge of land use, urban planning, construction projects, and land use conflicts.	Address: 771-773, Monivong Blvd., Phnom Penh Tel: +855-23-215660, 215659 Fax: +855-23-217035, 215277 Email: <a href="mailto:gdadmin-mlmupc@camnet.com.kh">gdadmin-mlmupc@camnet.com.kh</a> URL: <a href="http://www.mlmupc.gov.kh">www.mlmupc.gov.kh</a>
Ministry of Rural Development (MRD)	MRD has complete responsibility within Cambodia for the following rural development initiatives and activities: (1) Coordinating, cooperating, implementing, monitoring and evaluating rural development projects and programmes in order to rehabilitate and help develop the country's rural areas by assisting the rural population. (2) Coordinating the operational efforts of the various line ministries and assistance programmes. (3) Actively 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 maximise identified opportunities.	Address: Corner of Street 169 and Russian Boulevard, Phnom Penh Tel: +855-23-884539 Fax: +855-23-991117 URL: <a href="http://www.mrd.gov.kh">www.mrd.gov.kh</a> Email: <a href="mailto:mrd@mrd.gov.kh">mrd@mrd.gov.kh</a>
The Ministry of Public Works and Transport (MPWT)	The Ministry of Public Works and Transport has the following mission and functions related to environmental issues: • Manage the implementation of national policy concerning all public works construction by establishing the principles of law and cooperating with various organisations to develop the country. • Build, maintain and manage all	Address: Corner Norodom Blvd. and Street 106, Phnom Penh Tel: +855-23-427845 Email: <a href="mailto:info@mpwt.gov.kh">info@mpwt.gov.kh</a> URL: <a href="http://www.mpwt.gov.kh">www.mpwt.gov.kh</a>

Organisations	Assigned Roles	Contact Address
	<p>transportation infrastructure, such as roads, bridges, ports, railways, waterways and buildings.</p> <ul style="list-style-type: none"> <li>• Establish regulations for the development of roads, ports, railways and waterways.</li> <li>• Establish regulations and control transport by road, railway and waterway.</li> <li>• Participate and cooperate to establish laws, regulations and diverse standards concerning the construction of transport infrastructure.</li> </ul>	
The Ministry of Planning (MoP)	The Ministry of Planning is responsible for guiding and managing national socioeconomic development planning, including the management of the statistical functions of the government. It works in close cooperation with other ministries and institutions in Cambodia to fulfil these planning and statistical roles at both the central and sub-national levels.	<p>Address: 386 Monivong Blvd., Phnom Penh</p> <p>Tel: +855-23-212049, 720901</p> <p>Fax: +855-23-210944</p> <p>Email: mop@cambodia.gov.kh</p> <p>URL: www.mop.gov.kh</p>
The Ministry of Interior	<p>The Ministry of Interior oversees the strategic framework on decentralisation and de-concentration reform, and the comprehensive and in-depth governance reform process of the sub-national administrations of the Royal Government. Its goals are to:</p> <ul style="list-style-type: none"> <li>• Bring local administrations closer to each other and better serve the public</li> <li>• Create a culture of local participatory democracy, accountable to the citizens</li> <li>• Improve public services and infrastructure</li> <li>• Bring about social and economic development</li> </ul>	<p>Address: 275 Norodom Blvd., Chamkar Morn, Phnom Penh</p> <p>Tel: +855-23-726052, 721905</p> <p>Fax: +855-23-726052</p> <p>Email: moi@interior.gov.kh</p> <p>URL: www.interior.gov.kh</p>

Organisations	Assigned Roles	Contact Address
	<ul style="list-style-type: none"> <li>• Contribute to poverty reduction.</li> </ul>	
Ministry of Agricultural, Forestry and Fisheries (MAFF)	MAFF has a mandate over agriculture, including forestry and fisheries.	Address: 200 Norodom Blvd., Tonle Bassac, Phnom Penh Tel: +855-23-211351, 211-352 Fax: +855-23-217320 Email: info@maff.gov.kh URL: www.maff.gov.kh
The Forestry Administration (FA)	<p>The Forestry Administration (FA) is a government authority under the Ministry of Agriculture, Forestry and Fisheries (MAFF) in managing forests and forest resources according to the National Forestry Sector Policy and the Forestry Law.</p> <p>The Forestry Administration has a unique management and organisation structure for the whole country in a vertical line, which is divided into central, inspectorate, cantonment, division, and triage forestry administration levels.</p>	Address: 40 Norodom Blvd. Phsar Kandal 2, Daun Penh, Phnom Penh Tel/Fax : +855-23-212201 Email: kamfo@online.com.kh URL: www.forestry.gov.kh
Ministry of Health (MoH)	The MoH has a mandate over public health. Its ultimate objective is to eliminate vector-borne disease.	Address: 151-153, Kampuchea Krom Blvd., Phnom Penh Tel: +855-23-722873, 880261, 881405, 881409 Fax: +855-23-426841, 722-873, 880261, 366186 Email: webmaster@moh.gov.kh URL: www.moh.gov.kh
The Ministry of Women's Affairs (MoWA)	The MoWA is the principal national mechanism for coordinating gender policy development and for monitoring and reporting, though a larger number of ministries are now preparing and implementing their own gender mainstreaming programmes.	Address: 3 Norodom Blvd., Wat Phnom, Daun Penh, Phnom Penh Tel: +855-23-216704

Organisations	Assigned Roles	Contact Address
Council for the Development of Cambodia (CDC)	One-stop service for rehabilitation, development, and oversight of investment activities. Facilitates and coordinates government-donor relations.	Address: Government Palace, Sisowath Quay, Wat Phnom, Phnom Penh Tel/Fax: +855-23-427597, +855-23-428954 Website: www.cambodiainvestment.gov.kh Email: info@cambodiainvestment.gov.kh
Cambodian Agricultural Research and Development Institute (CARDI)	Research body for sustainable agricultural and economic development, with the primary aim of food security through increased rice production.	Address: National Road 3, 12413 Phnom Penh Tel: +855-23-6319693, 4 Email: cardi@cardi.org.kh URL: www.cardi.org.kh
International Organisation for Migration (IOM)	An intergovernmental organisation that is committed to the principle that humane and orderly migration benefits all. It also undertakes research that looks into the effects of environmental problems (such as climate change) and global migration flows.	Mail: P.O. Box 435, General Post Office, Phnom Penh Tel: +855-23-216532, +855-23-214132, +855-23-720406 Fax: +855-23-216423 Email: iomphnompenh@iom.int
Ministry of Social Affairs, Veteran and Youth Rehabilitation (MOSVY)	In charge of social affairs, labour, vocational training and youth rehabilitation. It works with agencies such as UNICEF, UNHCR, and the IOM to implement programmes and projects related to reducing trafficking. It also develops vocational training programmes and assists with programmes to reduce juvenile delinquency.	Address: 788 Monivong Blvd, Sangkat Beoung Trabek, Khan Chamkamorn, Phnom Penh Tel: +855-23-725191 Fax: +855-23-427322 URL: www.mosvy.gov.kh
Authority for the Protection and Management of Angkor and the	In charge of research, protection and conservation of cultural heritage, as well as urban and tourist development. This includes managing the temples of	Address: The Office of the Council of Ministers, 41 Russian Federation Blvd., Mitpheap, 7 Makara, Phnom Penh

Organisations	Assigned Roles	Contact Address
Region of Siem Reap (APSARA)	Angkor as a national and world heritage site.	Administration Office: 2nd Floor, Room E2-3 Tel: +855-23-720315 Fax: +855-23-990185
Electricite Du. Cambodge (EDC)	A state-owned limited liability company that is in charge of generating, transmitting and distributing electric power throughout Cambodia	Address: Street 19, Wat Phnom, Daun Penh District, Phnom Penh, Tel: +855-23-723971 Fax: +855-23-426018 URL: <a href="http://www.edc.com.kh/">http://www.edc.com.kh/</a>
Royal University of Phnom Penh (RUPP)	One of Cambodia's oldest and largest public universities. It is the leading higher education institute in Cambodia. It is committed to research for the development of the country.	Address: Russian Federation Boulevard, Toul Kork, Phnom Penh Tel: +855-23-883640 Fax: +855-23-880116 Email: <a href="mailto:secretary@rupp.edu.kh">secretary@rupp.edu.kh</a> URL: <a href="http://www.rupp.edu.kh/">http://www.rupp.edu.kh/</a>

### 1.3.2 Donors

Cambodia receives aid from countries such as Japan, Norway, the United Kingdom, the United States, Australia, and other friendly governments. Multilateral organisations such as the World Bank (WB) and the Asian Development Bank (ADB), and UN agencies such as the United Nations Development Programme (UNDP) provide significant assistance through loans and grants. Foreign aid accounts for almost half of Cambodia's total annual national budget.

Donors active in the environmental and social sectors in Cambodia are shown in Table 1.3.2.

**Table 1.3.2: Major Donors in Cambodia**

International Donors		
Organisations	Assigned Roles	Contact Address
World Bank (WB)	Priority areas for the World Bank are removing governance constraints on growth and poverty reduction, and supporting the strategies and investments that help attain Cambodia's development goals.	Address: 113 Norodom Blvd. Phnom Penh Tel: +855-23-861300 Fax: +855-23-861301/302 Email:

International Donors		
Organisations	Assigned Roles	Contact Address
		cambodia@worldbank.org
Asian Development Bank in Cambodia (ADB)	ADB operations in Cambodia focus on transportation, water supply, sanitation, urban development, agriculture, natural resources, education and finance.	29 Suramarit Boulevard (St. 268), Chaktomuk, Daun Penh P.O. Box 2436, Phnom Penh Tel: + 855-23-215805, 806, 216417 Fax: +855-23-215807
United Nations in Cambodia	The UN Country Team is made up of 27 specialised agencies, funds and programmes that support national development. They work towards eradicating poverty, investing in human development and improving livelihoods.	Address: 53 Street 51 (corner of Street 334), Boeung Keng Kang I, Chamkar Morn, Phnom Penh Tel: +855-23-216167 Fax: +855-23-216257 Email: un.cambodia@one.un.org URL: www.un.org.kh
United Nations Development Programme in Cambodia (UNDP)	UNDP aims to build nations that can withstand crisis by enhancing the government's ability to deliver public services efficiently, effectively, and with accountability. It also contributes to emergency relief operations. Key areas include improving the status of Cambodian women, as well as disaster risk management in relation to climate change.	Address: 53 Pasteur Street, Boeung Keng Kang I Mail: P.O. Box 877, Phnom Penh Tel: +855-23-216167, 217193 Fax: +855-23-216257, 721042 Email: registry.kh@undp.org URL: www.kh.undp.org
International Labour Organisation (ILO)	The ILO has supported Cambodia with its economic, social, and democratic recovery and has worked towards helping restore livelihoods, generate sustainable employment, rebuild infrastructure, and establish and strengthen democratic institutions.	Address: Phnom Penh Center Building F, 2nd floor Corner Sihanouk Blvd. & Sothearos Blvd., Phnom Penh Tel: +855 23 220 817 Fax: +855 23 221 536 URL: <a href="http://www.ilo.org/asia/countries/cambodia/lang--en/index.htm">http://www.ilo.org/asia/countries/cambodia/lang--en/index.htm</a>
Food and Agriculture	FAO provides input and training to food-insecure farming families so they can be	Address: House 5, Street 370, Boeung Keng Kang I, Chamkar

International Donors		
Organisations	Assigned Roles	Contact Address
Organisation of the United States	more productive. It also engages in small-scale aquaculture activities and helps plant vegetable gardens in households. Nutrition education is promoted and feeding practices are improved based on local food.	Morn, Phnom Penh Mail: P.O. Box 53, Phnom Penh Tel: +855-23-216566

#### (1) ADB

The ADB is one of Cambodia's most active multilateral donors. According to the ADB's country partnership strategy (CPS) with Cambodia, it considers public sector management to be a facilitating sector, and works in the areas of public financial management, decentralisation, anti-corruption and capacity development. The ADB also responds to challenges such as climate change, rural-urban linkages and regional cooperation. ADB's cross-cutting themes are private sector development, governance, gender equity, knowledge solutions and partnerships (ADB 2013).

#### (2) World Bank

The World Bank started providing financial aid to Cambodia in 1993, and total loans and grants until December 2011 amounted to 369.9 million USD for 13 active projects (World Bank 2013).

Following years of conflict, the World Bank's priority in Cambodia was the reconstruction of social and economic institutions, as well as the development of physical infrastructure. Human development is also an important World Bank development priority for Cambodia, especially in the areas of health and education.

A concern for the World Bank is the issue of land conflicts and the potential harm they may cause to the sustainability of Cambodia's economic and social development. The World Bank is in discussion with the Royal Government of Cambodia on how to support the country's development (World Bank 2013).

Projects by the World Bank have had an impact on many sectors, including education, health, water and energy.

### 1.3.3 NGOs

The first local NGO in Cambodia was established in 1991, after the first humanitarian international NGO arrived in 1989 (ICNL 2013, CDC-CRDB n.d.). Before then, international NGOs had been in operation in Cambodia since the late 1960s until the start of the Khmer Rouge regime.

**Table 1.3.3: NGOs Active in the Environmental and Social Sectors in Cambodia**

Environmental Considerations		
Organisations	Assigned Roles	Contact Address
International Union for Conservation of Nature and Natural Resources (IUCN)	As the world's largest and oldest global environmental network, IUCN in Cambodia focuses on protected areas, governance, and sustainable financing. It aims to develop strong partnerships with the government and stakeholders in order to effectively conserve and protect Cambodia's environment.	Address: 6B Street 368, Sangkat Boeng Keng Kang III, Khan Chamkar Mon, Phnom Penh, Cambodia Phnom Penh Tel: +855 23 222 311 Fax: +855 23 222 312 Email: info.cambodia@iucn.org
World Wildlife Fund for Nature (WWF)	Established in 1995, WWF-Cambodia is part of the WWF Greater Mekong Programme, which coordinates conservation efforts across Indochina. It aims to ensure that the country's rich biological diversity will be conserved through the encouragement of the sustainable use of natural resources. It also enhances livelihood, which contributes to poverty reduction.	Address: 21, Street 322, Boeung Keng Kang I, Chamkar Morn, Phnom Penh Tel: +855 23 218 034 Fax: +855 23 211 909 Email: wwfcambodia@wwfgreatermekong.org
Wildlife Alliance	Wildlife Alliance works towards habitat preservation, environmental conservation and poverty alleviation. It also actively fights against environmental destruction in the tropical belt.	Address: 86 Street 123 Toultompong I, Chamkar Morn, Phnom Penh Tel: +855 23 211 604 Fax: +855 23 211 672
WorldFish	WorldFish pushes for sustainable development in greening the economy, optimising water management for local livelihoods in the Mekong Basin, improving rice field fisheries, and doing research on agricultural and aquatic systems.	Address: 35 Street 71 (Corner of Mao Tse Toung Blvd.) Boeung Keng Kang 1, Chamkar Morn, Phnom Penh Mail: P.O. Box 1135 (Wat Phnom), Phnom Penh



Environmental Considerations		
Organisations	Assigned Roles	Contact Address
		Tel: +855 23 223 206/8 Fax: +855 23 223 209 Email: worldfish-cambodia@cgiar.org URL: http://www.worldfishcenter.org/

Social Considerations		
Organisations	Assigned Roles	Contact Address
Cambodian League for the Promotion and Defence of Human Rights (LICADHO)	A human rights organisation, LICADHO aims to protect civil, political, economic and social rights in Cambodia. It serves as a monitor of the government with its Monitoring & Protection and Promotion & Advocacy programmes.	Address: 16 Street 99, Boeung Trabek, Phnom Penh Mail: P.O. Box 499, Phnom Penh Tel: +855 23 727 102/+855 23 216 602 Fax: +855 23 727 102/ +855 23 217 626 Email: contact@licadho-cambodia.org URL:www.licadho-cambodia.org
Cambodian Human Rights and Development Association (ADHOC)	ADHOC enables the citizens of Cambodia to defend their own rights, and lobby and advocate for better governance and full respect for human rights. ADHOC also assists victims of human rights abuses.	Address: 3 Street 158 (Oknha Troeung Kang), Boeung Raing, Daun Penh, Phnom Penh P.O. Box: 1024 Tel: +855 23 218 653 / 990 544 Fax: +855 23 217 229 Email: adhoc@forum.org.kh URL: www.adhoc-cambodia.org
Indigenous Community Support Organisation (ICSO)	To support indigenous peoples' networks through developing and strengthening the capacity of their member organisations in the protection of their natural and traditional resources. ICSO supports indigenous identity and knowledge and believes that indigenous peoples can improve their economic, social, and cultural affairs effectively and	Address: 90 Street 304, Boeng Keng Kang II, Chamkar Morn, Phnom Penh Tel: +855 23 997 657 Email: ppoffice@icso.org.kh URL: www.icso.org.kh

Social Considerations		
Organisations	Assigned Roles	Contact Address
	sustainably through it.	
Culture and Environment Preservation Association (CEPA)	Aside from conducting trainings on nature resource management and empowering forest and river dependent people on resource management, it also advocates for environmental rights, community-based forest management and research.	Address: 51F Street 210, Toek Laok 3, Toul Kork, Phnom Penh P.O Box: 1486 CCC Box: 357 Tel: +855 23 881 613 Email: cepa@cepa-cambodia.org URL:www.cepa-cambodia.org
Cambodian Center for Human Rights (CCHR)	CCHR is a leading non-aligned, independent, non-governmental organisation that works to promote and protect democracy and respect for human rights – primarily civil and political rights - in Cambodia. CCHR is an advocacy organisation facilitating grassroots participation by empowering local communities through education of their civil and political rights. It facilitates constructive interaction between Cambodian civil society and the international community in order to advocate the progressive realisation of Cambodian human rights.	Address: 798 Street 99, Boeng Trabek, Chamkarmon, P.O.Box: 1506, Phnom Penh Tel:+855 23 726 901 Fax: +855 23 726 902 Email: info@cchrcambodia.org URL: <a href="http://www.cchrcambodia.org/">http://www.cchrcambodia.org/</a>
Handicap International (HIF)	Handicap International is an independent international aid organisation working in situations of poverty and exclusion, conflict and disaster. Handicap International's goal in Cambodia is to support a better future for people with disabilities and to take action to prevent the causes of disability.	Address: 6 Street 348, Sangkat Boeung Keng Kang III, Khan Chamkarmorn, Phnom Penh Tel: +855-23 214 504, +855-23 212 897, +855-12 441 982 Email: office@hicambodia.org URL: <a href="http://www.handicap-international.org/">http://www.handicap-international.org/</a>
Youth with Disabilities Foundation for Education and	Yodiffee is a Cambodian non-governmental organisation, based in Takhmao in the Kandal district that seeks to empower young Cambodians with disabilities through	Address: Villa Maria Phum Prek Reang Khum Kompong Samnanh Takhmao. Kandal

Social Considerations		
Organisations	Assigned Roles	Contact Address
Employment (Yodifée Cambodia)	education and training, leading to employment and self-sufficiency.	Tel: +855 12 324 548 URL: <a href="http://www.yodifée.org/">http://www.yodifée.org/</a>
Cambodian Disabled People's Organisation	Cambodian Disabled People's Organisation (CDPO) is a membership based non-governmental organisation of people with disabilities established to represent formally people with disabilities in Cambodia.	Address: Wat Than, Norodom Blv, Sangkat Tonle Bassac, Khan Chamcar Mon, Phnom Penh Email: <a href="mailto:v.movea@cdpo.org">v.movea@cdpo.org</a> URL: <a href="http://www.cdpo.org">www.cdpo.org</a>

## **Chapter 2**

### **Natural Environment**



## 2 Natural Environment

### 2.1 Overview

Cambodia is regarded as one of the most biologically diverse countries in its region. Wetlands cover 30% of the country. The principal ones are the Mekong River and the Tonle Sap Lake, which also serves as a highly important nesting and feeding ground for waterbirds. With forest coverage comprising 57% of Cambodia's total land area, these diverse natural resources are also a good source of income for the country and its people.

### 2.2 Regulations and Policies

#### 2.2.1 International Agreements

Based on its commitment as a signatory to the Convention on Biological Diversity (CBD) at the 1992 Earth Summit in Rio de Janeiro, the MoE of Cambodia developed a National Biodiversity Strategy and Action Plan (NBSAP) in 2002. This strategy aims to develop equitable economic prosperity and an improved quality of life through sustainable use, protection and management of biological resources. As the implementation of NBSAP and management of protected areas and coastal zones have been strengthened, logging has been reduced, and more efforts are being taken to crack down on forest-related crimes (CBD 2013).

Further, in 1997 Cambodia became a party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora, more commonly known as CITES, which aims to protect certain plants and animals by regulating and monitoring their international trade. Ministry of Agriculture and Forestry (MAF) serves as National Management Authority (NMA) for CITES in Cambodia, while the Department of Fisheries and the Department of Forestry and Wildlife under MAFF serve as Scientific Authorities. MoE also plays a vital role in conservation by managing the protected areas. Cambodia further developed its efforts in implementing CITES by signing a 2002 Memorandum of Understanding with TRAFFIC, an international wildlife trade monitoring network. However, Cambodia still faces difficulties in implementing CITES due to a lack of means and capacity (Chuon 2004; WEPA 2012).

In addition to the above conventions, Cambodia is also a contracting party to the Convention on Wetlands, commonly known as the Ramsar Convention. The Ramsar Convention is a treaty that

embodies the commitments of its member countries to maintain the ecological character of their wetlands of international importance and to plan for the ‘wise use’, or sustainable use, of all the wetlands in their territories. Currently, there are three Ramsar sites designated in Cambodia (see 2.4.2).

For further details of the status of the ratification and application of international agreements, refer to Table A-2 in the Appendix.

### 2.2.2 Domestic Laws

The Environmental Protection and Natural Resources Management Law (1996) is the framework governing environmental protection, pollution control, and natural resource management in Cambodia. This law aims to (i) protect and promote environmental quality and public health through the prevention, reduction, and control of pollution; (ii) assess the environmental impact of all proposed projects prior to the issuance of a decision by the Royal Government; (iii) ensure rational and sustainable conservation, development, management, and use of the natural resources of the Kingdom of Cambodia; (iv) encourage and enable the public to participate in environmental protection and natural resource management; and (v) prevent activities that are harmful to the environment. This law makes the MoE responsible for environmental protection in Cambodia, in collaboration with concerned ministries.

The following laws are also relevant to the protection and management of natural resources and the environment in Cambodia.

**Table 2.2.1: Laws in Cambodia related to Environmental Protection**

No.	Laws
1.	Law on Environmental Protection and Natural Resources Management (1996)
2.	Law on Protected Areas in the Tonle Sap Lake (2001)
3.	Law on the Adoption of the Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (1996)
4.	Law on Protected Areas (2008)
5.	Law on Water Resources Management (2007)
6.	Law on Fisheries (2006)
7.	Forestry Law (2002)

In order to support the implementation of these environmental laws and policies, Cambodia has

developed and implemented a number of decrees and regulations.

**Table 2.2.2: Decrees, Sub-Decrees and Declarations in Cambodia  
related to Environmental Protection**

No.	Decrees and regulations
1.	Royal Decree on the Protection of Natural Areas (1993)
2.	Regulations on the Creation and Designation of Protected Areas (1993)
3.	On Natural Resource Management for Preak Tueksap Area, Sihanoukville Municipality (1998)
4.	Sub-Decree on Community Fisheries (2007)
5.	Sub-Decree on Promulgation of the Fisheries Law.
6.	Regulation on Work in Sea Fishing
7.	Sub-Decree on Forest Concession Management (2000)
8.	Sub-Decree on Community Forestry Management (2003)
9.	Sub-Decree on Procedures for Establishment, Classification and Registration of Permanent Forest Estate (2005)
10.	Sub-Decree on the Establishment of the Protected Forest for Biodiversity Conservation, Elephant Corridor Protection and Wildlife Rehabilitation Centre in Koh Kong Province (2004)
11.	Sub-Decree on Timber and Non-Timber Forest Products Allowed for Export and Import (2006)
12.	Sub-Decree on Rules for Granting User Rights to Plant Trees Within State Forest Lands (2008)
13.	Sub-Decree on Community Forestry Management (2003)
14.	Sub-Decree on Forest Concession Management (2000)
15.	Sub-Decree on the Establishment of the National Committee to Manage and Execute Forest Management Policy (1998)
16.	Sub-Decree on Forest Coupe Bidding for Harvesting (1991)
17.	Declaration on the Promulgation of Forest Revenue Management System (2004)
18.	Declaration on Forest Policy (1995)
19.	Declaration on Tree Species to be Prohibited for Cutting (1993)
20.	Declaration on the Rules of Forest Coupe Bidding for Harvesting
21.	Sub-Decree on the Establishment of the Protected Forest for Biodiversity Conservation, Elephant Corridor Protection and Wildlife Rehabilitation Centre in Koh Kong Province (2004)



No.	Decrees and regulations
22.	Sub-Decree on the Establishment of Protected Forest Mondul Kiri for Genetic Resources and Wildlife Conservation (2002)
23.	Sub-Decree on the Establishment of Protected Forest Preah Vihear for Genetic Resources and Wildlife Conservation (2002)
24.	Sub-Decree on Environmental Impact Assessment (1999)
25.	Declaration on Wildlife Species to be Prohibited for Hunting (2004)
26.	Declaration on the Prohibition of Forest Trade, Forest Harvesting, Forestland Encroachment and Wildlife Hunting in the Central Cardamom Region (2001)
27.	Declaration on Wildlife Species to be Prohibited for Hunting (1994)
28.	Declaration on the Suppression of Wildlife Destruction in the Kingdom of Cambodia (1996)
29.	Declaration on Classification and List of Wildlife Species (2007)
30.	Declaration on Protected Areas (1994)

The Royal Government of Cambodia has also included long-term environmental management policies under the National Strategic Development Plan (NSDP), which has been now updated for 2009–2013 (for details of the national plan, see Chapter 1). The updated plan sets goals of maintaining 60% forest cover, approving at least 450 community forests and reducing fuel wood dependence by 2013 (REDD 2012). One of the key programmes under the plan is the National Forest Programme (NFP) 2010–2030. However, since the NFP was developed to guide the management of the permanent forest estate, it does not cover Protected Areas (PAs). The Forestry Administration (FA) is primarily responsible for the development and implementation of the NFP, monitored by NGOs (REDD 2013). According to the Sub-Decree on Procedure Establishment Classification and Registration of Permanent Forest Estate, the permanent forest estate includes permanent forest reserves (forest located on land that is not owned by private individuals. It is classified into three categories, namely production forest, protection forest and conversion forest) and private forests (trees planted or naturally grown on land which is registered and provided title to private under the state legislation and procedures).

The major government bodies related to the protection and conservation of the natural environment in Cambodia are as follows:

- 1) MoE (especially the Department of Natural Conservations and Protection)
- 2) MAFF (especially the Department of Forestry and Wildlife and the Department of Fisheries)

## 2.3 Wildlife Species

Cambodia has a large variety of habitats, both on land and in water, which are home to a significant number of diverse and threatened wildlife species. Among mammals, wild cattle and deer as well as predators such as tigers and leopards still roam the remote forests of the Eastern Plains Landscape, while a small population of Irrawaddy Dolphins inhabits the Cambodian section of the Mekong River. Birds are equally plentiful, and Cambodia's populations of large waterbirds in both forests and wetlands stand out as globally significant. The Mekong River is also home to several species of endangered and iconic fish and reptiles, and critically endangered Siamese crocodiles have been observed in the Eastern Plains' Srepok River.

### 2.3.1 Endemic Species

While the diversity of flora and fauna in Cambodia is relatively high, the total number of species endemic to Cambodia is extremely low, as shown in Table 2.3.1. As mentioned earlier, a full inventory of species in Cambodia has yet to be completed, so these numbers are very likely to change. For details of endemic species, refer to Table A-3 in the Appendix.

**Table 2.3.1: Total endemic species in Cambodia (totals by taxonomic group)**

Kingdom	Class	Comprehensively assessed group	Non-comprehensively assessed group
Animalia	Mammalia	1	0
	Aves	1	0
	Amphibia	3	0
	Crustacea	2	0
	Reptilia	0	1
	Actinopterygii	0	6
	Gastropoda	0	6
Plantae	Liliopsida	0	1
Total		7	14

Source: IUCN (2013)

A new species of lowland tailorbird *Orthotomus* was identified in the dense humid evergreen lowland scrub in the floodplain of the Mekong, the Tonle Sap Lake, and the Bassac River in

Cambodia. The researchers who identified this new species named it *Orthotomus chaktomuk*. This new species is found exclusively in the scrubs located in the floodplain formed at the junction of the abovementioned rivers. The exact geographical distribution of this species is not completely known yet. Its geographical coverage area is currently assumed to be restricted to less than 10,000 km<sup>2</sup>. Areas currently occupied by *Orthotomus chaktomuk* are under threat from human activity (e.g. rice cultivation, grazing, wood harvesting, etc.), although the survival of the species itself also depends on anthropogenic impacts that prevent the scrubs from turning into a forest. The new species occupies the same geographic area as two other lowland tailorbird species (*O. atrogularis* to which it is genetically closest, and *O. sutorius*), with no evidence of hybridization and intergradation between them (Mahood et al. 2013).

Despite being found in abundant numbers in its places of habitat, and given the current state of knowledge and issues mentioned above as well as the scientific expectation that the species is undergoing a decline in numbers, *O. chaktomuk* has been classified as Near Threatened on the IUCN Red List. Therefore, care and caution should be applied when implementing new projects (especially hydropower dam projects) around its area of distribution, given that the very recent discovery of *O. chaktomuk* points to the possible existence of other endangered bird species sharing the same geographical area.

The fact that a new vertebrate species was found as recently as 2013 suggests that there may be other undiscovered species living in dense environments and that project proponents should pay attention to this possibility.

### 2.3.2 Endangered Species

The world's most comprehensive inventory of the global conservation status of biological species has been compiled by the International Union for Conservation of Nature (IUCN). The latest report, published in February 2012, categorises 192 species of animals and 33 species of plants in Cambodia as critically endangered (CR), endangered (EN) or vulnerable (VU). For details of each species, see Tables A-4 and A-5 in the Appendix.

**Table 2.3.2: The Conservation Status of Biological Species in Cambodia**

	EX	EW	CR	EN	VU	Total
Animal	0	0	19	39	134	192
Plant	0	0	9	14	10	33

Notes: EX: Extinct; EW: Extinct in the wild; CR: Critically endangered; EN: Endangered; VU: Vulnerable

Source: IUCN (2012a)

**Table 2.3.3: Threatened Species in Cambodia (totals by taxonomic group)**

Mammals	Birds	Reptiles	Amphibians	Fish	Mollusc	Other Inverts	Plants	Total
37	26	18	3	40	1	67	33	225

Source: IUCN (2012b)

The 2007 Declaration on Classification and List of Wildlife Species lists three categories of wildlife species in Cambodia: endangered species, rare species, and common species. The list in this Declaration is used to prosecute traders of items such as pangolin and leopard skins. The Department of Forestry and Wildlife under the MAFF is primarily in charge of terrestrial wildlife conservation, and the Department of Fisheries is responsible for marine/aquatic wildlife conservation in Cambodia. In 2009, the Prime Minister signed a Sub-Decree identifying 58 endangered aquatic animals including 29 freshwater fish, reptile, and mammal species.

### 2.3.3 Internationally Protected Species

There are a number of treaties and conventions related to the conservation and protection of species. In this section, the Convention on the Conservation of Migratory Species of Wild Animals (often abbreviated as CMS, and also known as the Bonn Convention) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (often abbreviated as CITES) are discussed.

CMS was signed in 1979 in Bonn and came into force in 1983. Its aim is to conserve terrestrial, marine and avian migratory species throughout their natural habitats. It is an intergovernmental treaty concluded under the aegis of the United Nations Environment Programme and concerned with the conservation of wildlife and habitats on a global scale. For more detailed information on CMS-designated species in Cambodia, see Table A-6 in the Appendix.

As of 21 November 2011, roughly 5,000 species of animals and 29,000 species of plants were protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Sixty-six species of animals and 139 species of plants are listed under Cambodia in Appendices I, II and III of the Convention. For details on the species in Cambodia designated by CITES, refer to Tables A-7 and 8 in the Appendix.

**Table 2.3.4: Total of CITES-listed Species in Cambodia**

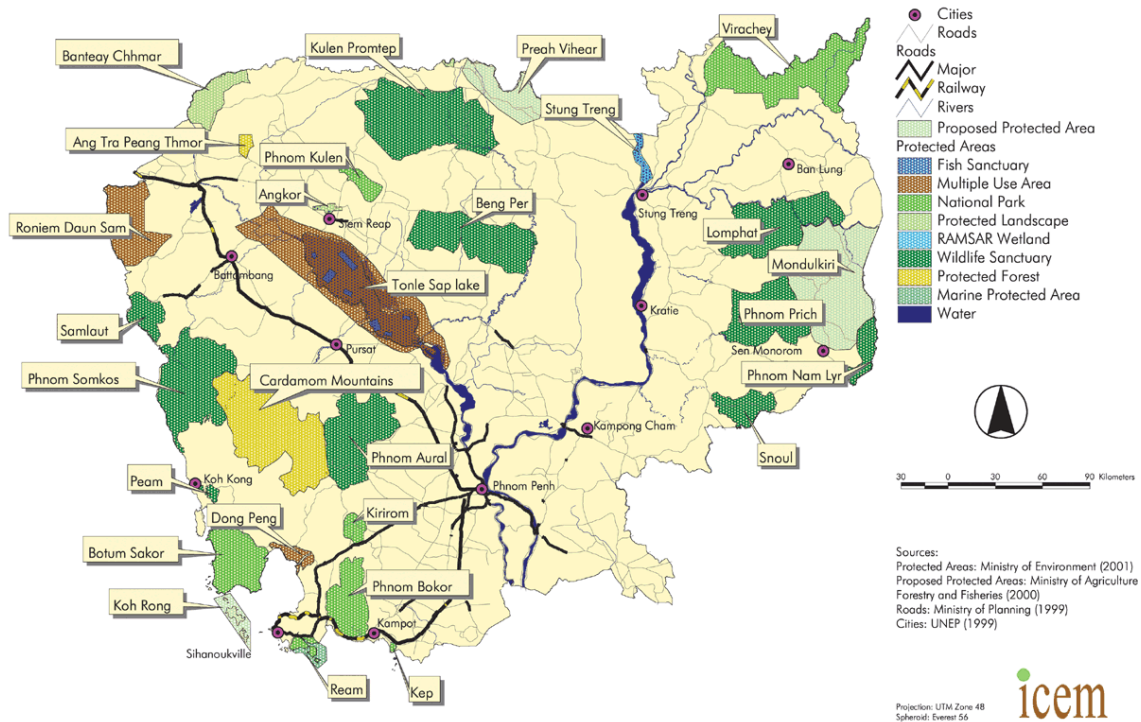
Appendix	Animal	Plant
I	42	3
I/r	7	
I/w	5	
II	112	82
II/r	6	
II/w	8	
III	4	
III/w	7	
Total	191	85

Source: UNEP-WCMC (2013)

## 2.4 Important Ecosystems and Habitats

### 2.4.1 Protected Areas

Cambodia was the first country in South East Asia to establish protected areas. By 1969, 12% of the country had been set aside for the protection of wildlife. The country's long period of civil war led to the collapse of this system. However, since the 1990s, serious measures have been taken to conserve Cambodia's biodiversity through recommencement and intensification of protected areas (ICEM 2003). The protected areas in Cambodia currently include seven national parks, ten protected forests, ten wildlife sanctuaries, four protected landscapes and six multiple use areas covering an area of 46.013 km<sup>2</sup>, representing 25.42% of the country.



Source: ICEM (2003)

**Figure 2.4.1: Protected Areas of Cambodia**

Cambodia has five types of protected areas: national parks, protected forests, wildlife sanctuaries, protected landscapes and multiple use areas. This conforms to IUCN’s protected areas classification system (see Table A-9 in the Appendix). The national parks, wildlife sanctuaries and protected forests fall under categories II and IV, while the protected landscapes fall under category V and the multiple use areas under category VI (ICEM, 2003). These areas are defined under the Protected Area Law 2008 and are administered by the Nature Protection and Conservation Administration (NPCA) of MoE. For details of site names and locations of protected areas in Cambodia, see Table A-10 in the Appendix.

**Table 2.4.1: Types of Protected Areas Defined Under the Protected Area Law (2008)**

Type of Protected Areas	Description
National Park	A natural area in land and/or water territories, which is established to: <ol style="list-style-type: none"> <li>a. Protect the area's role or roles in the ecosystem for the benefits of people of all generations.</li> <li>b. Limit the use that may harm or destroy biological resources,</li> </ol>

	<p>natural resources, cultural resources, and functions/roles of the area in relation to the objectives of the established area.</p> <p>c. Serve as bases for recreation, visits, education, research, and belief, provided that these activities do not cause threats to the natural environment and local culture.</p>
Wildlife Sanctuary	An area in land and/or water territories, which requires active interventions for management purposes to ensure maintenance of habitats and/or to meet necessary conditions for any species of animals or plants.
Multiple Use Area	An area in land and/or water territories, which is rich in natural resources that are intact and require management activities to ensure long-term protection and maintenance of biological resources and ecosystem. In the meantime, it provides natural products and services for use to meet the community needs.
Protected Landscape	An area in land and/or water territories, in which human interactions with nature create uniqueness in natural beauty or ecology or culture, and generally abundant in biological resources. Maintaining the interaction that is traditional is important to age and life for defence, maintain and development of such area.

Source: RGC (2008)

In addition to these four types of protected areas defined under the 2008 protected area law, the 2002 Forestry Law defines the protection forest (also known as protected forest). For details of the protection forest, see Section 2.7.

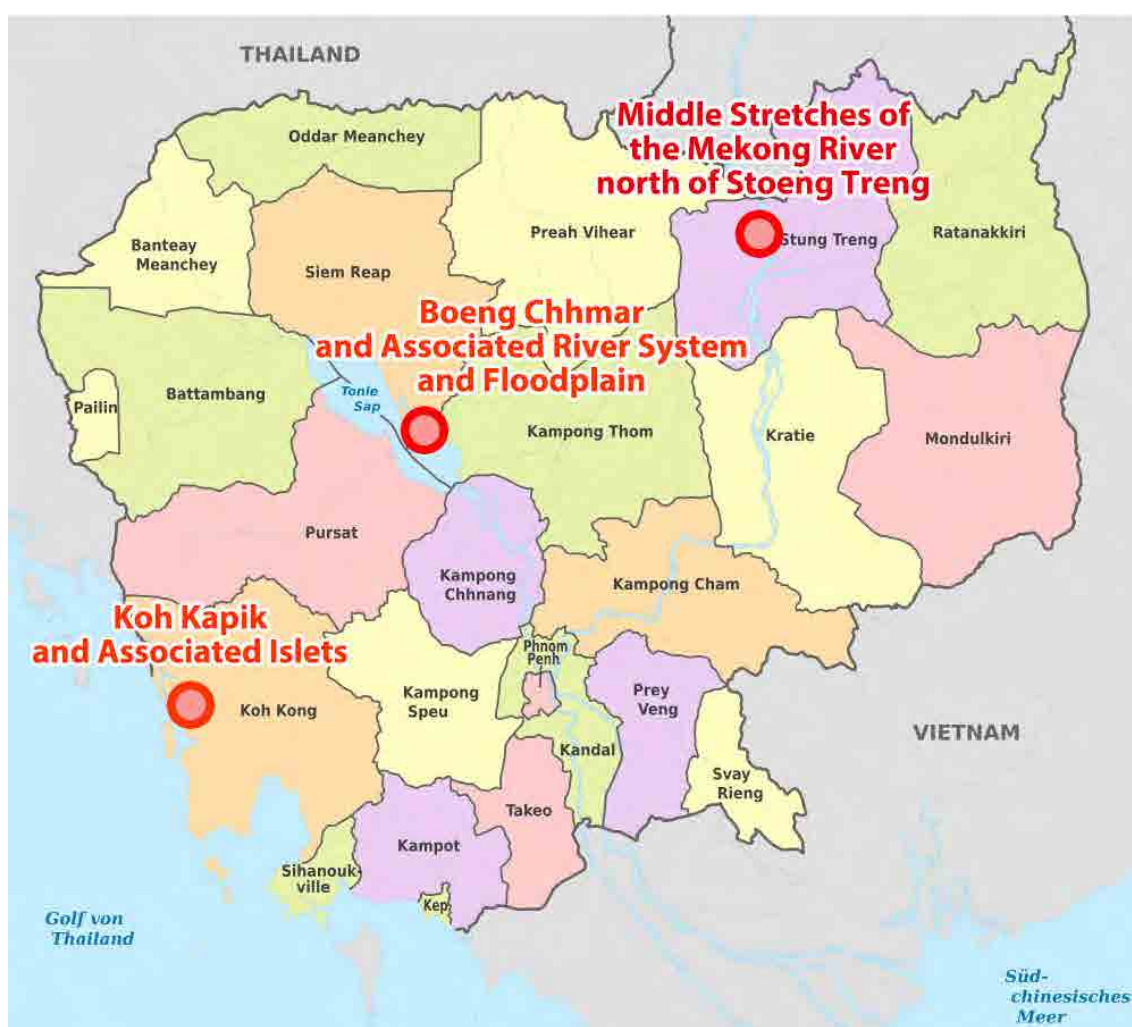
#### 2.4.2 Ramsar Sites

Popularly known as the Ramsar Convention, the Convention on Wetlands of International Importance, especially as habitats for waterfowl, is an intergovernmental treaty adopted on 2 February 1971. In Cambodia, there are three Ramsar sites shown in Table 2.4.3 and Figure 2.4.2.

**Table 2.4.2: Wetlands of International Importance in Cambodia**

Site Name	Date of Designation	Region	Area (ha)	Coordinates
Boeung Chhmar and Associated River System and Floodplain	23 Jun 1999	Kampong Thom	28,000	12°48'N 104°16'E
Koh Kapik and Associated Islets	23 Jun 1999	Koh Kong	12,000	11°28'N 103°04'E
Middle Stretches of the Mekong River north of Stung Treng	23 Jun 1999	Stung Treng	14,600	13°44'N 106°00'E

Source: Ramsar Convention (2012)



Source: Ramsar Convention (2012)

**Figure 2.4.2: Map of Ramsar Sites in Cambodia**



### 2.4.3 Biodiversity Hotspots

Conservation International (CI) is a non-profit environmental organisation headquartered in Arlington, Virginia. The organisation's mission is to protect nature and its biodiversity for the benefit of humanity. It mainly works for the conservation of biodiversity hotspots, tropical primary forests and valuable coastal ecosystems. A biodiversity hotspot is a biogeographic region with a significant reservoir of biodiversity that is under threat from human activities. CI designates these hotspots according to various criteria, including (1) an area that has some of the highest levels of biodiversity in the world, and (2) an ecosystem severely damaged by human activities, including development. The biodiversity hotspots hold especially high numbers of endemic species, yet their combined area of remaining habitats covers only 2.3% of the Earth's land surface. Each hotspot faces extreme threats and has already lost at least 70% of its original natural vegetation. Over 50% of the world's plant species and 42% of all terrestrial vertebrate species are endemic to 34 biodiversity hotspots (Conservation International 2012).

Cambodia is a part of the Indo-Burma region, which is one of the thirty-four hotspots in the world. This region is considered as one of the most threatened biodiversity hotspots in the world, due to the high rate of resource exploitation and habitat loss (Conservation International 2012).

### 2.4.4 Important Bird Areas

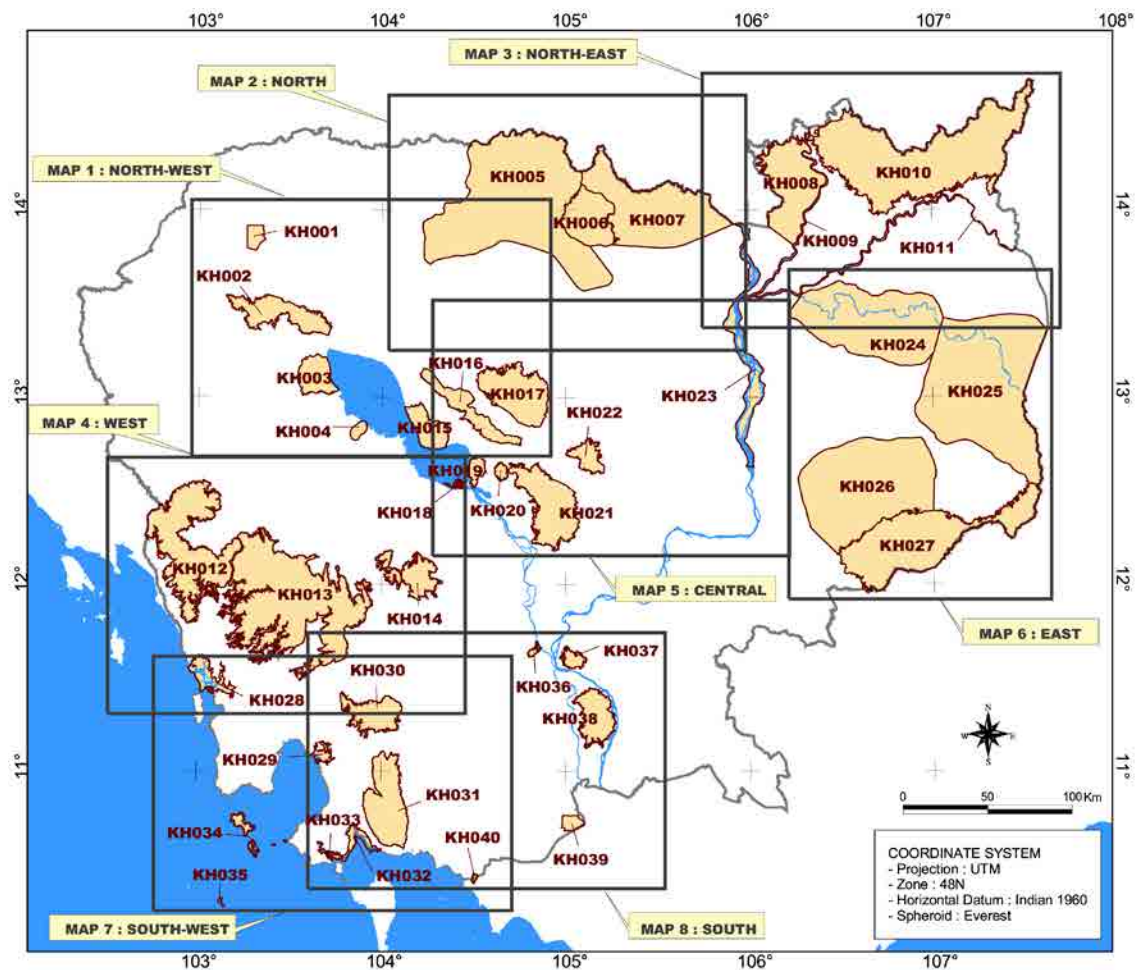
An Important Bird Area (IBA) is recognised as a globally important habitat, especially for the conservation of birds. Currently there are about 10,000 IBAs worldwide. The programme was developed, and sites are identified by BirdLife International. In Cambodia, 40 areas are currently designated as IBAs. Table 2.4.4 and Figure 2.4.3 show the names, locations and areas of IBAs in Cambodia.

Biodiversity is not uniformly distributed across the planet. Some places are therefore more significant than others for its conservation. The presence of bird species of global conservation concern can be used to identify sites critical to conserve, both for their own sake and because key biodiversity in other groups often co-occurs with bird diversity.

BirdLife International has identified 40 sites as current IBAs. Thirty-eight of these sites support globally threatened species, 10 have restricted-range species, and 19 have biome-restricted species. The IBA network in Cambodia covers about 24% of the total land area of the country. These include all of the major forests, grassland and wetland types found in Cambodia (BirdLife

International 2004).

Hunting is recognised as the most widespread threat to IBAs in Cambodia. Some 90% of all IBAs have been identified as under threat from hunting. This is followed by agricultural intensification/expansion in seasonally inundated grasslands, disturbances associated with activities such as fishing, and unregulated infrastructure development. It should also be noted that only three of the 40 IBAs in Cambodia are wholly within protected areas and 11 are partially protected, while offshore IBAs have no protection status at all (BirdLife International 2004).



Source: BirdLife International in Indochina (2013)

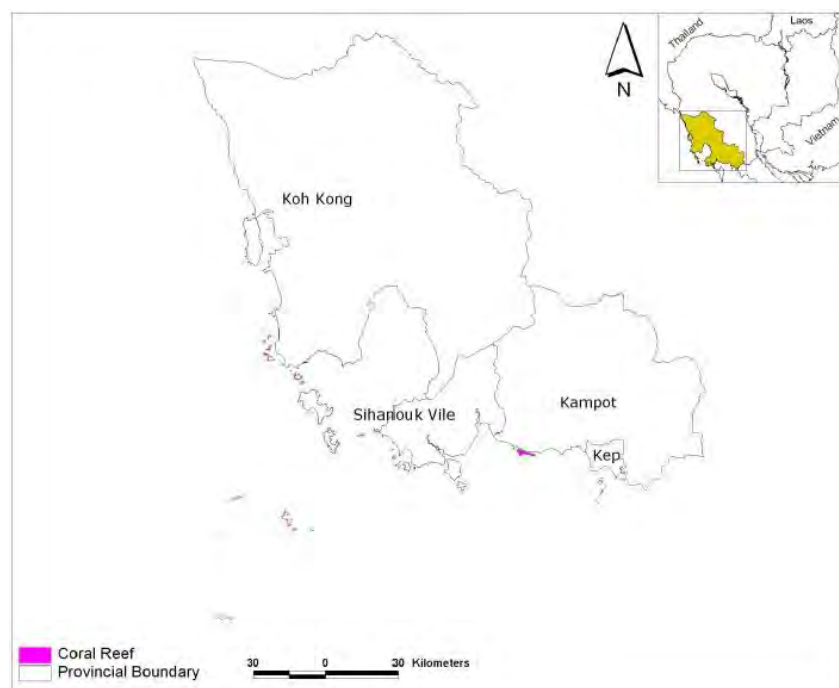
**Figure 2.4.3: Map of IBAs in Cambodia**

For details of locations and areas of IBAs in Cambodia, see Table A-11 and Figures A-12 through A-18 in the Appendix.

## 2.5 Coral Reefs

Cambodia has a 440-km-long coastline scattered with mangrove wetlands, coral reefs, sea grass beds, and other coastal ecosystems which play a significant role in ecosystem productivity and afford numerous benefits to humans (MoE 2013). Cambodia has 24 municipalities and provinces, four of which are coastal: Kampot, Kep, Koh Kong, and Sihanoukville (also known as Preah Sihanouk).

Limited information is available about the distribution of coral reefs in Cambodia. Many of Cambodia's offshore islands are known to contain substantial areas of coral reefs, but little is known of the diversity of plants and animal species in these areas. The location of coral reefs and their distribution in Cambodia are shown in Figure 2.5.1.



Source: MoE (2013)

**Figure 2.5.1: Location of coral reef distribution in Cambodia**

**Table 2.5.1: Distribution and management status of coral reefs of four coastal provinces**

No.	Province	Coral reefs (ha)	Area under management (ha)	Location of area under management	Type of Management
1.	Kampot	953	-	-	-
2.	Kep	52.5	-	-	-
3.	Preah Sihanouk	1,198	468	Koh Rong and Koh Rong Samleum	MFMA
4.	Koh Kong	602	529		MFMA
Total		2,805.5	997		

Note: MFMA: Marine Fisheries Management Area

Source: MoE (2013)

Existing laws and regulations for coral reef management in Cambodia are insufficient, especially considering the increasing threats to coral reefs in the country. There is no law that explicitly relates to coral reef management, although Cambodia's fisheries law notes the requirement of protecting Cambodia's rich marine living resources. Most laws relate to the protection of fisheries rather than coral reefs and there is still a lack of regulations, long-term policies and plans for the management of these important resources (GCRMN 2004).

Relevant laws in managing the shoreline include the 1996 Law on Environmental Protection and Natural Resources Management and the 1999 Sub-Decree on Environmental Impact Assessment. These stipulate both civil and criminal penalties for violation. Each law specifies the institution responsible for management and enforcement as well as the required collaboration among the different institutions and authorities (MoE and DANIDA 2006).

In 2011, the Cambodia Reef Conservation Project was carried out by Coral Cay Conservation (CCC) in collaboration with the MAFF to support the development of a large Marine Protected Area around the island of Koh Rong. Koh Rong is undergoing significant development activities in order to support future tourism-related operations. Results from the effort by CCC showed a slight decrease in coral cover (from 23% to 20%) since 2009, when CCC conducted a three-month pilot project there. Coral species diversity was low and the area was dominated mainly by massive coral species. There was a low abundance of branching and foliose coral life forms (Coral Cay Conservation 2011).



**Table 2.6.1: Distribution of mangroves of four coastal provinces**

No.	Province	Mangrove (ha)
1.	Kampot	1,900
2.	Kep	1,005
3.	Sihanouk Ville	13,500
4.	Koh Kong	62,000
Total		78,405

Source: MoE (2013)

Mangroves are traditionally used for fuel wood, including charcoal production, as well as for food, fisheries and building materials. Wild-caught shrimp and crab are particularly important, although overfishing and reduced yields are prevalent. During the conflicts that beset the country until the early 1990s, many mangrove areas, including the large expanses around Koh Kong, remained largely undeveloped. Since the 1990s the forests have faced growing pressures as the population in the region has grown and started to exploit the mangroves. Significant areas have been illegally clear-cut for charcoal production, with Thailand providing an important export market. Thai investment and Thai markets have also supported conversion of mangrove areas to shrimp farms, particularly close to the border. Many of these were poorly managed and suffered dramatic failures linked to diseases or pollution, and have now been abandoned (Spalding et al. 2010).

Fishery protection measures taken in 1994 have made it illegal to cut mangroves. However, the enforcement of these measures has been limited. Large areas of mangroves are incorporated within four protected areas along the coast. Illegal charcoal production has continued inside these areas, including regular destruction of mangrove kilns, despite considerable prevention efforts by the Provincial Environment Department. More successful efforts to reduce mangrove degradation and loss in Koh Kong Province (including Peam Krasop Wildlife Sanctuary) and around Ream National Park have involved the establishment and empowerment of village-level management committees to address forestry and fisheries issues. These have become increasingly successful in reducing overfishing and illegal charcoal production. Part of Peam Krasop has been protected as a Ramsar site (Spalding et al. 2010).

Although coastal wetlands in Cambodia had not received the same attention as freshwater wetlands, the situation has changed in recent years. It has been recognised that many rural poor are reliant on the collection of coastal resources for their livelihoods and household income generation, while healthy coastal ecosystems reduce vulnerability to hazards by supporting

livelihoods and acting as natural physical buffers (MFF 2013a).

Mangroves for the Future (MFF) has joined hands with the Royal Government of Cambodia to manage mangrove wetlands in Cambodia. MFF is a partnership-based initiative promoting investment in coastal ecosystems for sustainable development. MFF provides a collaborative platform to help countries, sectors and agencies in the MFF region tackle the growing challenges to coastal sustainability. In Cambodia, MFF has developed a National Strategy and Action Plan (NSAP), which was approved by the MoE. NSAP not only aims to preserve and conserve the mangrove wetlands of Cambodia, but also to ensure the long-term sustainability of other resources (MFF 2013b).

Administratively, the coastal zone includes the provinces of Koh Kong and Kampot, and the municipalities of Sihanoukville and Kep. The coastline of Cambodia has been sub-divided into cells which describe sections of coastline with similar sediment transport and morphological characteristics (DoFi 2008).

The table below summarizes key laws and regulations relevant to managing these coastal areas.

**Table. 2.6.2: Laws Related to Coastal Area Management**

<b>Legislation/Act</b>	<b>Description</b>
Royal Decree on Creation and Designation of 23 Protected Areas (1 November 1993)	Addresses the process of national resources management in line with the United Nations List on National Parks and Protected Areas
Law on Environmental Protection and Natural Resources Management (24 December 1996)	Protects and promotes environmental quality including natural sources and people's health
Law on Fisheries (21 May 2006)	Manages and protects flooded forests
Law on Protected Areas (15 February 2008)	Manages and conserves biodiversity resources in protected areas and defines the responsibilities and involvement of local communities
Sub-Decree on Water Pollution Control (6 April 1999)	Prevents and reduces water pollution in public waters
Sub-Decree on Solid Waste Management (27 April 1999)	Defines technical and safe control of solid waste
Sub-Decree on Environmental Impact Assessment (11 August 1999)	Conducts environmental impact assessments on private and public projects and activities,

Legislation/Act	Description
	which are monitored and evaluated by the Ministry of Environment before submission to the government for approval
Sub-Decree on the Establishment of the National Climate Change Committee (24 April 2006)	Prepares, coordinates and demonstrates the implementation of the government's policies, strategies, laws, plans and programs to address climate change
Sub-Decree on Community Fisheries Management (March 2007)	Manages the inland and coastal fisheries areas and provides a legal framework that makes it easy for Khmer citizens living in local communities to establish community fisheries

Source: MFF (2013b)

In addition to these laws, a *Sarachor* (Circular) on the Development of Coastal Areas of the Kingdom of Cambodia was issued in 2012 to guide ministries, concerned institutions and sub-national administrations in the management, use, protection, and development of coastal areas in Cambodia.

Besides these, the Royal Government of Cambodia has also implemented several long-term policies to protect and conserve resources at the coastal areas of Cambodia.

- National Strategic Development Plan (2009–2013)
- Coastal Environmental Management Action Plan (2007–2011)
- Strategic National Action Plan for Disaster Risk Reduction (2008–2013)
- Cambodia Climate Change Strategic Plan (2013–2023)
- Strategic Planning Framework for Fisheries (2010–2019)
- National Action Plan for Coral Reef and Sea grass Management in Cambodia (2006–2015)
- Draft Sustainable Development Strategic Plan of Southeast Asia for Cambodia to protect coastal environment for 2012–2016 (October 2012)

Currently, coastal areas management falls under the purview of two ministries, the MoE and the



MAFF. In the MoE, the Coastal Coordinating Unit addresses environmental problems and the Nature Protection and Conservation Administration (NPCA) acts as a secretariat to manage protected areas. The Forestry Administration under the MAFF manages forests in Cambodia and the Fisheries Administration manages fisheries (Rizvi et al. 2011).

Other relevant inter-ministerial committees and coordinating bodies include:

- National Committee for Land Management Urbanisation and Construction, which regulates construction activity based on zoning plans
- National Coastal Steering Committee (NCSC) which facilitates coastal zone management and protects the environment and natural resources in the coastal zone
- Commission on Monitoring and Assessing for Suppressing Encroachment into Mangrove Land and Coastal Reclamation, composed of the Minister of Environment, Minister of Interior, Minister of Land Management, Minister of Agriculture, Minister of Commerce and governors of Sihanoukville, Kep, Kampot and Koh Kong. The commission tackles issues of encroachment as well as the replanting of mangroves in felled and reclaimed forest areas
- National Committee for Management and Development of Cambodian Coastal Areas, which integrates sectoral approaches for the coordination, management and development of coastal areas in Cambodia.

Sources: MoE and DANIDA (2006); Rizvi et al. (2011); MFF(2013b)

Currently, the coastline is managed by three central-level coordinating bodies. The National Committee for Land Management, Urbanisation and Construction regulates construction activity based on a zoning plan. The National Coastal Steering Committee (NCSC) facilitates coastal zone management and protects the environment and natural resources in the coastal zone. The Coastal Coordinating Unit within MoE addresses environmental problems.

In relation to reclamation of land near the shoreline, according to the Ministry of Land Management, Urban Planning and Construction, no land titles or licenses are issued in the sea, and reclamation is not permitted. However, this regulation is often flouted. Risks to any development near the shoreline may be caused by flooding and storm surges, erosion and landslides. Similarly, in many instances, legislation lacks mechanisms for implementation.

## 2.7 Forests

At the request of its member countries, the Food and Agriculture Organisation (FAO) of the United Nations regularly monitors the world's forests and their management and use through the Forest Resources Assessment Programme. According to the FAO (2010a), the total forest area in Cambodia in 2010 was estimated at 10,094,000 hectares (ha), which covers 57% of the land area. The extent of forest areas in Cambodia, however, has been generally on the decline. Around 127,000 ha of forest were converted to other uses or lost through natural causes every year from 2005 to 2010; the annual deforestation rate in this period was 1.2%.

**Table 2.7.1: Trends in the Extent of Forests, 1990–2010**

Forest Area (1,000 ha)				Annual Rate of Change					
1990	2000	2005	2010	1990–2000		2000–2005		2005–2010	
				1,000 ha/yr	%	1,000 ha/yr	%	1,000 ha/yr	%
12,944	11,546	10,731	10,094	-140	-1.14	-163	-1.45	-127	-1.22

Source: FAO (2010a)

As to the types of forests, the following classifications have been made and related definitions and data are provided by FAO (2010a).

**Table 2.7.2: Classification of Forests**

<b>Primary forests</b>	The forest areas in National Parks, Wildlife Reserves, and Hunting Reserves have been placed under this category.
<b>Other naturally regenerated forests</b>	The rest of the forest areas of the country (excluding plantations) have been placed under this category.
<b>Planted forests</b>	All plantations for industrial round wood, fuelwood and poles have been placed under this category, and all plantations raised for watershed development have been placed under this category.

Source: FAO (2010a)

Primary forests are reported to cover an area of 322,000 ha, which occupies 3% of all the forest areas in the country. Other naturally regenerated forests are estimated to cover an area of 9,703,000 ha (96% of all forest areas). Planted forests cover only 69,000 ha, equivalent to 1% of all forest area. More introduced species inhabit planted forests than other naturally regenerated

forests.

**Table 2.7.3: Status of Forests in Cambodia (by Type)**

Primary forests		Other naturally regenerated forests			Planted forests		
1,000 ha	% of FA	1,000 ha	% of FA	% of which IS	1,000 ha	% of FA	% of which IS
322	3	9,703	96	-	69	1	-

Notes: FA: Forest Area; IS: Introduced Species

Source: FAO (2010a)

Forest ownership patterns in Cambodia show that all forests are publicly owned and none are privately owned, though private entities are allowed to own forests. The holder management rights of public forests fall mainly to public administrations or communities.

**Table 2.7.4: Ownership Patterns and Holders of Management Rights of Public Forests**

<b>Ownership patterns</b>	Public	100%
	Private	0%
	Other	0%
<b> Holders of management rights of public forests</b>	Public administration	-
	Individual	-
	Business entities and institutions	-
	Community	2%
	Other	-

Source: FAO (2010a)

According to FAO (2010a), forest estates within protected areas account for 31% of total forest area, and none of the forests with management plans.

**Table: 2.7.5: Forest Management and Legal Status (as of 2010)**

Forests within protected areas		Forests with management plans	
1,000 ha	% of forest areas	1,000 ha	% of forest areas
3,092	31	-	-

Source: FAO (2010a)

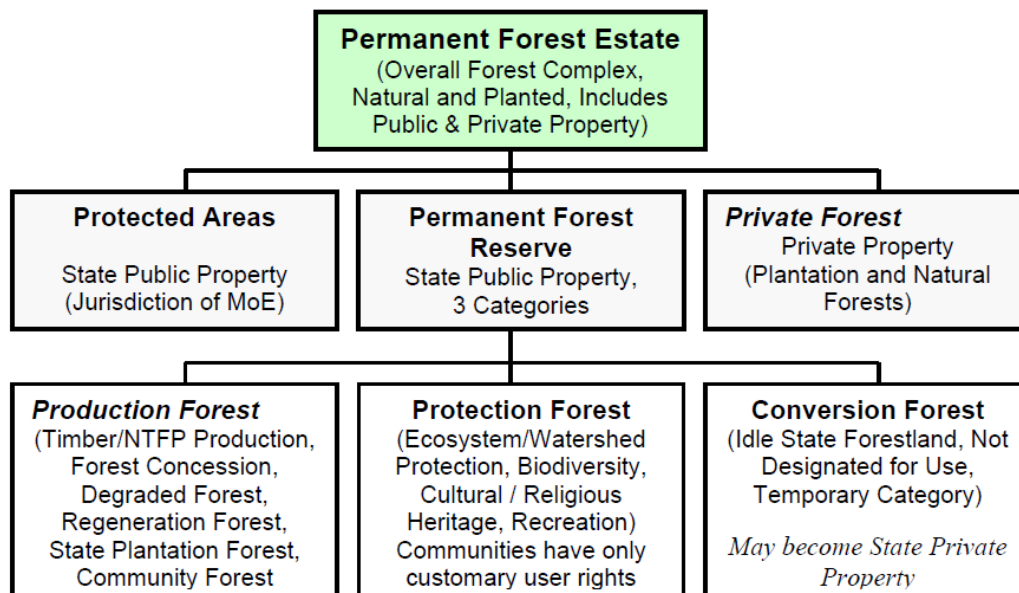
Table 2.7.6 summarises the classifications of forests in Cambodia based on the Forestry Law.

**Table: 2.7.6: Classification and Definition of Forest based on the Forestry Law**

<b>Classification</b>	<b>Definition</b>
Permanent forest estate	‘The overall forest complex, natural and planted, in the Kingdom of Cambodia, including State and private, designated as two main categories: the Permanent Forest Reserve and Private Forest, to be maintained to ensure a sustainable permanent forest cover and use.’
Private forest	‘Forest Plantation or trees, whether planted or naturally grown on private land under registration and legal title with the State pursuant to authorised legislation and procedures.’
Permanent Forest Reserve	‘State forest on lands excluding land that is privately owned, categorised as production forest, protection forest and conversion forest land for other development purposes.’
Production Forest	‘Forest area having the primary function for sustainable production of Timber and Non-Timber Forest Products. Production forest includes forest concession; forest permitted for harvesting, degraded forest, forest to be rehabilitated, reserved area for forest regeneration or forest plantation, reforested areas and forest areas under agreement between the Forestry Administration and the local community.’
Protection Forest (also known as Protected Forest)	‘Forest area having the primary function for protecting the forest ecosystem including the water resources regulation; conservation of biodiversity, land, water, watershed and catchments areas; wildlife habitat, fishes, prevention of floods, erosions, sea water intrusion; soil fertility and valuable for cultural heritage which serve the public interests. Protection Forest under this Law does not include the protected areas under the jurisdiction of Ministry of Environment pursuant to the Environmental Protection and Natural Resources Management Law.’
Conversion Forest	‘Idle State forestland, covered mainly by secondary vegetation, not yet designated for any use that shall be classified temporarily as Permanent Forest Reserve.’

Generally, all forests, irrespective of their use or ownership, are listed as Permanent Forest Estates. The estates are divided into three categories: Permanent Forest Reserve, Private Forest and Protected Areas. Although Protected Areas are not specifically mentioned under the

Permanent Forest Estate classification, it is assumed Protected Areas are considered to be State Public Land and do not fall under the category of Permanent Forest Reserve.



Source: MRC and GTZ (2003)

**Figure 2.7.1: Forest Land Classification and Tenure in Cambodia**

Within these classifications, Community Forests (CF) have a slightly different management system. CF is defined by the government as a ‘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 utilise the forest in a sustainable manner between the Forestry Administration and a local Community’ (RGC 2003). CF has been encouraged and supported by international organisations and NGOs, as it is seen as filling the ‘forest management gap’ and simultaneously contributing to improved livelihoods and poverty alleviation. Although CF is state-owned property, the power of leading and managing a CF community is gained through the election of community members.

**Table 2.7.7 Total Community Forestry Areas**

No.	Province	Number of Community Forest	Area (ha)
1.	Banteay Meanchey	9	4,970
2.	Battembang	17	5,415
3.	Kampong Cham	10	3,480
4.	Kampong Chhnang	33	10,908
5.	Kampong Speu	22	12,915

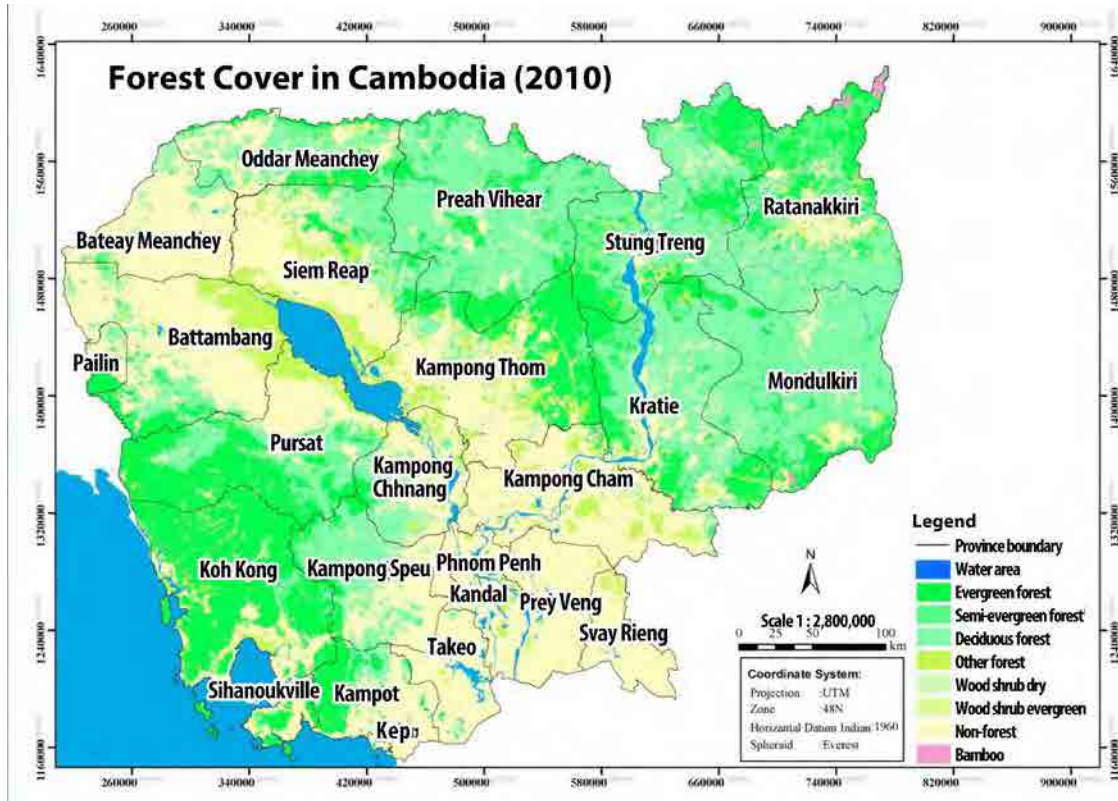
No.	Province	Number of Community Forest	Area (ha)
6.	Kampong Thom	67	66,065
7.	Kampot	18	8,221
8.	Koh Kong	2	3,638
9.	Kratie	13	24,866
10.	Mondulkiri	9	12,401
11.	Preah Vihear	21	44,950
12.	Pursat	52	6,260
13.	Ratanakkiri	28	37,815
14.	Siem Reap	37	18,122
15.	Stung Treng	6	14,838
16.	Svay Rien	2	510
17.	Takeo	13	10,605
18.	Oddar Meanchey	12	60,477
19.	Kep	2	426
20.	Pailin	4	858
Existing Community Forest		377	347,740
Potential Community Forest		13	20,203
Total Community Forest		390	367,943

Source: FAO (2010b)

The national-level management of CF is implemented by the Forestry Administration of MAFF. At the community level, CF has its own CF Community that has the right to conduct development activities and use forest resources in a sustainable manner (RGC 2003). Relevant to this, the CF Working Group (CFWG) has been established to promote decentralisation of CF. CFWG provides links between CF initiatives and policymakers. Likewise, CF Networking Meeting in Cambodia (CFNC) has been established to share information and experiences among community forestry agencies, communities and NGOs. The ownership of CFNC rotates every six months between two departments, the FA and the MoE (FAO 2003). CF has been increasingly valued by the government and NGOs because it encourages people to ensure that forest resources are continuously available for them and future generations, thus, contributing to the conservation of biodiversity.

In Cambodia, a national-level forest cover monitoring assessment project was conducted in 2010, funded by the Danish International Development Agency (DANIDA) and the International Tropical Timber Organization (ITTO) and in collaboration with the Forest

Administration in Cambodia. The result is shown in Figure 2.7.2.



Source: Leng (2011)

Figure 2.7.2: Forest Cover in Cambodia (2010)

**Chapter 3**  
**Pollution and Environmental Issues**





## 3 Pollution and Environmental Issues

### 3.1 Overview

Cambodia had experienced decades of conflict before 1999, when it experienced its first full year of peace and began making progress regarding economic reforms (ADB and CAI-Asia Center 2006). Cambodia has made commendable efforts in preserving and improving its environment by setting environmental standards. Despite stepping up its efforts to enforce these standards and ensuring sound and regular environmental monitoring, Cambodia's environmental performance requires further improvement to catch up with international standards.

Due to problems in surface water management, land use, the depletion of forests, and soil degradation, Cambodia suffers from air and water pollution problems. The Royal Government of Cambodia has strong central control of forestlands (Sunderlin 2006). As of 2010, Cambodia has about 10,094,000 hectares of forest cover, which made up 56% of Cambodia's total land area. The net annual rate of deforestation was 1.22% between 2005 and 2010 (FAO 2010). Cambodia's rate of deforestation is the third worst in the world.

The ambient air quality in Cambodia is negatively affected by electricity generation owing to the use of petroleum products as well as by Cambodia's transportation sector. Of the 10,452 villages in Cambodia, around 76% were without electricity in 2010 (Abe et al. 2007). The country has no major main grid connection, and independent power producers are the largest electricity suppliers. Because of this, the principal source of energy is petroleum products, such as diesel fuel, and more than 11 million people supply their needs by using charged automobile batteries, kerosene, and candles (ADB and CAI-Asia Center 2006; ADB 2011). The emissions from these energy sources worsen the ambient air conditions. In Phnom Penh, which accounts for 82% of the country's vehicles, the transportation sector is mainly responsible for air pollution problems. 16.2% of the road network in Cambodia is currently paved. This situation poses an environmental and health risk because traffic over unpaved roads generates dust.

Cambodian soil is affected by numerous industrial effluents as well as by leftover unexploded ordnances from the civil war in the 1970s.

In general, landmines planted on or just beneath the land surface have the most direct impact on soil quality and composition. When a landmine explodes, it destroys the surrounding vegetation

and shatters and displaces the soil, making it vulnerable to water and wind erosion. If landmines explode on cultivated land, levels of agricultural production are dramatically reduced. Clearing landmine areas also requires large areas of land to be ploughed up, which tears up and damages vegetation and biological diversity. Soil may also be affected by leaking of toxic substances into the surrounding soil and water, after a period of time in which it is affected by corrosion if it is made of metals or by decomposition if it is made of wood or other degradable materials. Landmines can also introduce other non-biodegradable and toxic waste such as depleted uranium. These compounds have been known to leach into soil and underground water as the mines disintegrate. These toxins may also enter the atmosphere and travel long distances. Many of the organic and inorganic substances and compounds derived from the explosives are long lasting, water-soluble, and toxic even in small amounts. In general, they may directly or indirectly contaminate the soil, water bodies, microorganisms, and plants through drinking water, food products, or during respiration. These pollutants can leach into subterranean waters and bioaccumulate in the organs of land animals, fish, and plants. More information on landmines can be found in Chapter 4 (Sections 4.1 and 4.3) and more information on soil pollution, in Section 3.5.

Urban sanitation is lacking even in Phnom Penh, with no modern sewerage system in both urban and rural areas. Due to two International Development Association (IDA)-financed water supply projects, 90% of Phnom Penh's residents now have access to a reliable water supply (WB 2007).

The rural water sector, on the other hand, largely relies on dug wells, hand pumps, and rainwater harvesting structures (UNDP 2007). Close to 40% have no access to safe drinking water, with only 19% with access to toilets, which leads to soil and water contamination by faeces that is improperly dealt with.

The consistent monitoring of air quality started in 2000, and it is only done in Phnom Penh. The stations use passive tubes and monitor carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), and sulphur dioxide (SO<sub>2</sub>). Total Suspended Particulates (TSPs) and PMs with a diameter equal to or less than 10 micrometres (PM<sub>10</sub>) are not routinely monitored. When measured, it was found that the current TSP level does not meet Cambodia's national standards for TSP (100µg/m<sup>3</sup>) (ADB and CAI-Asia Center 2006).

Environmental problems related to groundwater and surface waters also exist. Aquastat, FAO's information system on water and agriculture, indicates that in 2008, 61% of the total population

of Cambodia had access to improved drinking water sources. There is a great disparity between urban and rural areas. In urban areas, 81% of the population had access to improved drinking water sources in 2008. In the same year, in rural areas, 56% of the population was estimated to have access to improved drinking water sources (Aquastat 2013). UNICEF's estimation is close to the FAO's, with 64%, 87%, and 58% of the total, urban, and rural population, respectively, having access to improved water drinking sources in 2010 (UNICEF 2013). Most rural areas rely on groundwater for drinking, but arsenic levels as high as 500µg/L were detected in aquifers of moderate depth (Feldman et al. 2007). People then turned to surface water, which is bacteriologically unsafe.

The increasing population and urbanization make these environmental problems all the more pressing. In addition, although Cambodia has relatively strong legislation on matters regarding environmental and natural resources, they are being ignored or worked around for personal gain. There is a need for stronger support and collaborations from relevant stakeholders (EURONET Consortium 2012).

The Department of Environmental Pollution Control under the MoE is in charge of controlling and regulating almost all kinds of environmental pollutions mentioned in this chapter, such as air, water, soil and noise pollution (for the organisational arrangement of the MoE, see Figure 1.2.3 in Chapter 1).

## 3.2 Regulations and Policies

### 3.2.1 International Agreements

Cambodia has signed a number of international treaties, conventions and protocols dealing with pollution control. An overview of the major relevant international treaties and conventions signed by Cambodia is shown in Table 3.2.1.

**Table 3.2.1: Major Relevant International Agreements Signed by Cambodia**

No.	International Agreement
1.	International Tropical Timber Agreement
2.	United Nations Framework Convention on Climate Change
3.	Kyoto Protocol on the United Nations Framework Convention on Climate Change
4.	Montreal Protocol on Substances that Deplete the Ozone Layer
5.	Vienna Convention for the Protection of the Ozone Layer

No.	International Agreement
6.	Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade
7.	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
8.	Stockholm Convention on Persistent Organic Pollutants
9.	United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa
10.	Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin

Source: UN (2013); RGC (2012)

For further details on the ratification and application of international agreements, refer to Table A-2 in the Appendix.

### 3.2.2 Domestic Laws and Relevant Organisations

The Law on Environmental Protection and Natural Resource Management (1996) provides an overarching legal framework for environmental management in Cambodia. It mandates that the MoE be responsible for environmental protection. This includes environmental quality and environmental impact assessment. In terms of international treaties regarding pollution and environmental management, the Climate Change Department (CCD) of the MoE is the focal point for the United Nations Framework Convention on Climate Change (UNFCCC) (EURONET Consortium 2012).

**Table 3.2.2: Summary of Institutions Related to Environmental Protection**

Institution	Type	Roles and Responsibilities	Remarks
Ministry of Environment (MoE)	Ministry	Has control over environmental issues, including conservation/protected areas, environmental quality/environmental impact assessment, and the rational use and management of natural resources.	Focal point for climate change, biodiversity conventions, and Global Environment Facility.

Institution	Type	Roles and Responsibilities	Remarks
Ministry of Water Resources and Meteorology	Ministry	Responsibilities include the development and implementation of water resource strategy, the determination of water potential, and the collection and management of meteorological data.	WMO focal point.
Ministry of Rural Development (MRD)	Ministry	Coordinates the operational efforts of the various line ministries and assistance programs.	
Ministry of Public Works and Transport	Ministry	Manages the execution of national policies on public works, including roads, bridges, ports, railways, waterways and buildings.	
Ministry of Health	Ministry	Controls public health. Ultimate objective is to eliminate vector-borne diseases.	
Council for the Development of Cambodia (CDC)	Government Agency	One-stop service for rehabilitation, development, and investment activities. Facilitates and coordinates government-donor relations.	
Cambodian Agricultural Research and Development Institute (CARD)	Government Research Institute	Research body for sustainable agricultural and economic development with the primary aim of increasing food security through increased rice production.	

Source: EURONET Consortium (2012)

Technical working groups have also been established to enhance inter-ministerial coordination and civil society participation in the planning and implementation of activities in key sectors. The Technical Working Group on Agriculture and Water (TWG-A&W) has developed a Joint Strategy for Agriculture and Water, which focuses on water resource management, but it is weak on the issue of climate change (EURONET Consortium 2012).

**Table 3.2.3: List of Environmental and Pollution-related Laws and Regulations**

No.	Name of Law	Year Established
1.	Law on Environmental Protection and Natural Resource Management	1996
2.	Law on Water Resources Management	2007
3.	Law on Pesticide and Chemical Fertiliser Control	2011
4.	Sub-Decree on Environmental Impact Assessment	1999
5.	Sub-Decree on Solid Waste Management	1999
6.	Sub-Decree on Water Pollution Control	1999
7.	Sub-Decree on Air Pollution and Noise Disturbance Control	2000
8.	Sub-Decree on the Management of Ozone-Depleting Substances	2005
9.	Sub-Decree on Timber and Non-Timber Forest Products Allowed for Export and Import	2006

Source: EURONET Consortium (2012)

The Agreement on the National Environmental Standard, issued on 9 December 2009, defines the National Environmental Standard as the basis for environmental monitoring and the control of water, soil, air and noise pollution.

### 3.3 Air Pollution

#### 3.3.1 Current Situation

Rapid urbanisation, industrialisation, poor road maintenance, ineffective vehicle standards and mobile emission standards, and a lack of clean energy sources contribute to the deteriorating ambient air quality in Phnom Penh, where 82% of the vehicles in Cambodia are found (ADB and CAI-Asia Center 2006). To control air pollution, Cambodia has one law, two sub-decrees, and three standards (see Section 3.3.2).

As emissions inventories of air pollutants are not regularly conducted, the main emission sources of air pollutants are unknown. Some of the contributing sources, however, are industrial sources, vehicles, road dust due to the use of unpaved roads, the burning of biomass, the open burning of mixed solid wastes, and smoke produced from electric generators that use petroleum products.

**Table 3.3.1: Non-CO<sub>2</sub> Air Pollution Emissions in Cambodia (1995)**

Pollutant	Amount (metric tonnes)
Sulphur dioxide (SO <sub>2</sub> )	18
Nitrogen oxide (NO <sub>x</sub> )	67
Carbon monoxide (CO)	2,301
Non-methane VOC	168

Notes: CO<sub>2</sub>: Carbon dioxide; VOC: volatile organic compounds

Source: ADB and CAI-Asia Center (2006)

There is a general lack of data regarding air quality in Cambodia: air quality monitoring results are not reported to the public on a regular basis, nor are they routinely shared among the different government agencies and local environment units (EURONET Consortium 2012).

Because outdoor air pollution causes 2% of the 12,500 annual deaths in Cambodia, it might not seem significant enough to worry about. A more pressing concern is that 13% of the deaths are caused by indoor air pollution because of the dependence on wood-fuel for cooking (Sida 2009).

There was a study performed by Streets et al. (2003) in which they created an air pollutant emissions inventory in Asia for the year 2000. Because many countries lacked data on the models that they used, some were estimated from 1995 data and other available data. The chemical species of the estimated emissions include SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, CO, CH<sub>4</sub>, Non-Methane Volatile Organic Compounds (NMVOC), submicron Black Carbon aerosol (BC), submicron Organic Carbon aerosol (OC), and NH<sub>3</sub>. The sources considered for these emissions are only anthropogenic in nature and do not include natural sources such as volcanic SO<sub>2</sub>.

Data on the sources of pollution were extrapolated from the most recent statistical information when they were not available for 2000.

**Table 3.3.2: Summary of Estimated Emissions in Cambodia as Compared with Asia in 2000 (in gigagrams)**

Parameter	Cambodia	Asia
SO <sub>2</sub>	40	34,316
NO <sub>x</sub>	89	26,768
CO <sub>2</sub>	36,000	9,868,000
CO	1,707	278,564
CH <sub>4</sub>	708	106,821



Parameter	Cambodia	Asia
NMVOC	305	52,150
BC	14	2,541
OC	89	10,420
NH <sub>3</sub>	86	27,519

Source: Streets et al. (2003)

**Table 3.3.3: Numbers of Motor Vehicles in Cambodia as Compared with Asia in 2000<sup>a</sup>**

		Cambodia (x10 <sup>3</sup> )	Asia (x10 <sup>3</sup> )
Cars	LDGV (Gas)	68	73,970
	LDDV (Diesel)	0	19,249
Buses	HDGV (Gas)	0	1,722
	HDDV (Diesel)	1	7,017
Trucks	LDGT (Gas)	5	18,478
	LDDT (Diesel)	7	11,298
	HDGV (Gas)	0	3,024
	HDDV (Diesel)	4	16,885
Tractors		1	18,106
Motorcycles		568	117,577

Source: Streets et al. (2003)

### 3.3.2 Relevant Laws and Organisations

The 1996 Law on Environmental Protection and Natural Resource Management mandates that the MoE oversee environmental management in Cambodia in collaboration with other concerned ministries. The current governmental agencies in Cambodia responsible for air pollution management are as follows:

1) Ministry of Environment (MoE)

As mentioned above, the MoE oversees environmental management in Cambodia. The Office of Air Quality, Noise and Vibration Management, which is under the Department of Pollution Control, is the main unit responsible for Urban Air Quality Management and the monitoring of mobile, stationary, and area sources of air pollution.

2) Ministry of Agriculture, Forestry and Fisheries

3) Ministry of Public Works and Transport

4) Ministry of Planning

- 5) Ministry of Water Resources and Meteorology
- 6) Cambodia National Mekong Committee
- 7) Council of Ministers

Other than the organisations listed above, under the 1999 Declaration on the Organization of the Provincial and Municipal Environment Department, the local governments' responsibilities with regards to controlling air pollution in Cambodia include (i) the definition of illegal activities in national protected areas, (ii) the inspection and monitoring of pollution sources, (iii) environmental education programs, and (iv) data management. Despite legislation, the local governments have minimal capacity to engage in environmental management activities. Enforcement and support for the Office of Inspection are the key roles of the provincial bodies. Environmental management has not been formalized at the district and community levels, although initiatives are present and often interrelated. In general, the mandates and jurisdictions of agencies at different levels overlap (ADB and CAI-Asia Center 2006).

In addition to this, the Cambodian National Petroleum Authority was established in 1999 to provide the framework and policy for petroleum exploration and exploitation, as well as to establish a National Petroleum Center and Petroleum Laboratory (ADB and CAI-Asia Center 2006).

There are one law and two sub-decrees that are relevant to air pollution control in Cambodia:

- 1) Law on Environmental Protection and Natural Resource Management (1996)  
This is the first environmental law of Cambodia emphasizing the consideration of the environment and the natural assets management by the Royal Government of Cambodia (RGC). This law is the basis for the preparation of other environmental laws in Cambodia.
- 2) Sub-Decree on Environmental Impact Assessment Process (1999)  
This sub-decree aims to encourage the monitoring of development projects in order to minimize and phase out environmental pollution issues. All project owners are mandated to submit IEIA/EIA reports to the MoE. For further details, see Chapter 5.
- 3) Sub-Decree on Air Pollution and Noise Disturbance Control (2000)  
This is the only legal framework that particularly mentions air pollution management. This sub-decree provides specific effluent and ambient air quality standards that must be followed by projects developed in Cambodia. It mandates that inspections be performed by the MoE in collaboration with other concerned ministries if there is complaint that any pollutants causing harm to human health are being discharged by stationary sources. Below are the standards set under this sub-decree. There is also a plan to upgrade this

sub-decree to become the Law of Environmental Pollution Management in order to face the current situation, but at the time of writing, no such law has been introduced.

Cambodia has three standards related to air quality: (i) national ambient air quality standards, (ii) gas emission standards for mobile sources and (iii) gas emission standards for stationary sources.

**Table 3.3.4: Cambodian National Ambient Air Quality Standards vs. WHO Guidelines**

Parameter	Averaging time	Cambodian National Ambient Air Quality Standards ( $\mu\text{g}/\text{m}^3$ )	WHO Guidelines ( $\mu\text{g}/\text{m}^3$ )
TSP	1 year	100	–
	24 hours	330	–
PM <sub>2.5</sub>	1 year	–	10
	24 hours	–	25
PM <sub>10</sub>	1 year	–	20
	24 hours	–	50
SO <sub>2</sub>	1 year	100	–
	24 hours	300	20
	1 hour	500	–
	10 minutes	–	500
NO <sub>2</sub>	1 year	–	40
	24 hours	100	–
	1 hour	300	200
CO	8 hours	20,000	10,000
	1 hour	40,000	30,000
O <sub>3</sub>	8 hours	–	100
	1 hour	200	–
Pb	1 year	–	0.5
	8 hours	50	–

Notes: TSP: total suspended particulates; PM10: particulate matter with diameter less than 10  $\mu\text{m}$ .

Source: RGC (2000); WHO (2000); WHO (2006)

As can be seen in Table 3.3.4, Cambodian National Ambient Air Quality Standards are generally

less strict than the WHO guidelines. There are no air quality monitoring stations in the country, and monitoring is done using passive tubes at roadsides. There is no routine monitoring for TSP and PM<sub>10</sub> (CAI-Asia Center 2006).

The standards set for mobile sources stipulated in the Sub-Decree on Air Pollution and Noise Disturbance Control (2000) only delineate motorcycles among other vehicles and have not been further classified with regard to vehicle size. This makes it difficult to compare this standard against other standards. There is also ambiguity regarding how *tuk-tuks* (motorcycles with two-wheeled carriages used to transport passengers) will be classified (CAI-Asia Center 2006).

**Table 3.3.5: Gas Emission Standard for Mobile Sources**

No.	Kind of Vehicle	Kind of Fuel	Level of Emission				
			CO (%)		HC (ppm)		Dark Fume (%)
			A	B	A	B	
1.	Motorcycle: two-stroke	Petrol	4.5	4	10,000	3,000	—
2.	Motorcycle: four-stroke	Petrol	4.5	4	10,000	2,400	—
3.	All kinds of vehicles	Petrol	4.5	4	1,200	800	—
4.	All kinds of vehicles	Diesel	—	—	—	—	50

Source: RGC (2000)

The Cambodian Government has also set a maximum allowable emission limit for stationary sources.

**Table 3.3.6: Maximum Allowable Standard of Pollution Substances from Immovable Sources in Ambient Air**

No.	Parameter	Maximum Level of Discharge
1.	Particulate in smoke of:	
	Incinerator	400 mg/m <sup>3</sup>
	Heating Metal	400 mg/m <sup>3</sup>
	Bad stone[sic], lime, cement manufacturing	400 mg/m <sup>3</sup>
	Asphalt/concrete plant	500 mg/m <sup>3</sup>

No.	Parameter	Maximum Level of Discharge
2.	Dust	
	Containing silica (SiO <sub>2</sub> )	100 mg/m <sup>3</sup>
	Containing Asbestos	27µg/m <sup>3</sup>
	Chemical in organic substance	—
3.	Aluminium (Al)	(dust) 300mg/m <sup>3</sup> (Al) 50mg/m <sup>3</sup>
4.	Ammonia (NH <sub>3</sub> )	100 mg/m <sup>3</sup>
5.	Antimony (Sb)	25 mg/m <sup>3</sup>
6.	Arsenic (As)	20 mg/m <sup>3</sup>
7.	Beryllium (Be)	10 µg/m <sup>3</sup>
8.	Chloride (Cl)	20 mg/m <sup>3</sup>
9.	Hydrogen Chloride (HCl)	200 mg/m <sup>3</sup>
10.	Hydrogen Fluoride (HF)	10 mg/m <sup>3</sup>
11.	Hydrogen Sulphide (H <sub>2</sub> S)	2 mg/m <sup>3</sup>
12.	Cadmium (Cd)	1 mg/m <sup>3</sup>
13.	Copper (Cu)	(dust) 300 mg/m <sup>3</sup>
		(Cu) 20 mg/m <sup>3</sup>
14.	Lead (Pb)	(dust) 100 mg/m <sup>3</sup>
		(Pb) 30 mg/m <sup>3</sup>
15.	Zinc (Zn)	30 mg/m <sup>3</sup>
16.	Mercury (Hg)	0.1 mg/m <sup>3</sup>
17.	Carbon Monoxide (CO)	1,000 mg/m <sup>3</sup>
18.	Sulphur Dioxide (SO <sub>2</sub> )	500 mg/m <sup>3</sup>
19.	Nitrogen Oxide (all kinds; NO <sub>x</sub> )	1,000 mg/m <sup>3</sup>
20.	Nitrogen Oxide (emitted HNO <sub>3</sub> product; NO <sub>x</sub> )	2000 mg/m <sup>3</sup>
21.	Sulphuric Acid (H <sub>2</sub> SO <sub>4</sub> )	35 mg/m <sup>3</sup>
22.	Nitric Acid (HNO <sub>3</sub> )	70 mg/m <sup>3</sup>
23.	Sulphur Trioxide (SO <sub>3</sub> )	35 mg/m <sup>3</sup>
24.	Phosphoric Acid (H <sub>3</sub> PO <sub>4</sub> )	3 mg/m <sup>3</sup>
Chemical organic substance		
25.	Acetylene tetrabromide (CHBr <sub>2</sub> )	14 mg/m <sup>3</sup>
26.	Acrolein (CH <sub>2</sub> =CHCHO)	1.2 mg/m <sup>3</sup>
27.	Aniline (C <sub>6</sub> H <sub>5</sub> NH <sub>2</sub> )	19 mg/m <sup>3</sup>
28.	Benzidine (NH <sub>2</sub> C <sub>6</sub> H <sub>4</sub> C <sub>6</sub> H <sub>4</sub> NH <sub>2</sub> )	None

No.	Parameter	Maximum Level of Discharge
29.	Benzene (C <sub>6</sub> H <sub>6</sub> )	80 mg/m <sup>3</sup>
30.	Chlorobenzyl (C <sub>6</sub> H <sub>5</sub> CH <sub>2</sub> Cl)	5 mg/m <sup>3</sup>
31.	Butylamine (CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> CH <sub>2</sub> NH <sub>2</sub> )	15 mg/m <sup>3</sup>
32.	Cresol ((o-,m-,p-)CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> OH)	22 mg/m <sup>3</sup>
33.	Chlorobenzene (C <sub>6</sub> H <sub>5</sub> Cl)	350 mg/m <sup>3</sup>
34.	Chloroform (CHCl <sub>3</sub> )	240 mg/m <sup>3</sup>
35.	Chloropicrin (CCl <sub>3</sub> NO <sub>2</sub> )	0.7 mg/m <sup>3</sup>
36.	O-dichlorobenzene (C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub> )	300 mg/m <sup>3</sup>
37.	1,1-dichloroethane (CHCl <sub>2</sub> CH <sub>3</sub> )	400 mg/m <sup>3</sup>
38.	Dimethylsulphate ((CH <sub>3</sub> ) <sub>2</sub> SO <sub>4</sub> )	0.5 mg/m <sup>3</sup>
39.	Dimethylhydrazine ((NH <sub>3</sub> ) <sub>2</sub> NNH <sub>2</sub> )	1 mg/m <sup>3</sup>
40.	Dinitrobenzene ((o-,m-,p-)C <sub>6</sub> H <sub>4</sub> (NO <sub>2</sub> ) <sub>2</sub> )	1 mg/m <sup>3</sup>
41.	Ethylene Diamine (NH <sub>2</sub> CH <sub>2</sub> -CH <sub>2</sub> NH <sub>2</sub> )	30 mg/m <sup>3</sup>
42.	Ethylene Chlorohydrin (CH <sub>2</sub> ClCH <sub>2</sub> OH)	16 mg/m <sup>3</sup>
43.	Ethylene Oxide (CH <sub>2</sub> OCH <sub>2</sub> )	20 mg/m <sup>3</sup>
44.	Formaldehyde (HCHO)	6 mg/m <sup>3</sup>
45.	Methyl Acrylate (CH <sub>2</sub> =CHCOOCH <sub>3</sub> )	35 mg/m <sup>3</sup>
46.	Methanol (CH <sub>3</sub> OH)	260 mg/m <sup>3</sup>
47.	Methylbromide (CH <sub>3</sub> Br)	80 mg/m <sup>3</sup>
48.	Monomethylaniline (C <sub>6</sub> H <sub>5</sub> NHCH <sub>3</sub> )	9 mg/m <sup>3</sup>
49.	Nitrobenzene (C <sub>6</sub> H <sub>5</sub> NO <sub>2</sub> )	5 mg/m <sup>3</sup>
50.	Nitroglycerine (C <sub>3</sub> H <sub>5</sub> (NO <sub>2</sub> ) <sub>3</sub> )	5 mg/m <sup>3</sup>
51.	Nitrotoluene (NO <sub>2</sub> C <sub>6</sub> H <sub>4</sub> CH <sub>3</sub> )	30 mg/m <sup>3</sup>
52.	Phenol (C <sub>6</sub> H <sub>5</sub> OH)	19 mg/m <sup>3</sup>
53.	Phenylhydrazine (C <sub>6</sub> H <sub>5</sub> NHNH <sub>2</sub> )	22 mg/m <sup>3</sup>
54.	Pyridine (C <sub>5</sub> H <sub>5</sub> N)	30 mg/m <sup>3</sup>
55.	Pyrene (C <sub>16</sub> H <sub>10</sub> )	15 mg/m <sup>3</sup>
56.	Quinone (C <sub>6</sub> H <sub>4</sub> O <sub>2</sub> )	0.4 mg/m <sup>3</sup>
57.	Styrene (C <sub>6</sub> H <sub>5</sub> CHCH <sub>2</sub> )	420 mg/m <sup>3</sup>
58.	1,1;2,2-tetrachloroethane (Cl <sub>2</sub> HCCHCl <sub>2</sub> )	35 mg/m <sup>3</sup>
59.	Tetrachloromethane (CCl <sub>4</sub> )	65 mg/m <sup>3</sup>
60.	Toluene (C <sub>6</sub> H <sub>5</sub> CH <sub>3</sub> )	750 mg/m <sup>3</sup>
61.	Tetranitromethane (C(NO <sub>2</sub> ) <sub>4</sub> )	8 mg/m <sup>3</sup>
62.	Toluidine (CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> NH <sub>2</sub> )	22 mg/m <sup>3</sup>

No.	Parameter	Maximum Level of Discharge
63.	Toluene-2,4-D-isocyanate ( $\text{CH}_3\text{C}_6\text{H}_3(\text{NCO})_2$ )	0.7 mg/m <sup>3</sup>
64.	Trichloro ethylene ( $\text{ClCH}=\text{CCl}_2$ )	110 mg/m <sup>3</sup>
65.	Xylidine ( $(\text{CH}_3)_2\text{C}_6\text{H}_3\text{NH}_2$ )	50 mg/m <sup>3</sup>
66.	Vinylchloride ( $\text{CH}_2=\text{CHCl}$ )	150 mg/m <sup>3</sup>

Source: RGC (2000)

### 3.4 Water Pollution

#### 3.4.1 Current Situation

In the southeast section of the central plains of Cambodia, the Mekong River delta can be found. Most of the low-lying alluvial plains surround the Tonle Sap (Great Lake) area. Cambodia has a tropical monsoon climate with high precipitation during the rainy season from May to October. This gives Cambodia a unique hydrological situation. For further details of the river systems and climate in Cambodia, see Chapter 1.

Water is abundantly available in Cambodia through the Mekong, Bassac, and Tonle Sap Lake. Groundwater is also widely available in most areas of the country, and owing to the health risks of drinking surface water contaminated with bacteria, the rural population has turned to both hand dug wells and more advanced drilled wells with hand pumps to obtain clean drinking water. The Kingdom of Cambodia has similar problems to those of other developing countries. Despite the high availability of drinking water sources in Cambodia, the lack of infrastructure development and wastewater management means the country faces serious challenges with respect to safe drinking water.

The sources of water pollution in Cambodia are associated with natural and human activities, with the latter contributing severely to contamination. Naturally occurring chemical contaminants like arsenic, manganese, fluorides, nitrates, and iron have been found in high concentrations in Cambodian ground water, thus deteriorating its quality. Surface waters and shallow aquifers are contaminated by human activities at the surface, such as faecal waste that is washed through or along the ground when it rains or industrial and agricultural waste, as described below in detail.

#### Water Contamination from Industrial Sector

Industrial pollution sources are currently recognized as dyeing and washing factories, factories

that utilise chemicals or chemical compounds, tanning factories, etc. Some of these factories possess onsite wastewater treatment facilities, whereas the rest discharge their effluents into receiving sources (both surface water and sewage system) with less quality. Some treated effluents may exceed the effluent standard owing to irregular follow-up of the treatment process or carelessness in the maintenance/follow-up of treatment processes. In this regard, few penalties have been imposed in accordance with the Law on Environmental Protection and Natural Resources Management and its related statutes.

#### Other sources of Water Environmental Deterioration

In addition to the industrial sector, many other sources are recognized to cause water environmental deterioration:

- Untreated wastewater and sewage discharges from factories, hospitals, residential areas, ports, vehicle/engine workshops, etc.
- Disposal of liquid and solid wastes, especially human excrement, into water sources from anarchic/squatter settlements, floating houses, and floating restaurants/business areas.
- Runoff of agro-chemicals (improper use of pesticides and chemical fertilizers) from agricultural areas into receiving waters. Land clearing for agricultural purposes can lead to large quantities of silt entering stream channels and contribute to high sediments in river.
- Mining activities in the western and north-eastern parts of the country, especially gold mining, which uses toxic chemicals as a catalyst, is a major concern from the viewpoint of water contamination and loss of aquatic life at the local level. However, insufficient documentation or information is available for public dissemination.
- Solid and liquid waste discharge from slaughterhouses, poultry and piggery farms, etc.
- Soil erosion from upstream and local watersheds.
- Fresh and marine aquaculture practices in response to domestic and external market demands, especially shrimp farming in provinces and cities along the coastal areas.
- Fish catching using tree branches, tires, or poisonous substances/toxic chemicals such as calcium carbide ( $\text{CaC}_2$ ).
- Waterway transportation was recognized a potential source of water contamination in Cambodia, especially fuel-oil-based transportation with inadequate safety facilities and lacking oversight from concerned institutions. Another major concern is floating oil stations located in dense floating communities, including workshops in Tonle Sap Lake. These stations pose grave dangers if they leak or catch fire.
- Transboundary water pollution resulting from development activities in upstream riparian countries.



Basically, owing to little human and animal waste management in Cambodia, surface waters (rivers, streams, lakes, and ponds) and shallow ground waters are usually contaminated with faecal pollution (microorganisms such as viruses, bacteria, and protozoa). However, harmful microorganisms, called pathogens, are much more easily removed (boiling, ceramic/bio-sand filtration, disinfection) than chemical contaminants such as arsenic, manganese, fluorides, nitrates, and iron.

#### Surface Water Pollution

Studies conducted by MRC (2010) show that the Mekong Delta is mainly contaminated with DDT and that there are persistent organic pollutants in the sediments, as well as aquatic organisms, such as phytoplankton, crustaceans and fish. Areas with heavy traffic and a high population density have elevated levels of heavy metals.

The Lower Mekong Basin, on the other hand, is plagued with problems related to industrial wastewater due to the limited treatment, handling and disposal of this particular form of waste (MRC 2010). The problem is concentrated around factories and downstream of urban centres, but the problem could spread in the future because of rapid industrialization.

The Mekong River is an important trade route for cargoes. Due to advances in modern information systems, stretches of the Mekong River have reached international standards in terms of physical aids to navigation. The downside of this is increased pollution from the diesel-powered vessels that use the river. Another problem is oil spills due to the storage of oil and gas terminals along the river. Few environmental protection measures exist to ensure the safe handling of dangerous goods, such as oil, gas, and petroleum products (MRC 2010).

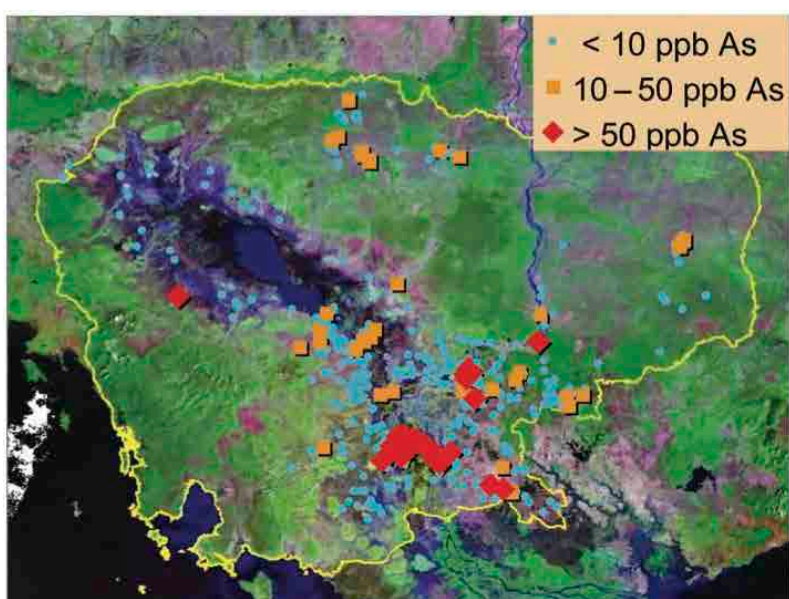
#### Groundwater Pollution

The Kingdom of Cambodia is experiencing the rampant exploitation of groundwater via private tube-wells. A study done by MRC states that the level of withdrawal of groundwater for domestic and drinking use was approximately 2,147 m<sup>3</sup>/day in 2001. This is due to rural areas relying on installations that tap into the groundwater because the surface water is contaminated by harmful bacteria.

However, groundwater suffers from its own contamination issues. The Cambodia Drinking Water Quality Assessment confirmed the presence of naturally-occurring arsenic in studies performed between 1999 and 2000. The Ministry of Rural Development (MRD) and the Ministry of Industry, Mines and Energy (MIME) screened around 94 urban and rural drinking

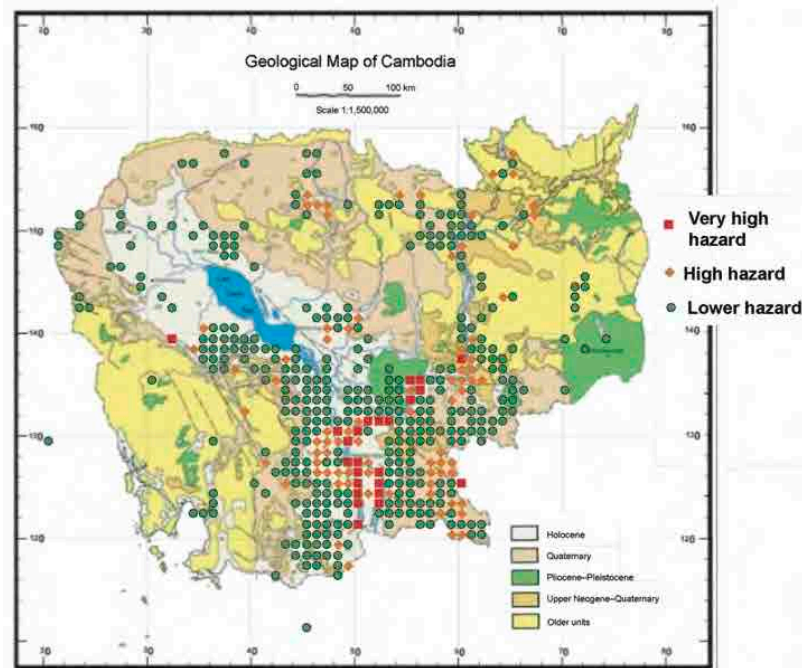
water sources in 13 provinces and found that 11% of the samples from five provinces were contaminated (UNICEF 2009a).

In a comprehensive testing of groundwater in Cambodia that was performed by Polya et al. (2005), the researchers tested more than 1,000 groundwater samples and found that high-arsenic groundwater is associated with Holocene sediments located at more than 16 metres of depths. Their hazard map also showed that high-risk areas were found near major modern river channels — the Mekong and Bassac. Contaminated groundwater was also found in Holocene alluvial lowland sediments along the Mekong River and its tributaries.



Source: Polya et al. (2005)

**Figure 3.4.1: Distribution of arsenic concentrations in Cambodian groundwater**



Source: Polya et al. (2005)

**Figure 3.4.2: Hazard map of arsenic in Cambodian groundwater**

Although the risk of arsenicosis is high, no evidence of symptoms was found in 2003. However, through a KAP (Knowledge, Attitude, and Practice) Survey by MRD in 2006, people with suspected arsenicosis were identified (UNICEF 2009a). The most common symptoms were leukomelanosis (appearance of rain-drop pigmentations on the skin) and arsenical keratosis (growth of keratin on the skin). This was alarming because several cases of cancer were also found.

Among the groundwater sources of drinking water, not all are contaminated, and in places where there is a risk of arsenic poisoning, people still turn to surface water as a source of drinking water.

Another problem is the lack of water for irrigation during the dry season, which people deal with through the use of groundwater that is sometimes contaminated by arsenic. This is significant considering that yearly, 41.8 billion cubic metres of freshwater resources are used on irrigation alone (MRC 2010).

There have been efforts to solve the problem of the lack of safe drinking water in Cambodia. One such effort is the Project for Rural Drinking Water Supply in Kampong Cham Province,

which was started by JICA in 2005. It was implemented by the Department of Rural Water Supply (DRWS) and the Ministry of Rural Development (MRD). The project successfully installed 355 deep wells with hand pumps and provided equipment for surveys, excavation and maintenance activities.

**Table 3.4.1: Quantitative Effects**

Indicator (unit)	Baseline Value (2004)	Target Value* (2010)	Actual Value (2010)	Actual Value (2011)
1) Percentage of population served by water	9.5% (9,000)	75.7% (81,860)	(72.07%) ** (74,550)	(71.85%)** (74,550)
2) Ratio of No. of WSUGs* established against No. of deep wells constructed.	0%	80% 284 WSUGs/ 355 wells	100% 355 WSUGs/255 wells	100% 355 WSUGs/355 wells.
Data Source: DRWS/MRD, Population Statistics Offices				
*Target value was adjusted according to the number of wells actually constructed.				
** The actual population served by water in 2010 and 2011 was calculated by using the total number of constructed wells (355) X the number of residents for one well (210) / the actual total population in villages with wells in 2010 (103,443) and 2011 (103,759)				

Source: JICA (2011)

The government has also responded in various ways, such as:

- Establishing the AISC (Arsenic Inter-ministerial Sub Committee, chaired by the MRD)
- Developing an interim national drinking water standard of 50 ppb of arsenic in drinking water
- Looking into the use of ceramic water filters for household water treatment
- Marking contaminated wells (green for safe, red for more than 50 ppb of arsenic in water)
- Starting the management of an arsenic database and promoting alternative technologies (rainwater harvesting, community piped water system, etc.)
- Using the KAP (Knowledge, Attitude and Practice) survey to assess arsenic contamination awareness and practices
- Development of 5-year arsenic mitigation strategic action plans (UNICEF 2009b).

UNICEF provides support in the form of field test kits to NGOs operating in Cambodia. Some of these NGOs are Partners For Development (PFD), which conducted the testing of all

tube-wells in ‘at-risk’ zones in Kratie province, Cooperative Services International (CSI) (currently Resource Development International (RDI)) in the Kien Svay District of Kandal and the Provincial Department of Rural Development (PDRD). According to the national database for contaminated wells, 37% of 3,726 villages are affected (UNICEF 2009b).

### 3.4.2 Relevant Laws and Organisations

Based on the 1996 Law on Environmental Protection and Natural Resources Management, the MoE plays an important role in facilitating the work of twelve other ministries involved in the management of the water environment (both freshwater and marine water) in accordance with the Royal Government Policy on Poverty Alleviation.

Within the MoE, the Department of Environmental Pollution Control has the major responsibility to handle and address water pollution control in Cambodia. The MoE and the other organizations in charge of controlling and monitoring water quality or water resource management in Cambodia are the following:

- 1) Ministry of Environment (MoE): responsibilities related to water and health
- 2) Ministry of Water Resources and Meteorology (MoWRAM): activities related to hydropower, flood control and irrigation
- 3) Ministry of Public Works and Transport (MPWT)
- 4) Ministry of Agriculture, Forestry and Fisheries (MAFF): fishery resources utilisation and conservation and aquaculture
- 5) Ministry of Foreign Affairs and International Cooperation (MFAIC)
- 6) Ministry of Industry, Mines and Energy (MIME): responsibilities related to water and health
- 7) Ministry of Planning (MoP)
- 8) Ministry of Land Management, Urban Planning and Construction (MLMUPC)
- 9) Ministry of Rural Development (MRD): responsibilities related to water and health (addresses arsenic contamination concerns)
- 10) Ministry of Tourism (MoT)
- 11) Ministry of the Interior (MoI)
- 12) Cambodia National Mekong Committee (CNMC): responsibilities related to the Mekong River and its tributaries
- 13) National Disaster Management Committee (NDMC)

Among these organisations, the following ministries (MoWRAM, MPWT, MAFF, MIME) and the Cambodia National Mekong Committee (CNMC) are directly involved in the water resource management of the country.

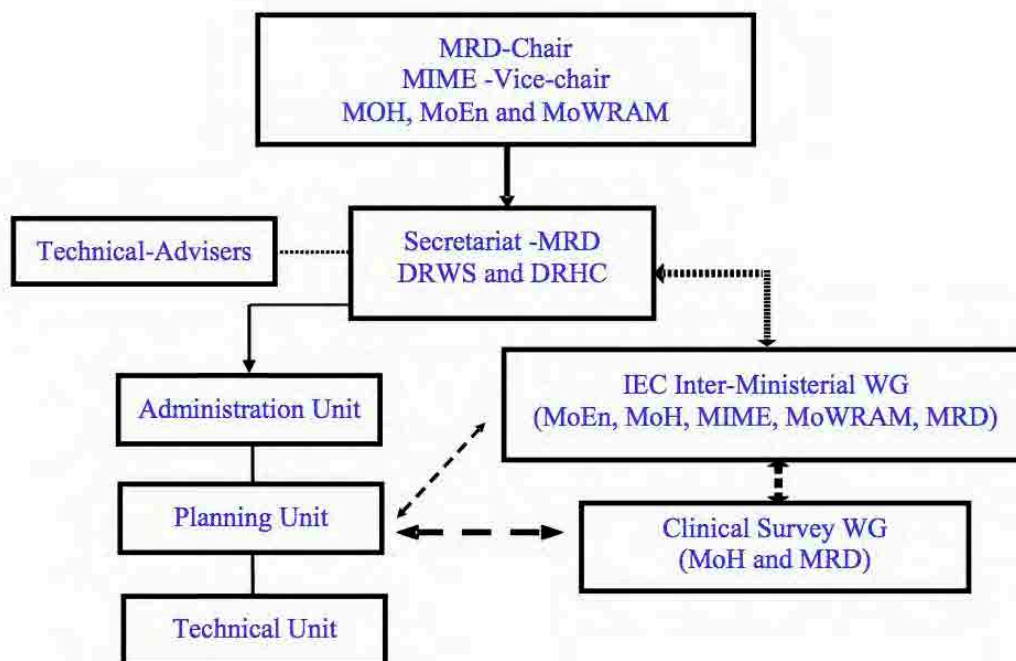
Under the MoWRAM are the Department of Water Resources Management and Conservation (DWRMC) and the Department of Hydrology and River Works (DHRW). The DWRMC carries out strategic plans for activities related to hydropower, flood control and irrigation. These include watershed area management, program development, and the development of policies, legislation, and regulations for water resource conservation. Projects that are excluded from the DWRMC's responsibilities are those projects that are first priority for the government, such as electric power production. The DHRW, on the other hand, develops projects and hydrological stations at water areas for water resource development. It also develops management plans for erosion, sedimentation, and riverbank protection. Furthermore, it performs monitoring activities, such as the evaluation of water level, discharge, sedimentation, and water quality at hydrological stations of designated water areas which were installed along the Mekong River, Tonle Sap (Great Lake), and their tributaries. The hydrological data that the DHRW obtains are used to study hydrological phenomena, hydrological modelling, hydrological calculation, and surface and groundwater potential. The data then are used to forecast floods and water shortages, among other phenomena.

The Department of Fisheries (DoF) is under the MAFF. The DoF establishes and classifies fishery resource inventories for fishery resources and aquaculture. It also makes plans to manage fishery zones and engages in other activities related to fishery resource exploitation and aquaculture in order to improve fishery resource utilisation and fishery conservation. It bases its plans on documented scientific research on fisheries and aquaculture.

The Cambodia National Mekong Committee (MRC) deals with anything related to the Mekong River and its tributaries. It monitors water-related resources, including the water quality of the Mekong River. Currently, the commission is implementing eleven programmes in the area, including integrated water resource management and climate change adaptation (EURONET Consortium 2012).

In addition to the above-mentioned organisations, the AISC was established in 2002 to address arsenic contamination concerns and is chaired by the MRD. It is composed of representatives from five ministries that also have responsibilities that are related to water and health. These are the MRD, MoWRAM, MOH, MIME and MOE. They collect data on arsenic in drinking water

in rural areas, map areas that are at risk, coordinate arsenic assessment programs, and develop plans for mitigation, including communicating with and educating the people of Cambodia.



Source: UNICEF (2009b)

**Figure 3.4.3: Operational Structure of the AISC.**

In June of 2013, the governments of Lao People’s Democratic Republic, the Kingdom of Cambodia and the Socialist Republic of Vietnam signed a declaration to support the scaling up of UN-Habitat’s Mekong Region Water and Sanitation (MEK-WATSAN) Initiative. Also called the ‘Vientiane Declaration’, it was established by both UN-Habitat and ADB with financial support from the Netherlands and aims to provide safe drinking water and basic sanitation (UN-Habitat 2013).

Cambodia also has one set of effluent standards for pollution sources discharging wastewater into public water areas or sewers and two sets of ambient water quality standards for public water areas (for bio-diversity and for public health). For detailed information on each set of standards, refer to Tables A-19 through A-21 in the Appendix, respectively.

National standards for drinking water quality were established in 2004 (see Table A-22 in the Appendix). Before that, three different standards for some chemicals in drinking water were mainly used by individual institutions or ministries in Cambodia, such as the MIME, MoE

(pollution control), and PPSWA (Phnom Penh Water Supply Authority). A newer version of the standards for drinking water is being developed. However, the government has not yet made it official.

### 3.5 Soil Pollution

#### 3.5.1 Current Situation

The soil may be chemically contaminated with a wide range of pollutants, including pesticides, such as lead and cadmium. Agricultural activities, industry, landfills and emissions from road transport are the main sources of soil pollution. At the time of writing, no comprehensive assessment of the current and potential magnitude and extent of soil pollution has been undertaken. In the national implementation plan report prepared by the Department of Environmental Pollution Control following the Stockholm Convention on Persistent Organic Pollutants (POPs) in 2004, three main groups of target areas have been identified as potentially contaminated by pesticides (including POPs pesticides): warehouses, plantation areas and lowland exposures.

##### 1) Warehouses

There are about 25 active warehouses in Cambodia, which are mainly operated by the Ministry of Agriculture, Forestry and Fishery (MAFF). Other pesticide warehouses have been turned into construction sites or abandoned. Both the existing and abandoned warehouses could be classified as potentially contaminated sites due to their history of spillage and leakage. Sometimes, the smell of chemicals can be detected at former warehouses that used to stock DDT for the healthcare sector. Three government warehouses may also be registered as contaminated sites.

##### 2) Plantation areas

Some plantation areas in Cambodia (mostly vegetable plantations) can be considered contaminated sites. This is due to farmers' lack of knowledge regarding the safe and efficient use of pesticides.

##### 3) Exposure areas (water reservoirs)

The rainwater brings pesticide residues from surrounding agricultural sites to water sources such as reservoirs, lakes and ponds. According to local sources, pesticides can be identified in the water by smell.

However, detailed results regarding the types of pollutants and contamination levels at these sites have yet to be published via inventory activities (MoE 2006a).



### 3.5.2 Relevant Laws and Organisations

According to the 1996 Law of Environmental Protection and Natural Resource Management, the MoE, in collaboration with other concerned ministries, is responsible for managing soil pollution in Cambodia (RGC 1996). Also, the Sub-decree on the Standards and Management of Agricultural Materials has been issued in order to help manage fertilizer usage in Cambodia. The MAFF is responsible for agricultural material management, instruction and control in Cambodia. However, no standards seem to be set by the relevant ministries regarding the content of fertilizers. In addition to this, as mentioned above, Cambodia is also a member of the Stockholm Convention on Persistent Organic Pollutants (POPs).

## 3.6 Solid Waste

### 3.6.1 Current Situation

In Article 3 of the Sub-Decree on Solid Waste Management, solid wastes are defined as hard objects, substances, products or refuse that are already deemed useless and have already been, are intended to be, or required to be disposed of. Non-hazardous household wastes are also part of the solid waste stream.

Economic and population growth, as well as increasing urbanization, are the common causes of increasing waste generation in most countries.

Data on municipal waste generation at the national level is not available for Cambodia; however, data for Phnom Penh are available (AIT/UNEP RRC.AP 2010).

The total area of Phnom Penh, the capital of Cambodia, is about 374 km<sup>2</sup>, and it had an urban population of approximately 1.3 million in 2008. Cambodia has an estimated annual population growth rate of 1.67%.

#### Municipal Solid Waste Generation and Composition

In 2011, 20% of the population lived in urban areas, with a 2.13% annual change rate (CIA 2011). The rate of waste generation increases as the population grows. A report conducted by the Department of Pollution Control states that waste generation increases by 10% every year (Nareth 2013).

In 2008, the amount of MSW generated was 0.361 million tons, which was more than twice the 1995 amount (0.136 million tons) (Seng et al. 2010). Seng et al. (2010) expect an estimated 0.635 tons to be generated in 2015. The gross generation rate of MSW generation per capita was 0.74 kg/day. The composition of waste in Phnom Penh is 63.3% food waste, 15.5% plastics, 6.8% grass and wood and 6.4% paper and cardboard, with the remainder being made up of metals, glass, rubber/leather, textiles and ceramic/stone.

**Table 3.6.1: Population, GDP and amount of waste generated from 1994 to 2008**

Year	Population <sup>a</sup> (million)			GDP <sup>b</sup>			Amount of waste (tons year <sup>-1</sup> )		
	Cambodia	MPP	MPP Annual growth rate (%)	US\$ (million)	US\$ capita <sup>-1</sup>	Exchange rate (Riels US\$ <sup>-1</sup> )	c	d	e
1994	9.752	0.812		2760	247	2570		14 500	
1995	10.148	0.855		3420	297	2467	136 388	14 548	
1996	10.560	0.901		3481	295	2640	143 103	15 264	
1997	10.990	0.949		3387	281	2991	142 536	15 203	
1998	11.436	1.000	5.3	3105	253	3774	169 111	18 038	
1999	11.656	1.007		3515	282	3814	191 625	20 440	
2000	11.881	1.014		3651	288	3859	219 000	20 702	
2001	12.110	1.022		3970	308	3924		21 050	
2002	12.344	1.029		4276	326	3921		21 367	
2003	12.581	1.037		4591	345	3975		240 859	253 569
2004	12.824	1.044	0.7	5265	389	4016		227 910	261 457
2005	12.963	1.108		6278	454	4092		266 781	283 076
2006	13.103	1.177		7265	513	4103		324 159	328 902
2007	13.245	1.249		8332	575	4075		343 657	343 742
2008	13.389	1.326	6.2	10339	739	-		361344	355561

Source: Seng et al. (2010)

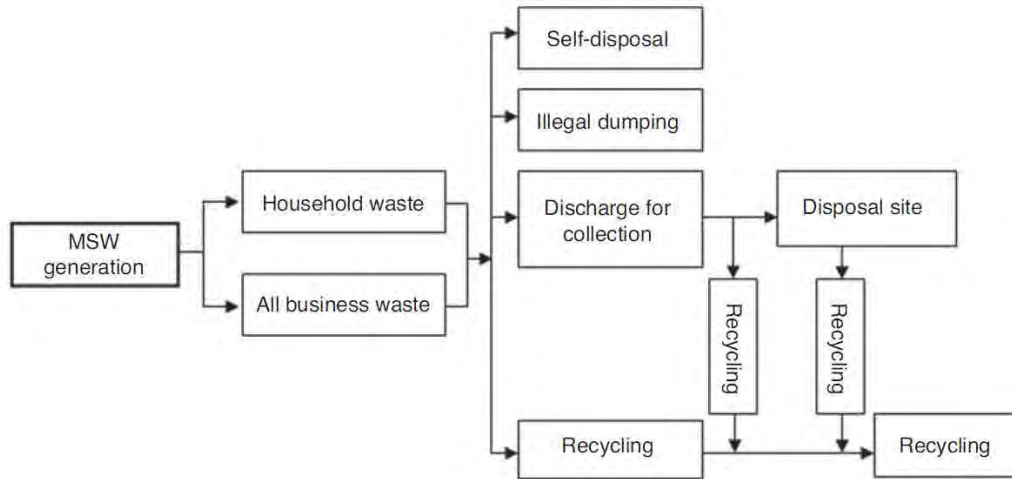
In Seng et al.'s (2010) summary of the data regarding population, GDP and waste generation, data from Kum et al. (2005) were used for 1994–2002 due to doubts about the MoE's data. The waste generation figures from the MoE were too low and were not reflective of the inefficient collection process of the time. In 2003, weighing bridges began to be used for measurement and proved to be a more accurate method of measuring waste.

Domestic waste in Phnom Penh, which is a part of MSW, was around 5,987 tons in 2005 and around 10,028 tons in 2006. The amount almost doubled in one year (AIT/UNEP RRC.AP 2010).

#### Municipal Solid Waste Flow

Solid waste was not a problem when the population of Cambodia was still relatively small. Waste generation increased after 1970, but during the civil war that spanned from 1975–1979,

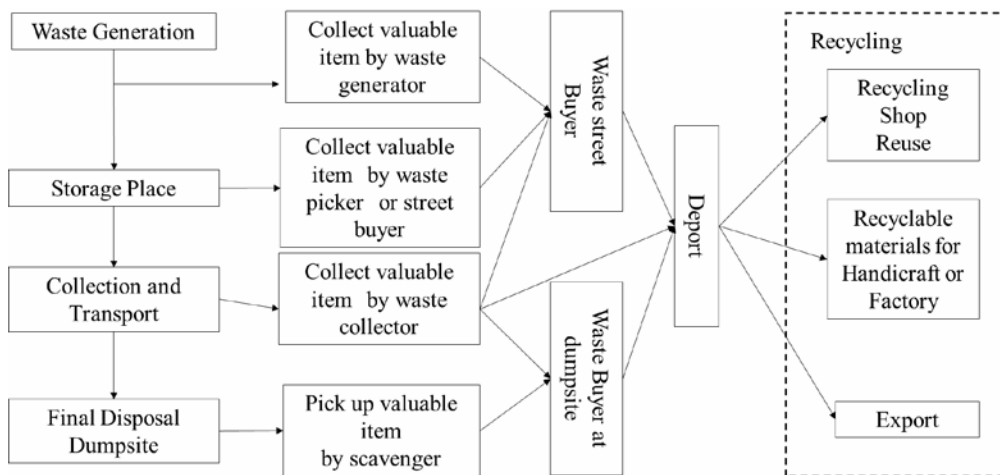
there was practically no waste generated because citizens were chased away to live in rural areas.



Source: Seng et al. (2010)

**Figure 3.6.1 Flow Chart of MSW in Phnom Penh**

Waste in Cambodia is classified into Non-Hazardous Waste (NHW) and Hazardous Waste (HW), and it is disposed of in unofficial dumpsites, such as empty lots; illegally dumped in prohibited dump sites; picked up for collection or recycled. Wastes that are collected end up in dumpsites (Seng et al. 2010).



Source: Sambo (2006)

**Figure 3.6.2 General Flow of Recycling Activities**

### Trends in waste composition

Examining the differences in the waste composition of the waste generated for the years 1999, 2002, and 2003, a significant change can be seen in the amount of plastic in the waste stream. From 6% in 1999, it jumped to 15.5% in 2003. This indicates a spike in the use of plastics that may be attributed to wrapping and packaging. On the other hand, a positive trend is the reduction in other forms of waste, such as glass, metal, rubber and leather, which may be due to the high recycling rates for these materials.

**Table 3.6.2 Typical Composition of MSW in Phnom Penh**

Composition (%)	1999	2002	2003
Food/Organic	87	65	63.3
Plastic	6	13.2	15.5
Paper and Cardboard	3	3.8	6.4
Grass and Wood	-	-	6.8
Glass	1	4.9	1.2
Metal	1	1	0.6
Rubber, Leather	-	0.6	0.1
Textile	-	-	2.5
Ceramic and Stone	-	-	1.5
Other	2	11.5	2.1

Source: Seng et al. (2010)

### Household Wastes

Per capita household waste generation was 0.487 kg/day in 2008 (Seng et al. 2010). Household waste makes up 62.9% of the total amount of MSW. Household wastes are usually kept in plastic bags before disposal. Hotels and restaurants have their own containers.

Waste collection methods include heap collection, container collection, primary/secondary collection, communal collection and the most common method, 'kerbside and bell' collection. In the latter method, vehicles give a signal that they will start collecting waste when it comes. The collection, however, is not consistent, so people do not know when trash will be collected.

The illegal disposal of waste in the streets is rampant, and even the small 0.6m<sup>3</sup> containers provided in the streets overflow. Additional issues make this situation worse: scavengers looking for valuable materials in the trash and small animals looking for food in the trash, thereby scattering it more; households burning waste that is mixed with plastic bags, causing air

pollution; and people throwing their waste into the drainage system, causing it to clog (Seng et al. 2010).

Another effect of the lack of MSWM regulation is the mismanagement of household waste. Household wastes are commonly burned, buried or dumped. These disposal methods are unsanitary, and make it more difficult for the Department of Public Work and Transport (DPWT) to manage them.

MPP sold franchise agreements to private contractors. Due to financial difficulties however, the service providers have changed six times. The latest one, CINTRI, covered 3,000 households.

#### Hospital Waste

Hospital waste is sorted according to Ministry of Health regulations. However, the waste characterization of hospital and clinic waste is unclear. They are thus legally disposed of at landfills (Seng et al. 2010). This poses health problems for waste scavengers who make their livings in the landfill areas.

#### Industrial Waste

Industrial wastes are sorted at their source. They are ranked as a priority for improvement, and there is currently a draft of an improved Law on Environmental Pollution Management that is expected to be adopted by 2013. There is a need to increase the awareness and understanding of the industrial sector, as well as a need to have better data on the quantification and characterization of industrial waste. Additionally, there is a lack of funding for the collection of this type of waste and a lack of incentives for the public to increase participation in waste management, such as the individual reporting of waste mismanagement.

#### Electronic Waste (E-Waste)

E-waste is another priority area for improvement in Cambodia. There are no regulations addressing this type of waste, which comes from locally generated electrical and electronic equipment. Although Cambodia has ratified the Basel Convention, which aims to control the transboundary movement of hazardous wastes, the importation of second-hand and end-of-life electronics from other countries continues. These end up as waste and are disposed of in dumpsites. E-waste is made up of both valuable and hazardous components. Because of the precious metals contained in e-waste, informal sectors attempt to retrieve it in ways that are dangerous to their health and to the environment. These include the open-air burning of e-wastes to recover metals.

### Stung Meanchey Dumpsite

Stung Meanchey is the only dumpsite in Phnom Penh. It has been in operation since 1965, and the disposal method employed is open dumping. Waste is levelled by a bulldozer without prior planning. There is no reclamation plan for the dumpsite (Kum et al. 2005). Although the dumpsite is believed to be full, there is no funding available for a new landfill.

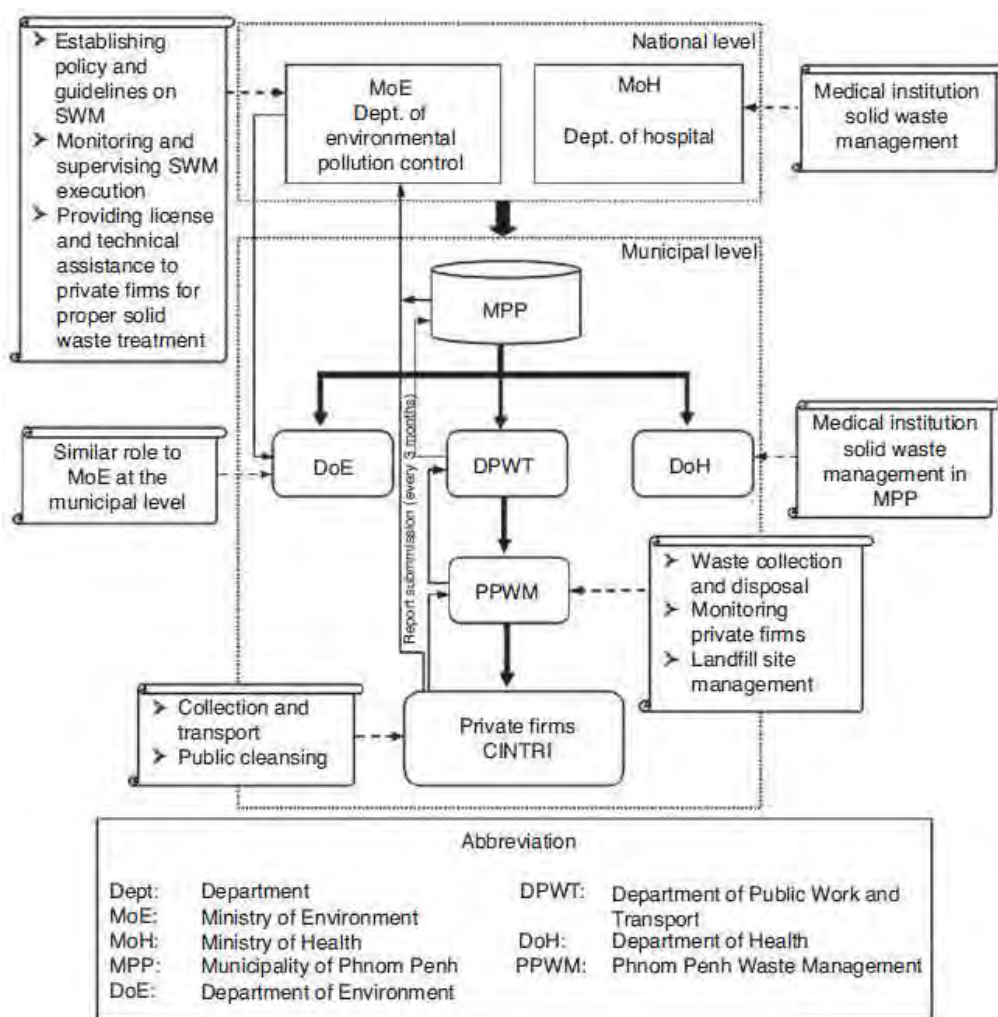
### 3.6.2 Relevant Laws and Organisations

The 1996 Act on Environmental Protection and Natural Resource Management aims to protect and promote environmental quality and public health through the prevention, reduction and control of pollution. Article 12 of the act stipulates that the Ministry of Environment shall collaborate with other concerned ministries to develop an inventory that indicates the sources, types and quantities of pollutants, wastes and toxic and hazardous substances that are being imported, generated, transported, recycled, treated, stored, disposed of or released into the airspace, into the water, into the land or on the land. It also includes developing an inventory of the sources, types and extent of disturbances from noise and vibrations.

The sub-decrees and declarations related to solid waste management are as follows:

- Sub-decree on solid waste management (27 April 1999)  
It regulates solid waste management in a proper, safe technical manner in order to ensure the protection of human health and the conservation of biodiversity.
- Declaration on the provision of duties to carry out the sub-decree on water pollution control and the sub-decree on SWM for urban and provincial environmental departments (2 June 1999)  
It stipulates the restriction of the inappropriate disposal of solid waste, which contributes to the deterioration of the water environment, human health and the ecosystem.
- Sub-decree on the environmental impact assessment process (11 August 1999)  
The EIA is required for industries that conduct waste processing (burning) and wastewater treatment plants.
- Declaration on the enforcement of the sub-decree on SWM (20 September 1999)
- Declaration on industrial hazardous waste management (26 May 2000)
- Declaration on the SWM of industries, factories and companies (16 January 2003)
- Declaration on urban and provincial SWM (25 February 2003)

The main agency responsible for the management of waste is the Ministry of Environment. The Ministry of Health (MoH) is responsible for medical institutional waste management. The Ministry of Planning (MoP) is responsible for planning needs and the Ministry of Economy and Finance (MoEF) is in charge of providing financial approval.



Source: Seng et al. (2010)

**Figure 3.6.3: System of MSW Institutional Arrangements.**

### NGOs Dealing with the SWM Problem

NGOs in Cambodia disseminate information, educate and raise awareness regarding the problems of solid waste management. In addition to this, a local NGO called the Cambodia Education and Waste Management Organization (COMPED) collaborated with the MoE in establishing the Environmental Guidelines on Solid Waste Management in the Kingdom of Cambodia. Also, they succeeded in the application of bio-fertilizer to target areas in Phnom

Penh. The COMPED regularly produces bio-fertilizer by composting urban organic wastes collected from the Stung Meanchey dumpsite and Phsar Deum Kor Market. This is cheaper than buying agrochemicals and can be done at households and in the community (AIT/UNEP RRC.AP 2010). The government has several projects and programs that promote and disseminate information regarding compost fertilizers.

An example of this is the School Recycling Program in the Siem Reap Province. The program aims to increase environmental education and awareness through the dissemination of the garbage management scheme. Schoolteachers, primary school pupils and parents participate in activities including waste recycling, gardening and the distribution of materials to stakeholders. These were implemented by staff of the Siem Reap Province Environmental Department, the JICA study team, JICA volunteers and the directors of primary schools.

### 3.7 Noise and Vibration

#### 3.7.1 Current Situation

Noise pollution can result in adverse effects on human health and wellbeing. Extremely loud noises exceeding the acceptable human hearing range may result in hearing impairment. It has also been proven that noise pollution may cause negative psychological effects. Therefore, it is important to constantly study the noise pollution situation in a country. At the time of writing, no research papers on the current noise pollution situation in Cambodia were found to be published.

Vibrations can be induced by noise, wind, and the ground. These vibrations can deteriorate infrastructure and may be harmful to the living spaces of animals, plants, as well as humans. Vibration mainly results from transportation activities, such as cars, trains, heavy trucks, and airplanes. Other sources include strong winds and construction activities. In 2012, the Pacific Asia Travel Association reported a significant 24% increase in visitor arrivals to Cambodia (PATA 2012). Repetitive vibrations can debilitate building structures, loosen roof materials, and sometimes cause windows to shatter (Cochrane 2008). Tourism infrastructure projects amounting to USD\$4 million over the span of eight years have been initiated to upgrade the airport, and to help mitigate the effects of noise, air traffic controllers avoid concentrating flight paths over residential areas and make use of steeper, continuous descent approaches (Cochrane 2008 and Renzenbrink 2012).



Historical architectures are also affected by and deteriorate owing to these vibrations. Analytical models such as those developed by Maeda, Sugiura, and Hirai (2008) for the Bayon temple utilize vibration characteristics to evaluate the stability and safety of the structure.

### 3.7.2 Relevant Laws and Organisations

The 1996 Law on Environmental Protection and National Resource Management stipulates that ‘the prevention, reduction, control of airspace, water and land pollution, noise and vibration disturbances as well as waste, toxic substances and hazardous substances’ shall be determined by the Sub-decree on Air Pollution, Noise Disturbance and Vibration, which calls for the reduction of noise and vibration in order to conform to air pollution standards. Standards for noise and vibration are also applied to the conduct of the EIA. However, only noise pollution standards in dB(A) are stipulated, as shown in Tables 3.7.1, 3.7.2, and 3.7.3.

The Ministry of Environment is responsible for noise management in Cambodia. Some standards have been set under the Sub-decree on Air Pollution Control and Noise Disturbance (2000).

**Table 3.7.1: Maximum Values of Noise Emission Level Allowable for Vehicles on Public Roads**

No.	Category of Vehicles	Maximum Noise Level permitted (dB (A))
1	Motorcycles, cylinder capacity (cc) of engine < 125cm <sup>3</sup>	85
2	Motorcycles, cylinder capacity (cc) of engine ≥ 125cm <sup>3</sup>	90
3	Motorized tricycles	90
4	Cars, taxis and buses with capacities of < 12 passengers	80
5	Buses with a capacity of ≥ 12 passengers;	85
6	Trucks with a loading capacity of < 3.5 tons	85
7	Trucks with a loading capacity of ≥ 3.5 tons	88
8	Trucks with a engine capacity of ≥150 kW	89
9	Other machinery (tractors/trucks) not listed above	91

Notes: This standard is applied to control noise emissions for all kind of vehicles when they are operating on public roads.

Source: RGC (2000)

**Table 3.7.2: Maximum Standard of Noise Level Allowable  
in the Public and Residential Areas (dB(A))**

No.	Areas	Periods of Time					
		From 6AM through 18PM		From 18PM through 22PM		Form 22PM through 6AM	
		Camb.	IFC	Camb.	IFC	Camb.	IFC
1	Quiet Areas - Hospitals - Libraries - Schools - Kindergartens	45	55	40	55	35	45
2	Residential Areas - Hotels -Administrative Offices	60	55	50	55	45	45
3	- Villas, Flat Commercial and Service Areas and Areas with Multiple Businesses	70	70	65	70	50	70
4	Small industrial factories mingling in a residential area	75	70	70	70	50	70

Note: This standard is applied to control the noise level of any source or activity that emits noise into public or residential areas.

Source: RGC (2000); IFC (2007)

**Table 3.7.3: Noise Control Standards for Workshops, Factories and Industry**

Noise Level (dB (A))	Maximum Period of Time	Level
75	32	Ear protection equipment must be provided to workers who work at a location with a noise level over 80dB(A)
80	16	
85	8	
90	4	

95	2	
100	1	
105	0.5	
110	0.25	
115	0.125	

**Remark:**

This standard is applied to control the noise level in workshops, industries and factories.

Source: RGC (2000)

There were no official international standards to be compared with the maximum standard noise emission levels allowable for vehicles on public roads and noise control standards at workshops, factories and industry. The above tables show that Cambodian sound emission standards are generally more stringent than those of the IFC.

### 3.8 Climate Change

Currently, the term ‘climate change’ is generally used when referring to changes in our climate that have been identified as occurring since the beginning of the mid-19th century. Climate change refers to any change in climate over time, whether this is due to natural variability or human activity (IPCC 2007). Human interactions with the natural environment have become tremendous in recent centuries. Environmentally significant greenhouse gases are increasing due to both natural and anthropogenic activities and are contributing to global warming. The Earth’s average surface temperature has risen by about 0.74 degrees Celsius over the past 100 years, and it could rise by up to 5 degrees Celsius by 2080 if the emission of such gases is not decisively reduced (IPCC 2007). It is now universally acknowledged that the climate change we are witnessing will continue for a long time. This obviously has serious implications for human health. While some of these have been studied, data remain scarce, and it is difficult to draw clear conclusions regarding future adaptation measures. Human beings are exposed to climate change through changing weather patterns (temperature, precipitation, sea-level rise and more frequent extreme events) and indirectly through changes in water, air and food quality and changes in ecosystems, agriculture, industry, settlements and the economy. The IPCC (2007) reported that ‘Climate change currently contributes to the global burden of disease and premature deaths. At this early stage, the effects are small, but are projected to progressively increase in all countries and regions’ (IPCC 2007). Clearly, Cambodia is facing climate-change-induced consequences in many spheres of society and development.

### 3.8.1 Current Situation

Although Cambodia does not emit a great deal of greenhouse gases compared to developed and industrialised countries, it has been facing the effects and consequences, which are thought to be due to climate change, such as frequent and severe floods.

The Cambodian National Adaptation Programme of Action to Climate Change (NAPA) was developed because of recent frequent floods and severe droughts due to changing climate conditions (MoE 2006). These have caused a number of fatalities and considerable economic losses that necessitated the establishment of a framework to guide the coordination and implementation of adaptation initiatives. The implementation of the Cambodian NAPA is expected to contribute to the achievement of the Cambodian Millennium Development Goals.

The key sectors for the Cambodian NAPA are agriculture, water resources, the coastal zone and human health, with projects divided into three categories: capacity building/training, awareness raising/education and infrastructure development. Projects include the construction of community water reservoirs and irrigation systems, the rehabilitation of coastal protection infrastructures, reforestation and other initiatives that will help Cambodia adapt to climate change and achieve its national sustainable development objectives.

### 3.8.2 Relevant Laws and Organisations

In a survey of 684 households, it was found that traditional adaptation to flooding included building elevated enclosures for livestock, increasing feedstock for animals, increasing the household food stock and preparing boats. A few households, on the other hand, chose to live in places that were perceived as being safe from floods.

In adapting to drought, it was found that 24% of the villagers organised religious ceremonies in hopes of rain, 16% continued to plant crops in hopes that there would be enough rain and 17% of households reduced water consumption (MoE 2006b).

The development of adaptation capacity was deemed to be important, and the NAPA aims to understand climate hazard characteristics in Cambodia, coping mechanisms regarding climate hazards and climate change, and existing programmes and institutional arrangements for addressing climate hazards and climate change, as well as to identify and give priority to adaptation activities regarding climate hazards and climate change (MoE 2006b).

**Table 3.8.1: Summary of the 20 High-Priority NAPA Activities**

Sector: Non-Health

Priority No.	Project Title
1a	Rehabilitation of a Multiple-Use Reservoir in Takeo Province
1b	Rehabilitation of Multiple-Use Dams in Takeo and Kampong Speu Provinces
1c	Community and Household Water Supply in Coastal Provinces
2a	Development and Rehabilitation of Flood Protection Dikes
2b	Rehabilitation of Upper Mekong and Provincial Waterways
2c	Rehabilitation of Multiple-Use Canals in Banteay Meas District, Kampot Province
3a	Vegetation Planting for Flood and Windstorm Protection
3b	Strengthening of Community Disaster Preparedness and Response Capacity
3c	Water Gate and Water Culvert Construction
3d	Safer Water Supply for Rural Communities
3e	Development and Improvement of Small-Scale Aquaculture Ponds
3f	Promotion of Household Integrated Farming
3g	Development and Improvement of Community Irrigation Systems
4b	Community Mangrove Restoration and Sustainable Use of Natural Resources
4c	Community-Based Agricultural Soil Conservation in Srae Ambel District, Koh Kong Province

Source: MoE (2006b)

Agricultural Sector

Agriculture and agro-forestry are considered important parts of Cambodia's poverty reduction strategy (MoE 2006b). The development of relief and emergency services, meteorological and hydrological networks and natural disaster prevention and preparedness is vital in minimising the vulnerability of the rural poor to climate change impacts.

Infrastructure is being developed to protect agricultural fields that are vulnerable to floods. The Cambodian road network, which disrupts natural flooding patterns, causes increased damage, and the construction of water gates and water culverts is aimed at regulating floods. Also, earth dikes that protect the land against saltwater intrusions require rehabilitation in order to increase agricultural production in coastal areas.

In order to increase agricultural productivity and farmers' incomes, food security and livelihoods, the promotion of household integrated farming is performed to move farmers away from a dependence on subsistence rain-fed rice farming, which is vulnerable to climate change hazards. Furthermore, the development and improvement of community irrigation systems, the identification of suitable crop management strategies, the development of community rice banks and improved community agro-forestry in deforested watersheds also help in increasing farmers' resilience against climate change.

#### Water Resources

Prolonged droughts have decreased water availability for households, and irrigation and projects related to water resources are aimed at increasing reservoir storage capacity. In addition, exposure to vector- and water-borne diseases has increased.

Most of the projects are related to rehabilitating water storage structures, waterways and irrigation canals, building dikes and water control structures and providing safe water to households.

These projects reduce the incidence of water-related diseases and water shortages and supply sufficient water for irrigation and domestic use.

#### Coastal Zone

The deforestation of coastal zones leads to storm damage and a shortage of fuel wood for local people (MoE 2006b). Heavy rainfall in these areas damages roads, interrupts travel and isolates rural areas.

In response to these problems, infrastructure will be improved, and land-use planning will be undertaken.

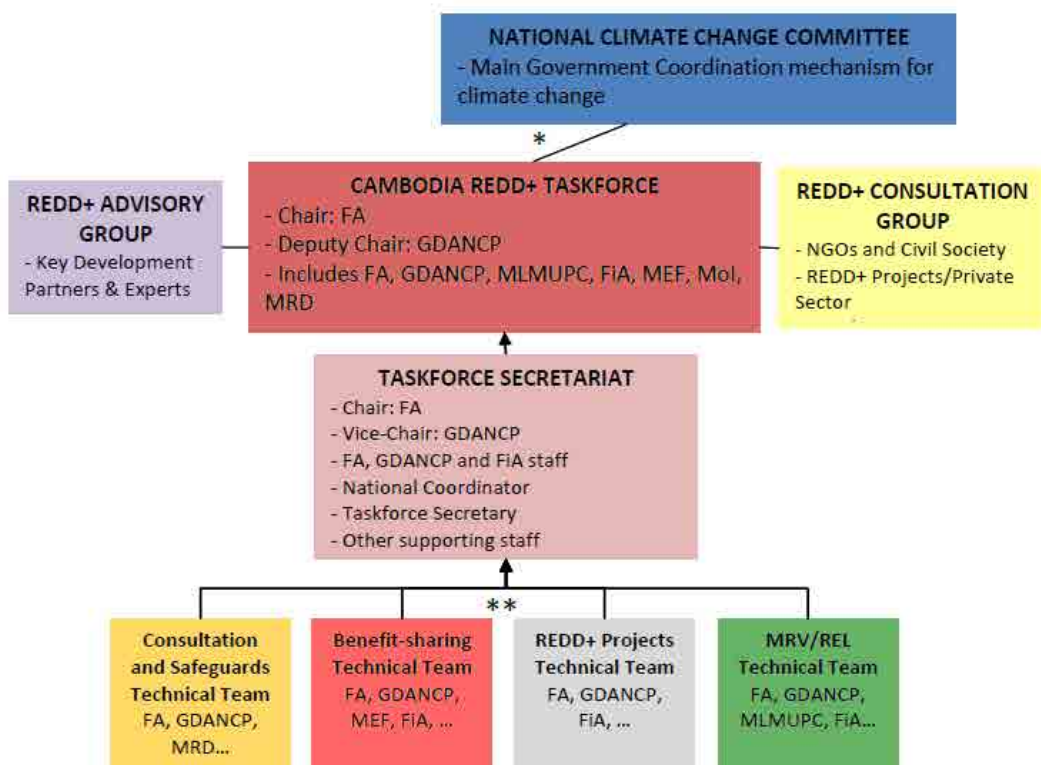
#### Human Health

Health-related problems that reduce adaptive capacity to climate change are caused by unsanitary water sources, which provide unsafe drinking water and serve as breeding ground for malarial mosquitos (MoE 2006b). Malaria causes more than 400 deaths a year and causes the highest amount of total inpatients in Cambodia.

Projects that are attempting to solve these problems include the production of biopesticides, the development of healthcare centres, the provision of safe water and the development of education and awareness programs.

Forestry Sector (REDD+)

Cambodia has one of the highest levels of forest cover in the world, but it also has a high deforestation rate, around 0.8% per year (FCPF/UN-REDD 2011). Reducing Emissions from Deforestation and Forest Degradation (REDD+) is an effort to create monetary value for forest biomass and offers incentives to developing countries to reduce emissions from forested lands and to invest in low-carbon sustainable forestry initiatives. A Cambodia REDD+ Taskforce, which is made up of people from the Forestry Administration and the Ministry of Environment, as well as representatives from NGOs and individual consultants, is tasked with undertaking this effort. Monetary support for REDD+ is expected to come from the government, FCPF, the UN-REDD Programme, UNDP, FAO, the government of Japan and JICA.



\* Represents reports from the Taskforce sent to the NCCC  
 \*\* Taskforce Technical Teams will include Government and non-Government representatives as appropriate

Source: UN-REDD (2011)

**Figure 3.8.1: Proposed National Coordination Arrangements**

After the Conference of Parties in Bali in 2007 (COP13), REDD+ was first implemented in the Oddar Meanchey community forests and then implemented in the Seima Protected Forest in 2009. These projects are considered to be advanced when compared to other REDD+ projects.

The development of REDD+ Readiness in Cambodia aims to build national capacity, to support the implementation of existing policies and strategies for forest management, to be consistent with UNFCCC negotiation processes and to adopt a learn-by-doing approach.



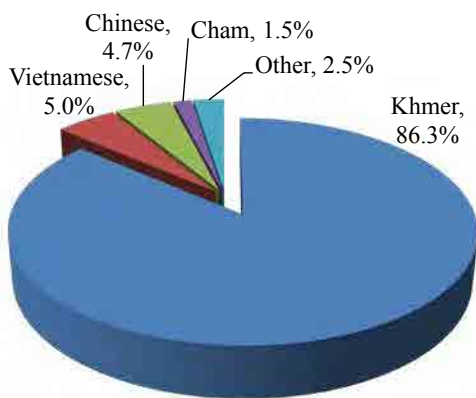
**Chapter 4**  
**Social Environment**



## 4. Social Environment

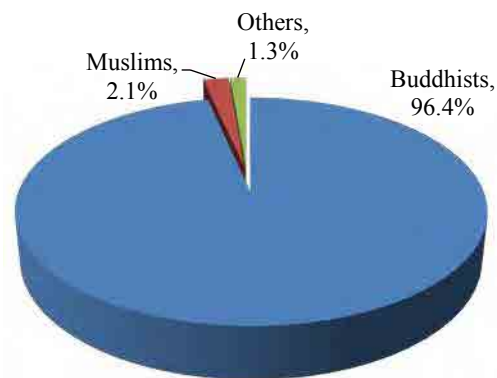
### 4.1 Overview

According to the 2008 census, the estimated population of Cambodia was 13,395,682 as of March 3, 2008 (National Institute of Statistics 2008), whereas, according to the latest estimate by the CIA, the population has increased to 15,205,539 as of July 2013 (CIA 2013). The average rate of the annual population growth between 1998 and 2008 was 1.54%. Population density was 75 people/km<sup>2</sup> (national average). Among provinces, Kampong Cham had the largest population, and Phnom Penh had the highest density (4,571 people/km<sup>2</sup>) (National Institute of Statistics 2008). The largest ethnic group in Cambodia is Khmer, comprising 86.3% of the total population, followed by 5% Vietnamese, 4.7% Chinese, 1.5% Cham, and 2.5% indigenous peoples and other minority ethnic groups (Figure 4.1.1). With regard to religion, 96.4% were Buddhists; 2.1% were Muslims; 1.3% was specified as 'others', mainly consisting of highland tribal groups, and the rest unspecified (Figure 4.1.2). In terms of language, Khmer is the official and most widely used language. French and English are also used in the country (CIA 2013).



Source: CIA (2013)

**Figure 4.1.1: Ethnic Groups in Cambodia**



Source: CIA (2013)

**Figure 4.1.2: Religion in Cambodia**

Cambodia gained independence from France in 1953, and the country was named Kingdom of Cambodia, under King Sihanouk, who became prime minister of the country in 1955, and head of state in 1960. The country was politically stable until the mid-1960s, but the intensification of the Vietnam War after 1965 also affected the political stability of Cambodia.

By 1970, the monarchy government was abolished, and the Khmer Republic was formed.

Following a five-year struggle, Communist Khmer Rouge captured Phnom Penh and ordered the evacuation of all cities and towns. Varying by source, an estimate of 1.7 to 3 million people have died from execution, starvation, disease, or enforced hardships during that period. In 1979, the Vietnamese took over Phnom Penh, and a pro-Vietnamese Kampuchean state, the People's Republic of Kampuchea, was established. Later, Hun Sen was elected as the prime minister and Vietnamese troops withdrew.

The regimes that clashed during the civil war in Cambodia in the 1970s are responsible for placing landmines throughout the whole territory of the country, especially in rural areas, thus creating a major problem until the present. This has taken a severe toll on Cambodians. Cambodia has some 40,000 amputees, which is one of the highest rates in the world. The Cambodian Mine Action Centre (CMAC) estimates that there may be as many as 4 to 6 million mines and other pieces of unexploded ordnance remaining from that period in Cambodia, with most of them currently found in the northwest of the country.

In 1991, a peace agreement was signed in Paris, mandating democratic elections and a ceasefire. A general election was held in 1993, which managed to restore stability in the country. Currently, Cambodia follows a constitutional monarchy system.

Economically, the country has also progressed well. With more than 10% growth every year between 1998 and 2008, and followed by more than 7% growth since 2009, Cambodia was one of the best performing economies during that period (ADB 2012). Despite that, the country is still listed as one of the poorest countries in the world. The 2012 per capita income is USD 946 (WB 2013). Industries such as garment, construction, and tourism are the big contributors to Cambodia's economy.

#### 4.2 Regulations and Policies

Article 32 of the Cambodian constitution (1993) affirms that all Khmer citizens are equal before the law, and enjoy the same rights and freedoms. The constitution also declares that the Kingdom of Cambodia 'shall recognise and respect human rights as stipulated in the United Nations Charter, the Universal Declaration of Human Rights, the covenants and conventions related to human rights, and women's and children's rights.' There are other key domestic and international legal instruments relevant to social considerations including protection of rights, and they are listed below:

### **Major Domestic Laws**

- Law on the Prevention of Domestic Violence and Protection of the Victims (2005)
- Law on Suppression of Human Trafficking and Sexual Exploitation (2008)
- Law on the Protection and the Promotion of the Rights of Persons with Disabilities (2009)
- Law on Education (2007)
- The Labor Law (1997)
- Law on Social Security Schemes for Persons Defined by the Provisions of the Labor Law (2002)
- Law on the Protection of Cultural Heritage (1996)

### **Major International Agreements**

- Convention on the Elimination of All Forms of Discrimination against Women (1992)
- Convention for the Suppression of the Traffic in Persons and of the Exploitation of the Prostitution of Others (2004)
- Convention on the Rights of the Child (1992)
- Convention on the Rights of Persons with Disabilities (2012)
- Convention for the Protection of the World Cultural and Natural Heritage (1972)

Tables A-1 and A-2 in the Appendix show major governmental laws and regulations, international conventions, protocols, and treaties related to environmental and social considerations.

### **4.3 Relevant Organisations for Protection of Basic Human Rights**

The Ministry of Social Welfare, Labor & Veterans, the Ministry of Women’s Affairs, and the Ministry of Education, Youth and Sports are the relevant ministries for the protection of basic human rights for the socially vulnerable. The government also has three human rights bodies: the two separate committees for the protection of human rights and reception of complaints – one under the Senate (the Senate Commission on Human Rights (‘SCHR’)) and another under the National Assembly (the National Assembly Commission on Human Rights (‘NACHR’)) – and the Cambodian Human Rights Committee (‘CHRC’) that reports to the prime minister’s cabinet (CCHR 2012). The committees do not have regular meetings or transparent operating processes. The Cambodian Human Rights Committee submits government reports for participation in international human rights review processes, such as the Universal Periodic

Review, and it issues responses to reports by international government bodies, but it does not conduct independent human rights investigations (US Dept. of State 2012).

A variety of domestic and international human rights groups including Cambodian League for the Promotion and Defense of Human Rights (LICADHO), Cambodian Human Rights and Development Association (ADHOC), Oxfam, and Care generally operate without government restriction, investigating and publishing their findings on human rights cases. Government officials are somewhat cooperative and responsive to their views. There are currently approximately 40 human rights NGOs in the country, but only a few are actively involved in organising training programs or investigating abuses.

#### 4.4 Protection of Rights for Socially Vulnerable

Since the surrender of the remaining elements of the Khmer Rouge in 1999, the country has progressed significantly. However, Cambodia is still listed as a Least Developed Country (LDC). The destruction caused by three decades of unrest is undeniable. Although economic progress in Cambodia has had positive outcomes, it also induced rapid changes in Cambodian society with negative consequences.

##### 4.4.1 Poverty

Although Cambodia's tragic past is well documented, the country has seen political and macroeconomic stability since 1998, and a decade of high and sustained economic growth. Cambodia is ranked sixth among all the countries in the world for growth performance during the period 1998–2007. It is also one of the 46 countries to achieve 7% annual growth for 14 years in a row. This stellar growth has improved the country's poverty rates. The national average poverty line for Cambodia in 2007 was KHR 2,473 per capita per day. Using the same measure, the poverty headcount of Cambodia has fallen from 47% of the population in 1994 to 35% in 2004, and 30% in 2007 (ADB 2012).

**Table 4.4.1: Poverty Headcount of Cambodia**

Segment	Poverty Line People (Head Count Index) (%)		
	1994	2004	2007
Cambodia	47	35	30
Phnom Penh	11	5	1
Urban	-	25	22
Rural	-	40	35

Source: ADB (2012)

Although poverty in Cambodia between 2004 and 2007 decreased, the inequality increased. The rise in Gini coefficient, from 0.39 to 0.43, shows that the gap between the rich and the poor has widened. In 2007, the average expenditure per capita in Phnom Penh was 3.5 times higher than that of rural areas. While the consumption of the richest 20% is nearly one half of the country's total consumption, the consumption of the poorest 20% fell from 8.5% in 1994 to 6.6% in 2007 (ADB 2012).

Cambodian households face serious vulnerabilities and are prone to individual-specific and macroeconomic shocks. With the majority of the population engaged in rice subsistence farming, and dependent on weather conditions, crop failures, and the resulting food insecurity are major concerns. Illness and related high health expenditures are further key factors driving households into chronic poverty, which may lead to taking children out of school, selling productive assets, or engaging in other detrimental coping strategies. High rates of child and maternal malnutrition impact child cognitive development and educational performance, thus barring children from life opportunities. In addition, rural seasonal unemployment, soaring food prices, and the global economic crisis have also contributed to the vulnerability of household situations in Cambodia (CRDB&CDC 2010).

The Royal Government of Cambodia (RGC) has issued several policies for the reduction of poverty in the country. The National Poverty Reduction Strategy (NPRS) is integrated in the National Strategic Development Plan (NSDP) Update 2009-2013, which was approved by parliament in 2010 to reaffirm its focus on pro-growth and poverty reduction strategies. The RGC has updated its goals 'to reduce the poverty at a rate of over 1% per annum and to improve social indicators, especially in education, health, and gender equity' (ADB 2012). To improve the resilience of the economy and regional and global competitiveness, the government is prioritising diversification of the country's economic base as a long-term goal. The National Social Protection Strategy (NSPS) for the Poor and Vulnerable, launched in 2011, aimed at

protecting the poorest and most disadvantaged against chronic poverty and hunger, shocks, and destitution. Other strategies have also been taken targeting five main objectives including protecting the poor and the vulnerable and eliminating child labour (RGC 2011).

#### 4.4.2 Indigenous Peoples and Ethnic Minority Groups

There are 24 indigenous groups in 15 out of 23 provinces, according to the National Policy on the Development of Indigenous Peoples (NPDIP) of Cambodia. They are generally vulnerable and marginalised. The vulnerability is linked with the characteristics of Cambodian social and economic factors that bring issues such as lower living standards, and disadvantages related to language, remoteness, and discrimination. Chapter 7 provides further details about this matter.

#### 4.4.3 Gender

Greater gender equality enhances productivity and can contribute to the development of the country. Empowerment of women and girls is vital to translate the country's economic growth into improved living standards that give importance to gender equality. As is the case with other LDCs, Cambodia too faces gender inequality problems. In the Gender Equity Index (GEI) released by Social Watch in 2012, Cambodia had the largest gender equity gap in the East Asia and Pacific region (Social Watch 2012).

On paper, Khmer women exercise considerable autonomy and independence. Asset management, financial transactions, decision-making, and property inheritance are all possible. However, in practice, traditional norms and low levels of education and literacy still marginalise Cambodian women and girls. Women are still considered the household managers and men the providers. Traditional belief systems that suggest 'proper' roles for men and women strongly influence this gender disparity (USAID 2010).

Current gender inequality problems in Cambodia include significant differences in education levels. Although gender parity exists in primary school enrolment, it declines at higher educational levels (USAID 2010). The ratio of girls to boys in the upper secondary level was 73%, and two out five women aged 25–44 are illiterate. The very low literacy and education levels lead to other problems, such as a lack of knowledge of appropriate child and maternal healthcare practices. Violence against women is also prevalent in Cambodia, but rarely reported. A lack of awareness of rights, combined with a lack of power, increases a woman's vulnerability to exploitation and abuse (ADB 2012).



In the recent years, the RGC has shown a strong commitment to promoting gender equality. National machinery, which includes the Ministry of Women's Affairs (MOWA), the Cambodia National Council for Women, and the Technical Working Group on Gender (chaired by MOWA, with UNDP and JICA as co-facilitators), has been established for the promotion of gender equality. New Women and Children's Consultative Committees (WCCCs) have also been established at all levels of the subnational government. Following the ratification of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and the Convention for the Suppression of the Traffic in Persons and of the Exploitation of the Prostitution of Others, the government has passed the Law on the Prevention of Domestic Violence and Protection of the Victims in 2005 and the Law on the Suppression of Human Trafficking and Sexual Exploitation in 2008 (ADB 2012). The objectives of the two domestic laws are to establish legal mechanisms to prevent domestic violence and to suppress human trafficking and sexual exploitation.

The National Strategic Development Plan (NSDP) 2006–2009 clearly focused on gender mainstreaming at levels of government and in the budgeting process. However, constraints including (1) limited awareness of gender issues; (2) limited capacity to analyse and assess how policies and projects differentially impact men, women, girls, and boys; and (3) persistent stereotypes about what women can and cannot, or should or should not do, exist. Hence, a policy which echoes these constraints has been made in the NSDP update 2009–2013 (ADB 2012).

#### 4.4.4 Children

Children are the group that is most vulnerable to poverty, and those living in poverty in Cambodia are no exception to this. The Cambodian government ratified the Convention on the Rights of the Child in 1992 that protects the rights of children, but there is no comprehensive or consolidated Children's Act in Cambodian domestic law; rather, provisions of particular relevance to children are found throughout a number of codes, laws, and decrees. For instance, The Labor Law forbids children under 15 years old from working, the Prakas No. 106 lists types of hazardous work for children, and the Law on Suppression of Human Trafficking and Sexual Exploitation protects children from trafficking.

Regarding educational system, education is free through grade nine as stipulated in the Law on Education, but not compulsory. The lack of compulsory schooling makes children under age 15,

which is the legal age to work, particularly vulnerable to the worst forms of child labour, because they are not required to attend school, nor are they legally permitted to work. Access to the education system also contains barriers such as long travelling distances to schools, safety concerns for girls, lack of bilingual instruction, and marginalisation because of race, ethnicity, or disability (US Dept. of Labor 2012).

Children in Cambodia are also vulnerable to child abuse. Child abuse is believed to be common, even though statistics are not available. Other vulnerabilities include child marriage and problems faced by institutionalised children (US Dept. of State 2012).

Child labour activities are prevalent in the country. About 48.9% of children aged 10–14 are working, with 42.1% of children combining work and school. About 82.3% of the working children are working in agriculture, and the rest are working in services, manufacturing, or other fields. Children's work in agriculture commonly involves hazardous activities, such as using potentially dangerous machinery and tools, carrying heavy loads, and applying harmful pesticides. Child labour is more common in rural than in urban areas. Children also engage in activities such as street begging, and girls primarily work as domestic servants. Cambodia is also a source and destination country for child trafficking. Cambodian girls are trafficked to Thailand and forced into prostitution. Trafficked girls work as beggars and street vendors in Thailand and Vietnam, and as domestic servants in Malaysia (US Dept. of Labor 2012).

Cambodian Labor Law (1997) sets the minimum age for employment at 15 and permits children between 12 to 14 years old to engage in 'light' work, provided the work is not hazardous, and they are attending school. The Prakas No. 106 on the Prohibition of Hazardous Child Labor (2004) Declaration, issued by the Ministry of Social Affairs, Labor, Vocational Training, and Youth Rehabilitation also prohibits children younger than 18 to do hazardous work. This Prakas lists 38 types of hazardous work (including working underground; lifting, carrying, or moving heavy loads; deep-sea and off-shore fishing; working near furnaces or kilns used to manufacture glass ceramics or bricks; handling and spraying pesticides and herbicides; tanning; logging; chemical use in textile production; charcoal burning; firefighting; maintenance of heavy machinery; work involving exposure to harmful chemical, physical, electromagnetic or ionising agents; and work as embalmers) and additional regulations on unsafe working environments, especially in agriculture (including the regulations for cassava and tobacco production, and freshwater fishing that are prohibited for children). Those additions were made in 2011 by the Ministry of Labor and Vocational Training (MOLVT). However, these laws do not include the Law on the Suppression of Human Trafficking and Sexual Exploitation and Penal Code, and

they do not conform to the international standard of 14 years old as minimum working age (US Dept. of Labor 2012).

Cambodia is also one of the first countries in the world that has committed itself to eradicate the worst forms of child labour by 2016 (Xinhua 2010). The steps taken by the government include establishing the Cambodian National Council for Children (CNCC) and the National Committee on Suppression of Human Trafficking, Smuggling, and Labor and Sexual Exploitation, which manages the relevant problems. Whereas the MOLVT is responsible for law enforcement regarding child labour, the Ministry of Interior enforces laws against trafficking, child sexual exploitation, and criminal activities. Other key policies taken by the government are:

- The National Plan of Action on the Elimination of the Worst Forms of Child Labor (NPA-WFCL), which aims to end the worst forms of child labour by 2016.
- Collaboration with ILO-IPEC and FAO by the Ministry of Agriculture, Forestry, and Fisheries to combat child labour in the fisheries sector.
- The Education Strategic Plan (2009–2013), which addresses access to education, targeting marginalised groups.
- The National Poverty Reduction Strategy and the Rectangular Strategy Phase II.
- Policy and National Minimum Standards for the Protection of the Rights of Victims of Human Trafficking by the Ministry of Social Affairs.
- The National Plan of Action on the Suppression of Human Trafficking, Smuggling, Labor, and Sexual Exploitation (NPA-STSLs), which includes a section on child labour. (US Dept. of Labor 2012)

#### 4.4.5 Persons with Disabilities

Estimates for the number of persons with disabilities in Cambodia vary significantly depending on the definitions used. According to the 2008 census, the percentage of people with disabilities has increased from 4.7% of the country's population in 2004, to 8.1%. As for the breakdown of the disability type, the RGC estimates that nearly one fifth of the people with disabilities in Cambodia have had an amputation, mainly due to the land mine problem, followed by 11% with visual impairments, and 5% with hearing disabilities. In addition, one fifth of the people with disabilities in Cambodia are children. Disabled people are primarily concentrated in rural areas, partly because of the concentration of the general population in the rural areas and the high concentration of landmines (SIDA 2012). The increase mentioned may be related to the better surveying process, and to increased significance of risk factors in those areas. Key risk factors

include increase in road accidents. Over a period of five years, the number of road crashes has increased by 217% in Cambodia. Moreover, lack of medical facilities, malnutrition, and poverty are also important risk factors that cause disabilities.

Poverty and disability perpetuate one another in Cambodia. Disabled people living in poverty are the poorest of the poor, while people living in poverty are at higher risk of acquiring disabilities. Difficulties in finding employment and high levels of stigma and discrimination contribute to the economic vulnerability and social exclusion of people with disabilities. Moreover, poor households' lack of good access to basic facilities, including medical services and sanitation, further increases the risks of acquiring disabilities.

The RGC has developed a number of laws and policies to improve the vulnerable situation of people with disabilities. Significant laws and policies are: the Law on the Protection and the Promotion of the Rights of People with Disabilities (2009), which provides a legal framework for the functioning of the Disability Action Council; the National Plan of Action for Persons with Disabilities (2008–2012), which also addresses the rights and needs of people with disabilities; and the National Education Law (2010), which recognises the fundamental rights of students with disabilities. The government has also ratified the UN Convention on the Rights of Persons with Disabilities (CRPD) and its Optional Protocol in 2012. In addition, the government is also working to achieve the Biwako Millennium Framework for Action and the Biwako Plus Five: towards an Inclusive, Barrier-free, and Rights-based Society for Persons with Disabilities in Asia and the Pacific. Despite showing positive attitudes in policy development, implementation is still lagging (SIDA 2012).

#### 4.4.6 Sexual Minorities

People in Cambodia are predominantly Buddhists. Whilst homosexuality is still seen as odd, it does not attract aggressive actions in Cambodia. In legal terms, homosexuality is not illegal in Cambodia nor do antigay religious traditions exist. However, LGBT persons still face discrimination or abuse from family members, employers, and the police, particularly in rural areas. Despite the tolerance of homosexuality in Buddhist culture, social and economic pressures are strong for people to marry and have children. Cambodian society is more tolerant of male than female homosexual behaviour. Nevertheless, eventually both men and women are expected to marry and provide children, as the lack of a social security system makes the older generation more reliant on the support and care of the younger. Therefore, homosexuality is economically unaffordable (CCHR 2010).

In the office, there seems to be mixed responses regarding this matter. The constitution and the international law prohibit discrimination against individuals based on sexual orientation. The developments introduced by NGOs are encouraging. The annual 'Pride' event held by international and Cambodian activists to celebrate and recognise LGBT rights has garnered good response and has led to the establishment of the Rainbow Community of Kampuchea (RoCK), which aims to support the LGBT community in the country. Besides this, the Cambodia Center for Human Rights (CCHR) is actively empowering both rural and urban LGBTs (CCHR 2010; US Dept. of State 2012).

#### 4.5 Protection of Rights of Workers

In 2008, the working population of Cambodia (aged 15 or older) was about 7 million people. The labour force population has dramatically increased since 1998, with an average of 3.3% per annum, and 83% of this population were employed. The rate of unemployment was only 1.7%, which is low, compared to its Association of Southeast Asian Nations (ASEAN) counterparts. Although the unemployment rate remained low and even fell further, approximately 82.5% of the workers continued to work in 'vulnerable' employment, as unpaid family workers and own-account workers (ILO and NIS 2010).

The Ministry of Labor and Vocational Training (MOLVT) is responsible for the management of labour rights in Cambodia (USDS 2013). The Labor Law enacted in 1997 serves as the principle law pertaining to the protection of the rights of workers in the country (JBIC 2013). The law, including other related regulations, allows private sector workers to form and join trade unions of their own choice without prior authorisation, to strike, and to bargain collectively. In contrast, civil servants, including teachers and judges, as well as household workers are not allowed to form or join trade unions (USDS 2013).

The law stipulates that workers can strike only after a set of requirements have been met. Unresolved labour disputes may be brought to the Arbitration Council, an independent state body. Despite these regulations, workers are reported to experience obstacles to exercising their rights. Besides that, some workers are hired as subcontractors, making unionisation difficult (USDS 2013).

The industrial relations system in Cambodia is relatively young, having emerged in the

mid-1990s and been adopted into the legal framework in 1997. There are currently 42 union federations (and 5 confederations) across sectors. Of those, 28 are in the garment sector. Industrial relations in the country are characterised by strikes and disputes, especially in the garment industry. This might be due to a lack of experience and tools necessary to resolve the disputes before opting to strike. However, there has been gradual change attributable to increased understanding of the law and the development of the mechanism to conciliate, arbitrate, and conduct collective bargaining (ILO and NIS 2010).

MOLVT is responsible for establishing a minimum wage for the garment sector based on recommendations from the Labor Advisory Committee. However, as of July 2012, no minimum wage has been mandated except for garment, textiles, and footwear sectors. As for working hours, the law sets a limit of 48 hours per week, not exceeding 8 hours per day. Nightshift work shall be paid 130% of the daytime wages, and overtime shall be paid 150% or 200% if the overtime occurs at night, on Sunday, or on a holiday. Despite those limits, there is room for improvement of the enforcement of the regulations. Workers often reported overtime was excessive and mandatory, and, at times, workers faced fines or dismissal, or loss of premium pay if they refused to work overtime. However, involuntary overtime practices have been decreasing each year (USDS 2013).

Work-related injuries and health problem are common in Cambodia. Most large-garment factories producing for markets in developing countries met relatively high health and safety standards. However, workers in small-scale factories and cottage industries are often vulnerable. There were 5,948 cases of work-related injuries reported in the first six months of 2012. Mass fainting has also been reported due to insufficient ventilation and unhygienic conditions (USDS 2013).

The government has also enacted laws and policies as a safety net for the social protection of workers. The Law on Social Security Schemes for Persons Defined by the Provisions of the Labor Law which was enacted in 2002 stipulates issues pertaining to pensions, compensation owing to injuries, and worker's compensation insurance. Later in 2008, the National Social Security Fund (NSSF) started operating. The insurance fund to be paid has been set as 0.5% of the principal wage for workers in the garment sector, and 0.8% for workers in other sectors (JBIC 2013).

## 4.6 Cultural Heritage

### 4.6.1 Relevant Regulations and Government Agencies

The Cambodian legislature passed the Royal Decree on the Protection of Cultural Heritage in 1996. It delineates the limited property rights applicable to cultural property, how they can be used, and sanctions for violations. Its main purpose is to protect national cultural heritage and cultural property against illegal destruction, modification, alteration, excavation, alienation, exportation, or importation.

The Supreme Council on National Culture formulates policies in relation to national cultural property. These policies are in line with the view of protecting and enhancing the national cultural heritage. The Ministry of Culture and Fine Arts is mainly responsible for the implementation of these policies, whereas the Authority for the Protection and Management of Angkor and the Region of Siem Reap (APSARA) is responsible for the protection, preservation, and enhancement of the national cultural heritage.

In addition, there are the following sub-decrees and royal decrees: Sub-Decree No. 98 Concerning the Execution of the Protection of Cultural Patrimony (2002); Royal Decree 0295/12 Establishing APSARA (1995); Royal Decree 0199/18 2nd Decree Regarding APSARA (1999); Royal Decree 001/NS Establishing Protected Cultural Zones (1994); Royal Decree 0705/323 Transferring Koh Ker to APSARA Authority; and the Royal Decree 0504/070 Establishing the Site of Koh Ker (2004).

There are also international treaties that aim to safeguard the cultural heritage of the Kingdom of Cambodia. Of particular relevance are the following: The Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict and Its First Protocol (1954); UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export, and Transfer of Ownership of Cultural Property (1970); Convention for the Protection of the World Cultural and Natural Heritage (1972); UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects (1995); Convention on the Protection of the Underwater Cultural Heritage (2001); Convention for the Safeguarding of the Intangible Cultural Heritage (2003); and the Convention on the Protection and Promotion of the Diversity of Cultural Expressions (2005). Bilateral agreements with Thailand and the United States also exist to protect the cultural heritage of Cambodia.

**Table 4.6.1: Laws and Treaties on Safeguarding Cultural Heritage**

Relevant laws and treaties	Year
Domestic laws	
Royal Decree 001/NS Establishing Protected Cultural Zones	1994
Royal Decree 0295/12 Establishing APSARA	1995
Royal Decree on the Protection of Cultural Heritage	1996
Royal Decree 0199/18 2 <sup>nd</sup> Decree Regarding APSARA	1999
Sub-Decree No. 98 Concerning the Execution of the Protection of Cultural Patrimony	2002
Royal Decree 0705/323 Transferring Koh Ker to APSARA Authority	2004
Royal Decree 0504/070 Establishing the Site of Koh Ker	2004
International treaties	
Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict and Its First Protocol	1954
UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export, and Transfer of Ownership of Cultural Property	1970
Convention for the Protection of the World Cultural and Natural Heritage	1972
UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects	1995
Convention on the Protection of the Underwater Cultural Heritage	2001
Convention for the Safeguarding of the Intangible Cultural Heritage	2003
Convention on the Protection and Promotion of the Diversity of Cultural Expressions	2005

The implementation of these laws and decrees fall under the responsibility of a handful of local government institutions. The Supreme Council on National Culture (SCNC) was established in 1993, and ministries may be invited to help with the work, according to the necessity of their participation. The SCNC is in charge of (1) examining cultural sites and historic monuments, and listing them as national cultural heritage; (2) protecting historic cultural property and antiquities of a physical nature; (3) administering and controlling the regions where listed monuments are situated, together with the collections of art objects associated with them; (4) delivering authorisations for all archaeological research, conservation works, and any other activities concerning monumental sites and other cultural property of the nation; (5) administering these historic sites in order to protect the national heritage. APSARA, however, is in charge of the research, protection, and conservation as well as the urban and tourist development of the cultural heritage in Angkor and Siem Reap. These institutions work together with other related institutions, including the Ministry of Culture and Fine Arts (MCFA), to



promote and support the culture and fine arts of the Kingdom of Cambodia. Reserves that are archaeological, anthropological, and historical in nature and other sites of concern are established as protected sites, the boundaries of which are grounded in the edict of SCNC.

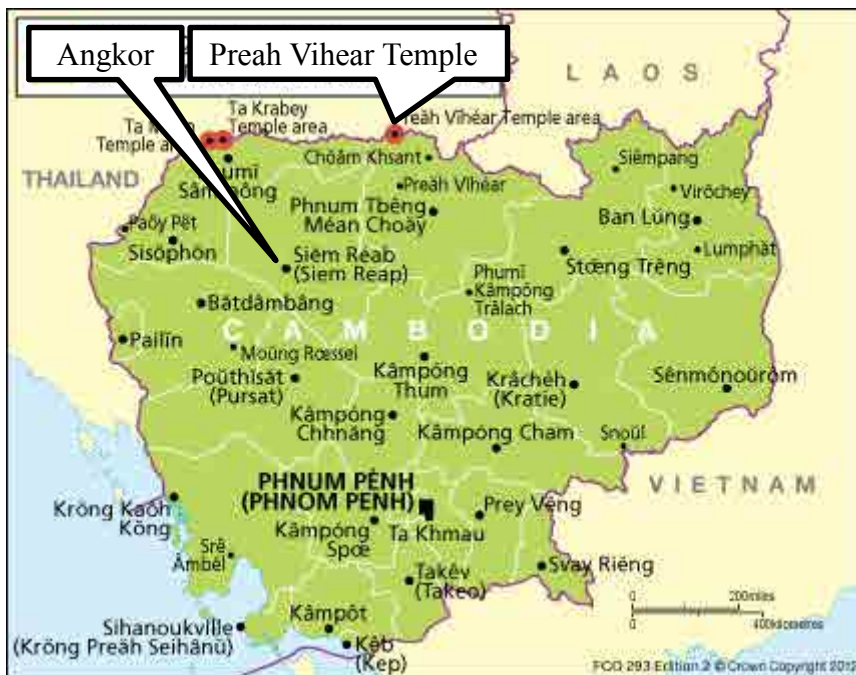
#### 4.6.2 Major Cultural Heritage in Cambodia

Two properties are listed as cultural heritage sites on the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage List in Cambodia as of July 2013 (Table 4.4.1 and Figure 4.4.1).

**Table 4.6.2: World Heritage Sites in Cambodia**

Site	Properties	Registered year
1. Angkor	Cultural heritage	1992
2. Temple of Preah Vihear	Cultural heritage	2008

Source: UNESCO (2013)



Source: UNESCO (2013), Gov. UK (2013)

**Figure 4.6.1: World Heritage Sites in Cambodia**

#### 1) Angkor

Angkor is one of the most important archaeological sites in Southeast Asia. Stretching over some 400km<sup>2</sup>, including forested area, the Angkor Archaeological Park contains the magnificent

remains of the different capitals of the Khmer Empire, from the 9th to the 15th century. They include the famous Temple of Angkor Wat and, at Angkor Thom, the Bayon Temple, with its countless sculptural decorations. UNESCO has set up a wide-ranging programme to safeguard this symbolic site and its surroundings.

## **2) Temple of Preah Vihear**

Situated on the edge of a plateau that dominates the plain of Cambodia, the Temple of Preah Vihear is dedicated to Shiva. The Temple is composed of a series of sanctuaries linked by a system of pavement and staircases, over an 800-metre-long axis, and it dates back to the first half of the 11th century. Nevertheless, its complex history can be traced to the 9th century, when the hermitage was founded. This site is particularly well preserved, mainly due to its remote location. The site is exceptional for the quality of its architecture, which is adapted to the natural environment and the religious function of the temple, as well as for the exceptional quality of its carved stone ornamentation.

Other properties that have been submitted to the Tentative List of UNESCO World Heritage are as follows:

- Groupe de Sambor Prei Kuk (1992)
- Le site de Koh Ker (1992)
- Site des Kulen (1992)
- Site d'Angkor Borei et Phnom Da (1992)
- Site d'Oudong (1992)
- Ensemble de Beng Mealea (1992)
- Ensemble du Prah Khan de Kompong Svay (1992)
- Ensemble de Banteay Chmar (1992)
- Ensemble de Banteay Prei Nokor (1992)

(UNESCO 2013)

### **4.6.3 Issues Related to the Protection of Cultural Heritage**

Because of Cambodia's history of political instability, the protection of important sites and objects has taken a back seat, and sites were not always adequately managed. It was only in 1993, when a civil law system was put in place and Cambodia began to regain peace and stability, that Cambodia began protecting its cultural heritage along with the establishment of the SCNC. The Royal Decree on the Protection of Cultural Heritage is not the sole governing authority on the regulation and management of cultural property. Other laws also overlap the

subject matter. On top of that, legal authorities such as the constitution, executive decrees, land law provisions, customs regulations, and international treaties to which Cambodia is a signatory also handle cultural heritage preservation in Cambodia.

Additionally, laws do not address subject matters in detail. Most of the legislation consists of sub-decrees (Anu-Kret) that are adopted by the Council of Ministers or Prakas (Declaration) from individual ministers. Authorities within the ministry also use the Sarachor (Circular) to clarify points of law (Carrano 2010).

#### 4.7 Gap Analysis between the Existing Domestic Regulations, the JICA Guidelines for Environmental and Social Considerations, and the World Bank Safeguard Policy

Existing domestic regulations in Cambodia include the 1996 Law on the Protection of National Cultural Heritage that protects the national cultural heritage and cultural property, including the natural world, against illegal destruction, modification, alteration, excavation, alienation, exportation, or importation. According to this law, when cultural properties are discovered while doing construction work, work is expected to halt, and the owner of the site is expected to make a declaration. Stipulated in Article 15 of the Land Law of 2001, cultural and historical patrimonies are state public properties; the 1994 Law on Land Management, Urban Planning, and Construction mark them as public areas. These areas are considered public state assets in the 2005 Sub-Decree No. 118 on the State Land Management, and the laws thereby command their strict protection and their use to be strictly for social land concession purposes only.

In a recent Prakas on General Guidelines for Conducting Initial and Full Environmental Impact Assessment Reports dated September 2, 2009, projects that are carried out in Cambodia are expected to conduct an Environmental Impact Assessment (EIA) that will consider and describe in detail the natural environmental and socioeconomic resources (based on primary and secondary data) in and surrounding the project location. This declaration specifically includes ‘cultural heritage, historical buildings, ancient temples, pagodas, customs/traditions, ethnic minority, or indigenous people, etc.’ in the factors to be considered.

Private rights over cultural heritage places were forbidden in the 1999 Sechkday Prakas (Declaration) of the Council of Ministers No. 6. The Prakas prevents any development on these places, except for activities aiming to preserve and protect the sites. A policy paper on the social

concessions in the Cambodia points out that social land concessions should be identified and classified as well.

The JICA Guidelines for Environmental and Social Considerations (JICA 2010) strongly emphasise that environmental and social considerations are to be integrated into the decision-making processes of the projects that JICA initiates and participates in. The requirements obligate JICA to comply with laws and standards of local governments. In addition, social impacts that are taken into consideration include cultural heritage sites, which are labelled as 'sensitive areas' in the guidelines. Projects implemented by JICA should be undertaken outside of protected areas, to the exception of those projects related to the restoration of such areas.

The World Bank Safeguard Policy (OP4.11: Physical Cultural Resources), on the other hand, is also concerned with the development projects that the World Bank finances. It recognises that it should avoid and mitigate impacts on sites with historical, religious, aesthetic, or other cultural significance. The policy requires a sequence of steps that includes screening, developing terms of reference, collecting baseline data, impact assessment, and formulating mitigating measures and a management plan.

All three legal frameworks are broadly consistent with regard to the protection of the cultural heritage of the Kingdom of Cambodia.

**Chapter 5**  
**Environmental Assessment**



## 5 Environmental Assessment

### 5.1 Legal Framework

The law requires the Royal Government of Cambodia to prepare national and regional environmental plans and sub-decrees concerning a wide range of environmental issues, including environmental impact assessments (EIA), pollution prevention and control, public participation and access to information. It also stipulates that an EIA shall be done on every development project and activity above a certain size and of a certain kind, private or public, and shall be reviewed and evaluated by the Ministry of Environment (MoE) before being submitted to the Royal Government for decision (WB 2006).

The 1996 Law on Environment Protection and Natural Resources Management is the framework law on environmental assessment in Cambodia. Other than the law, the 1999 Sub-decree on Environmental Impact Process stipulates the definition of EIA, the obligation to submit EIA reports, target project types and public participation. It also stipulates the necessity of EIA in Cambodia according to a project's type, size and capacity (JICA 2012). EIA became a requirement for projects and investments submitted to the Council for Development of Cambodia (CDC) for approval. EIA's implementation is overseen by the Department of EIA Review within the MoE. The EIA Sub-Decree instructed the MoE to formulate implementation rules and guidelines, and the following declarations have been made public:

- The Prakas (Declaration) on General Guidelines for Conducting Initial and Full Environmental Impact Assessment Reports (2009)
- The Joint Prakas (Declaration) on the Establishment of Service fee for Reviewing report of EIA and Monitoring the Project implementation (2000 and 2012)

The Prakas (Declaration) on General Guidelines for Conducting Initial and Full Environmental Impact Assessment Reports (hereafter, EIA Declaration) stipulates the approval procedure of IEIA/EIA (hereafter, we use EA to refer to both IEIA and EIA) for projects on both the national level and the municipal/provincial level, and detailed instructions on the application form and documents which should be attached. Also, the EIA Declaration allows the project owner to hire a consultancy company, which must be registered with the Ministry of Commerce and be recognised by MoE in advance, to prepare the EA report (JICA 2012).

The Joint Prakas (Declaration) between MoE and the Ministry of Economy and Finance (MEF)

The joint declaration on the Establishment of Service fee for Reviewing report of EIA and Monitoring the Project implementation was issued in 2000 and revised in 2012. The 2012 Joint Declaration stipulates service fees for reviewing EIA reports and for monitoring the project implementation by type and activities of the development project. The fees range from 2,000,000 to 7,000,000 Riels according to the type of service (Duong 2013).

A project owner who fails to submit the EIA report, provides false information or poorly conducts the Environmental Management Plan, as described in the EIA report, or violates any provisions in the Sub-decree, will be considered to have violated Cambodian law, as stated in articles 20, 21, 22, 23 and 25 of Chapter 5 of the Law on Environmental Protection and Natural Resources Management.

MoE has currently been working on a new Law on Environmental Impact Assessment in collaboration with the Visunu Law Group. The MoE proposed a draft version of the Law on EIA in November 2012. After the proposition, several workshops to discuss the draft law and revise it were held. Through those processes, the draft version will come into effect as a formal law by 2014. This chapter is mainly based on the EIA Sub-Decree, which is currently in effect, unless otherwise specified.

## 5.2 Initial Environmental Impact Assessment (IEIA) and Environmental Impact Assessment (EIA)

### 5.2.1 Projects Subject to the IEIA/EIA

Generally, Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) are employed in a number of developing countries to minimise the environmental burden of economic development. The decision as to whether an IEE or an EIA is required for a project is based on the type, size and location of the project proposed. In Cambodia, IEE and EIA are often called Initial Environmental Impact Assessment (IEIA) and Full Environmental Impact Assessment (FEIA), respectively.

Development projects that are subject to EIA according to the EIA sub-decree are listed in Table 5.2.1. Developers engaged in the projects listed below must prepare an EIA report for the project. IEE reports must be prepared for the development projects that do not exceed the size or capacity presented in Table 5.2.1.



**Table 5.2.1: List of Projects Requiring EIA**

No.	Type and activities of projects	Size/Capacity
<b>A</b>		<b>Industrial</b>
<b>I</b>		<b>Foods, Drinks and Tobacco</b>
1.	Food processing and canning	≥ 500 Tonnes/year
2.	All fruit drink manufacturing	≥ 1,500 Litres/day
3.	Fruit manufacturing	≥ 500 tonnes/year
4.	Orange juice manufacturing	All sizes
5.	Wine manufacturing	All sizes
6.	Alcohol and beer brewing	All sizes
7.	Water supply	≥ 10,000 Users
8.	Tobacco manufacturing	≥ 10,000 Boxes/day
9.	Tobacco leaf processing	≥ 350 Tonnes/year
10.	Sugar refining	≥ 3,000 Tonnes/year
11.	Rice mill and cereal grains	≥ 3,000 Tonnes/year
12.	Fish, soybean, chilli, tomato sources	≥ 500,000 Litres/year
<b>II.</b>		<b>Leather Tanning, Garments and Textiles</b>
1.	Textile and dyeing factory	All sizes
2.	Garments, washing, printing, dyeing	All sizes
3.	Leather tanning, and glue	All sizes
4.	Sponge-rubber factory	All sizes
<b>III.</b>		<b>Wood Production</b>
1.	Plywood	≥ 100,000m <sup>3</sup> /year (log)
2.	Artificial wood	≥ 1,000 m <sup>3</sup> /year (log)
3.	Sawmill	≥ 50,000m <sup>3</sup> /year (log)
<b>IV.</b>		<b>Paper</b>
1.	Paper factory	All sizes
2.	Pulp and paper processing	All sizes
<b>V.</b>		<b>Plastic, Rubber and Chemicals</b>
1.	Plastic factory	All sizes
2.	Tire factory	≥ 500 Tonnes /year
3.	Rubber factory	≥ 1,000 Tonnes /year
4.	Battery industry	All sizes
5.	Chemical production	All sizes
6.	Chemical fertilizer plants	≥ 10,000 Tonnes /year

No.	Type and activities of projects	Size/Capacity
7.	Pesticide industry	All sizes
8.	Painting manufacturing	All sizes
9.	Fuel chemical	All sizes
10.	Liquid, powder, solid soaps manufacturing	All sizes
<b>VI</b>		<b>Mining production other than metal</b>
1.	Cement industry	All sizes
2.	Oil refinery	All sizes
3.	Gas factory	All sizes
4.	Construction of oil and gas pipeline	≥ 2 Kilometres
5.	Oil and gas separation and storage facilities	≥ 1,000,000 Litres
6.	Fuel stations	≥ 20,000 Litres
7.	Mining	All sizes
8.	Glass and bottle factory	All sizes
9.	Bricks, roofing tile manufacturing	150,000 pieces/month
10.	Flooring tile manufacturing	90,000 pieces/month
11.	Calcium carbide plants	All sizes
12.	Producing of construction materials (Cement)	900 tonnes/month
13.	Car oil and motor oil manufacturing	All sizes
14.	Petroleum study research	All sizes
<b>VII</b>		<b>Metal industries</b>
1.	Mechanical industries	All sizes
2.	Mechanical storage factory	All sizes
3.	Mechanical and shipyard enterprise	All sizes
<b>VIII</b>		<b>Industrial Metal Processing</b>
1.	Manufacturing of harms[sic], barbed wire, nets	≥ 300 tonnes/month
2.	Steel mill, iron, aluminium	All sizes
3.	All kind of smelting	All sizes
<b>IX</b>		<b>Other Industries</b>
1.	Waste processing, burning	All sizes
2.	Waste water treatment plant	All sizes
3.	Power plant	≥ 5 MW
4.	Hydropower	≥ 1 MW
5.	Cotton manufacturing	≥ 15 Tonnes/month
6.	Animal food processing	≥ 10,000 Tonnes/year

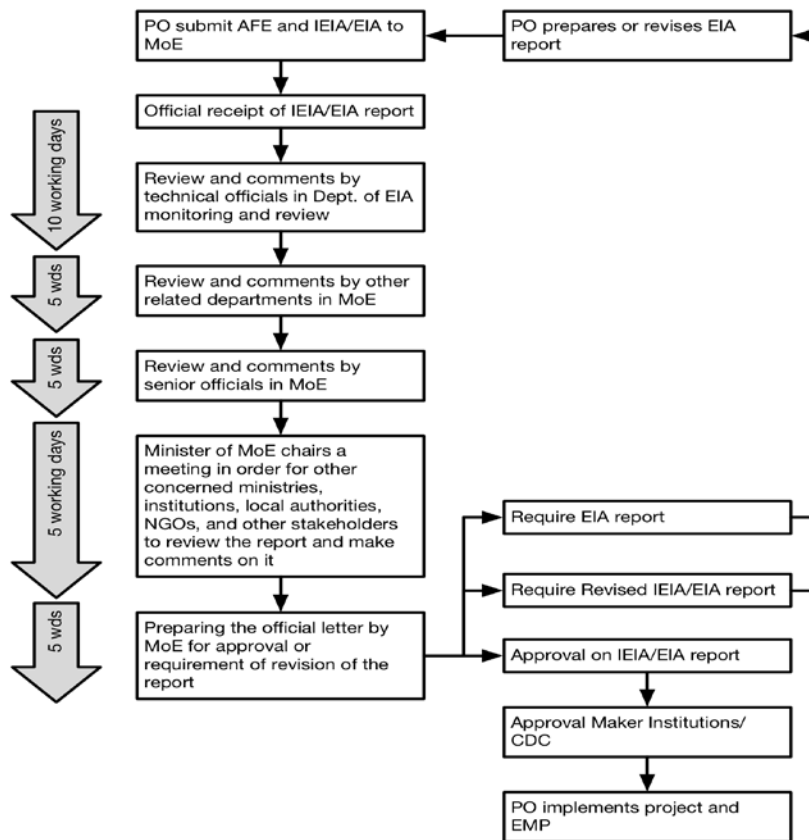
No.	Type and activities of projects	Size/Capacity
<b>B.</b>		<b>AGRICULTURE</b>
1.	Forest concession	≥ 10,000 Hectares
2.	Logging	≥ 500 Hectares
3.	Land covered by forest	≥ 500 Hectares
4.	Agriculture and agro-industrial land	≥ 10,000 Hectares
5.	Flooded and coastal forests	All sizes
6.	Irrigation system	≥ 5,000 Hectares
7.	Drainage system	≥ 5,000 Hectares
8.	Fishing port	All sizes
<b>C.</b>		<b>TOURISM</b>
1.	Tourism area	≥ 50 Hectares
2.	Golf course	≥ 18 Holes
<b>D.</b>		<b>INFRASTRUCTURE</b>
1.	Urban development	All sizes
2.	Industrial zones	All sizes
3.	Construction of road bridge	≥ 30 Tonnes weight
4.	Building	Height ≥ 12 m or floor ≥ 8,000 m <sup>2</sup>
5.	Restaurant	≥ 500 Seats
6.	Hotels	≥ 60 Rooms
7.	Hotel adjacent to coastal area	≥ 40 Rooms
8.	National road construction	≥ 100 Kilometres
9.	Railway construction	All sizes
10.	Port construction	All sizes
11.	Airport construction	All sizes
12.	Dredging	≥ 50,000 m <sup>3</sup>
13.	Disposal site	≥ 200,000 people

Sources: RGC (1999)

### 5.2.2 Procedures and Relevant Organisations

The Department of Environmental Impact Assessment in MoE is in charge of reviewing IEIA/EIA reports for projects on a national level, while Municipal/Provincial Environment Departments are responsible for evaluating projects on a regional level (see Figures 1.2.3 and 1.2.4 for each organisational arrangement). In 2005, the Declaration on the Decentralisation for

Environmental Municipal/Provincial Department and the Declaration on the Power of the Delegation to the Decision Making on Project Development for Environmental Municipal/Provincial Departments were established. Article 1 of the Declaration states that the Municipal/Provincial Environmental Departments shall be responsible for reviewing and decision making on IEIA or EIA reports for proposed projects and existing activities that have less than 2,000,000 USD of capital investment (Duong 2013). This means that the projects that have more than 2,000,000 USD are considered national-level projects, whereas projects with less than 2,000,000 USD in capital investment are considered municipal/provincial level projects. Figure 5.2.1 depicts the overall procedure of the environmental assessment for a national-level project.

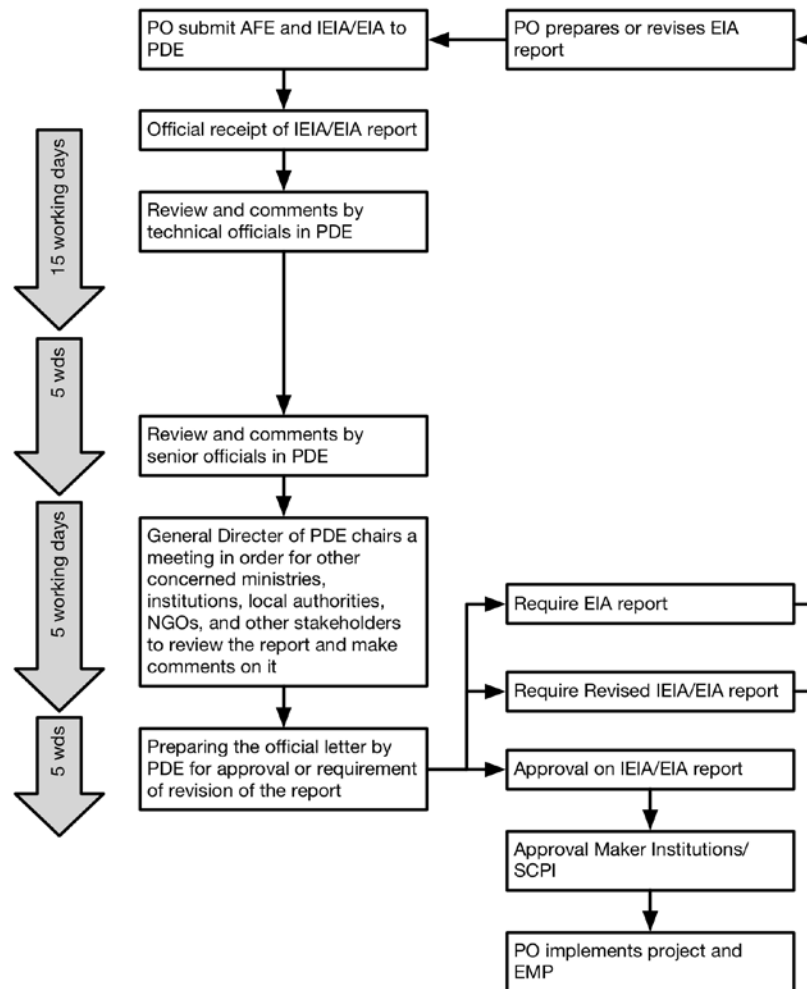


Notes: IEIA: Initial Environmental Impact Assessment; EIA: Full Environmental Impact Assessment; CDC: Council for the Development of Cambodia; EMP: Environmental Management Plan; MoE: Ministry of Environment; PO: Project Owner; AFE: Application Form of Environment

Sources: MoE (2009); JICA (2012)

**Figure 5.2.1: Flowchart of the IEIA/EIA Process for National-level Projects**

The approval procedure of municipal/provincial-level IEIA/EIA reports in local environment departments is summarised in Figure 5.2.2.



Notes: IEIA: Initial Environmental Impact Assessment; EIA: Full Environmental Impact Assessment; EMP: Environmental Management Plan; PO: Project Owner; PDE: Municipality/Provincial Department of Environment; SCPI: Sub-Committee of Municipality/Provincial Investment; AFE: Application Form of Environment

Sources: MoE (2009); JICA (2012)

**Figure 5.2.2: Flowchart of the IEIA/EIA Process for Municipal/Provincial-level Projects**

The institutions and ministries responsible for proposed projects have the right to examine and approve any project that is stated in the sub-decree, but only after the MoE has reviewed and commented on the EIA report.

Municipal/provincial environmental departments that are responsible for proposed projects have the following duties:

- Acquiring an EIA report from the project owner to be submitted to the Provincial Environmental Office
- Reviewing and approving the proposed project, after discussing and commenting with concerned provincial/urban authorities in accordance with the Declarations of the MoE (WB 2006).

Since EIA is inherently a multi-disciplinary and multi-sectorial process, its effectiveness requires coordination among government bureaucracies. Recognising this, the Royal Government has formalised the cross-ministerial coordination involved in the EIA process with i) Management-level representation of relevant ministries on the Environment Steering Committee, which also includes NGOs and the Chamber of Commerce, and ii) Formation of environmental units within other ministries having resource-management functions, including the Ministry of Industry, Mines and Energy, to coordinate with the MoE (WB 2006).

A number of agencies (such as the Ministry of Public Works and Transport, the Ministry of Agriculture, Forest and Fisheries, the Ministry of Rural Development, the Ministry of Tourism and the Ministry of Health) participate in many phases of the EIA process. The EIA process includes monitoring and surveillance, enforcement, and processing of various government permits and licenses that require adherence to environmental criteria (WB 2006).

### 5.2.3 Public Participation

Public participation is mentioned in legal documentation on environmental assessment, but with less concrete requirements. For example, according to the EIA Declaration, public participation is defined as the participation of all concerned stakeholders in the development project, including concerned ministries/institutions, local authorities, concerned departments, project owners, consulting companies, representatives of affected people and NGOs. There are no detailed requirements on public participation in the IEIA or EIA procedure. The Declaration, however, recommends that project owners should provide a description of public consultation in Chapter 5 of their EIA reports as follows:

#### Chapter 5: Public Participation

##### 5.1 Introduction

##### 5.2 Conducting a public consultation

- Dissemination of information to authorities and local communities about development

projects

- Commentaries from relevant ministries/institutions/departments and local authorities
- Commentaries from relevant NGOs
- Consultation with local residents

### 5.3 Conclusion on results of the public consultation

Source: MoE (2009)

#### 5.2.4 Participation of Experts, NGOs and Other Third Parties

As mentioned earlier, public participation is defined in the EIA Declaration as the participation of all concerned stakeholders in the development project, including concerned ministries/institutions, local authorities, concerned departments, project owners, consulting companies and representatives of affected people and NGOs in the project areas. Therefore, the participation of experts, NGOs and other third parties is conducted under the same framework as public participation.

#### 5.2.5 Information Disclosure

Project owners should submit an application form of review and comments on the IEIA or Full EIA report to the Ministry of Environment or local departments of environment by attaching relevant documents (see Table 5.2.1).

**Table 5.2.2: Relevant Documents and Required Number of Copies  
to be Attached to an IEIA/EIA report**

Document		Number of Copies
<b>A. Public Project</b>		
1.	IEIA or Full EIA report in Khmer and English	
2.	Working service cost, as mentioned in the Joint Declaration between the MoE and the Ministry of Economy and Finance	
3.	Pre/Feasibility Study of the project	3
4.	Map, project site plan and construction plan	3
5.	Other relevant documents	
<b>B. Private Project</b>		
1.	IEIA or Full EIA report in Khmer and English version	
2.	Working service cost as mentioned in the Joint Declaration between the MoE and the Ministry of Economy and Finance	

Document		Number of Copies
3.	Pre/Feasibility Study of the project	3
4.	Status report of the company	3
5.	Commercial registration certificate	3
6.	Registration certificate on condition of the Council for the Development of Cambodia or Sub Committee of Royal Municipal-Province Investment	3
7.	Permit letter from territory authority (if obtained)	3
8.	Map, project site plan and construction plan	3
9.	Rental contract or title of ownership	3
10.	Copy of identification card or passport of the company's general director or director	3
11.	4x6 photograph of the company's director and members	3
12.	Other relevant documents	

Source: MoE (2009)

Also, private project owners should submit the copied documents (No. 5 through 10 in Table 5.2.2) to the Royal Municipal-Provincial Hall to obtain permission and approval (MoE 2009).

### 5.3 Environmental Management Plan (EMP)

Project owner should prepare an EMP and incorporate it into their EIA reports. The EIA Declaration defines EMP as follows: 'the Environmental Management Plan (EMP) is an important plan that project owners shall develop. The project owners shall establish a fund and an office with qualified technical staff, appropriate equipment, methodologies and a well-prepared schedule for monitoring environmental quality in close collaboration with relevant institutions in order to mitigate negative socio-economic and environmental resource impacts to a minimum level' (MoE 2009).

The EIA Declaration also recommends that the EMP in the EIA report should include:

- Summary of main negative environmental impacts and mitigation measures
- Training to be provided
- Monitoring schedule during the project's construction, operation and closure phases that the project owner shall clarify as below:
  - Control institutions for the project monitoring



- Identify the parameters which will be controlled
- Methodology for controlling these parameters
- Environmental norms or guidelines which will be taken into account in the implementation
- Schedule and cycle of monitoring and mitigation measures
- Assess output of self-monitoring
- Prepare a quarterly report to submit to the Ministry of Environment and relevant ministries/institutions (MoE 2009)

The project owner should conduct the EMP as stated in the EIA for a period of six calendar months, commencing from the date of the MoE confirmation that the EIA report properly fulfilled the criteria of the sub-decree (RGC 1999).

#### 5.4 Strategic Environmental Assessment

To date, there is no formal legislation related to strategic environmental assessment (SEA) in Cambodia. As already mentioned, Cambodia has recently established an EIA system, but the system covers projects only and excludes SEA (WB 2006).

The World Bank summarised the potential for SEA in Cambodia as shown in Table 5.4.1.

**Table 5.4.1: The Potential for SEA in Cambodia**

Dimensions/topics	Current status	Remarks
Political will	–	No evidence shown that there is an interest/willingness for SEA
Legal mandate	–	Only for project-based EIA
Administrative framework	–	MoE responsible for overall coordination nationwide, lack of staff on SEA
SEA procedure/guidelines /methodology	–	Not existing, only established for project-based EIA
Technical know-how	–	Not available
Experience in SEA implementation	–	Not available
Public involvement	N/A	Mentioned in EIA legal documentation, but with less

Dimensions/topics	Current status	Remarks
		concrete requirements

Notes: +: positive; -: negative; ±: neutral.

Source: WB (2006)

The new version of the Law on EIA is very likely to incorporate SEA, which is defined as a range of analytical and participatory approaches that aim to integrate environmental considerations into policies, plans and programmes, and to evaluate the inter-linkages between environmental, economic and social considerations. The principle is to integrate environmental, economic and social concerns into a holistic sustainability assessment.

## 5.5 Monitoring

Article 3 of the EIA Sub-Decree stipulates that the MoE has a responsibility to follow up, monitor and take appropriate measures to ensure a project owner will follow the EMP while project construction is taking place and comply with the approved EIA reports.

To date, there is no law or decree that stipulates disclosure of monitoring results.

## 5.6 Major Issues and Challenges in the Current System

Although its legal framework and institutional capacity are as well developed as in other Southeast Asian developing countries, Cambodia faces a number of issues and challenges in the effective implementation of environmental assessments: a lack of trained human resources in administrative bodies related to environmental assessment, ad-hoc procedures and criteria for reviewing IEIA/EIA reports, a lack of integrating environmental assessment recommendations into design and contract documents, and a lack of policy-making, reporting requirements, methodology, and implementation mechanisms.

The ADB has established some programmes to tackle the lack of trained human resources and to support institutional capacity building (ADB 1997).

The biggest issue is the low implementation rate of environmental assessments. An official at the MoE reported that only about 5 per cent of the roughly 2,000 major development projects,

such as dams, roads and bridges, approved by the government between 2004 and 2011 conducted environmental impact assessments. The reason behind this lack in compliance is that the existing legislation, such as the 1996 Law on Environmental Protection and Natural Resource Management, was not strong enough to ensure companies conducted the necessary environmental checks before starting work (Lewis and Narim 2012).

According to the same official, from 1999 to 2003 ‘there was no activity in [EIA] reports, but from 2004 to 2011, we [MoE] have seen only 110 projects with an EIA. And we [MoE] think that there are nearly 2,000 projects. The weak penalties for failing to submit IEIA/EIA reports are one of the reasons for weak compliance’ (Lewis and Narim 2012).

To address these major issues and challenges in the current system, the MoE has been working on a new Law on Environmental Impact Assessment in collaboration with Visunu Law Group. The new draft law under review includes criminal sanctions for both companies and individuals who are found not to have carried out an EIA (Lewis and Narim 2012). The scope of application will be extended, and all activities and development projects of natural persons, private legal entities and public legal entities will be obliged to comply with the new law (RGC 2012).

Weak compliance aside, within the responsibilities of the MoE, there are no proper guidelines for implementation and monitoring. According to the EIA Declaration, a monitoring plan should be included in the EIA report; however, there exist no standards for compliance enforcement. There are no indicators for monitoring, and there is no mention of schedules, plans and responsibilities.

#### **5.7 Gap Analysis between the Present Domestic Regulations, the JICA Guidelines for Environmental and Social Considerations and the World Bank Safeguard Policy**

Although no mutual contradictions have been identified, some gaps exist between the present domestic regulations in Cambodia, the JICA Guidelines for Environmental and Social Considerations, and the World Bank Safeguard Policy.

For example, Cambodian law pays less attention to social impact than the JICA Guidelines or the World Bank Safeguard Policy. Thus, preparation of the Resettlement Action Plans (RAPs) or Indigenous People Plans (IPPs) is not mandatory under Cambodian law, although it does

stipulate that the impact assessment for socio-economic resources such as cultural heritage, ethnic minority groups and indigenous people should be included in the EIA report. Also, Cambodian EIA system excludes analysis of alternatives and strategic environmental assessments.

Although information disclosure takes place in practice, no governmental laws stipulate information disclosure in detail, especially information disclosure of the monitoring of results. Moreover, the criteria of scoping and screening provided by RGC are not clear enough to meet the requirements of the JICA Guidelines or World Bank Safeguard Policy.

Project owners should implement environmental assessments in line with both government laws and JICA Guidelines. Especially for the aspects of environmental impact that government laws do not mention, or mention only vaguely, project owners should refer to the JICA Guidelines, which are consistent with the World Bank Safeguard Policy.

Chapter 8 provides further detailed gap analysis information between the governmental laws of Cambodia and other donors' guidelines, including case studies.

## **Chapter 6**

# **Land Acquisition and Involuntary Resettlement**



## 6 Land Acquisition and Involuntary Resettlement

### 6.1 Legal Framework

The legal framework related to land acquisition and involuntary resettlement in Cambodia is as follows:

- Constitution
  - Constitution (1993)
- Civil Code
  - Civil Code (2007)
- Land management and registration
  - Land Law (2001)
  - Prakas on Collection of Tax on Unused Land (1996)
  - Sub-Decree No.118: State Land Management (2005)
  - Sub-Decree No. 129 on Rules and Procedures for Reclassification of State Public Properties and Public Entities (2006)
- Land expropriation
  - Expropriation Law (2010)
- Concessions
  - Sub-Decree No.19: Social Land Concessions (March 19, 2003)
  - Sub-Decree No.146: Economic Land Concessions (December 27, 2003, amended in 2009)
  - Directive 01: Measures to strengthen and enhance the effectiveness of management of economic land concessions (ELC) (2012)
  - Law on Concessions (2007)
- Illegal occupation
  - Sechkdey Prakas No. 6: Measures to Crack Down on Anarchic Land Grabbing and Encroachment (September 27, 1999)
  - Letter No. 961: Regarding the Implementation of Right of Way (ROW) policy on National Roads, Provincial Roads, Communal Roads, and Railways (April 6, 2000)
  - Sub-Decree No. 197: Right of Way of National Road Channels and Railroads of the Kingdom of Cambodia (November 23, 2009)
  - Circular No. 03: Resolution of Temporary Settlements on State Land Illegally Occupied in the Capital, Municipal and Urban Areas (May 31, 2010)
  - Circular No. 2: Illegal State Land Occupation (February 26, 2007)
- Grievance Redress Mechanism

- Ministry of Economy and Finance (MEF) Guideline on the Functions and Duties of Grievance Committee under the Development Project
- Joint Prakas on Determination of Competence of the Court and Cadastral Commission Regarding Land Disputes
- Royal Decree No. NS/RD/0206/067, creating the National Authority of Land Dispute Resolution (2006)
- Others
  - Law on Providing Foreigners with Ownership Rights in Private Units Co-Owned Buildings (2010)  
(MEF 2012, JICA 2012a)

### **1. 1993 Constitution**

The 1993 Constitution of Cambodia sets forth two basic principles for land acquisition. The first, in Article 44, states that the ‘right to confiscate properties from any person shall be exercised only in the public interest as provided by law and shall require fair and just compensation in advance’. The second principle, in Article 20, stipulates that ‘nobody shall be forced to transfer his or her ownership, if forcing is not necessary in the public interest and (if) no proper and just indemnity has been paid to the owner’. These two principles are adhered to in almost all countries.

In terms of involuntary resettlement, Articles 73 and 74 of the Constitution provide for special consideration and support to vulnerable people, including mothers and children, the disabled and families of combatants who sacrificed their lives for the nation. Indigenous minorities, however, are not explicitly included in these two articles; rather, their rights are provided for in the Land Law (ADB 2011).

### **2. Land Law (2001)**

Promulgated in 1992 and amended in August 2001, the Land Law sets rules and regulations to govern land and property rights in Cambodia. It specifies the ownership regime of immovable properties such as land, trees, and fixed structures based on the provisions of the 1993 Constitution. The Land Law also spells out the rights and responsibilities of the government of Cambodia pertaining to eminent domain. Article 5 of the Land Law states that acquisition of private land by the government is only allowed in the case that expropriation is in the public interest of Cambodia. The government pays fair and just compensation in advance of acquisition.



Other provisions of the Land Law that are relevant to land acquisition, compensation, and resettlement include:

- (a) Article 6: Legal possession as defined by the Law is the sole basis for ownership. All transfers or changes of rights of ownership are carried out in accordance with the general rules for sale, succession, exchange, and gift, or by court decision.
- (b) Article 7: Ownership regimes of immovable property set in place prior to 1979 are not recognised.
- (c) Articles 8, 66: Only persons or legal entities of Khmer nationality are entitled to own, buy, or sell land in Cambodia.
- (d) Article 15: State public land includes, among other categories, any property a) that has a natural origin, such as forests, courses, and banks of navigable and floatable rivers, or natural lakes; b) that is made available for public use such as roads, tracks, oxcart ways, pathways, gardens, public parks, and reserved land; or, c) that is allocated to render a public service, such as public schools, public hospitals, or administrative buildings.
- (e) Article 19: Persons that illegally occupy, possess, or claim title to State public land cannot claim any compensation. This includes land established by the government as public rights-of-way for roads and railways. Moreover, failure to vacate illegally occupied land in a timely manner is subject to fines and/or imprisonment.
- (f) Article 26: Ownership of the lands is granted by the State to indigenous communities as collective ownership, including all the rights and protections enjoyed by private owners. The exercise of collective ownership rights are the responsibility of the traditional authorities and decision-making mechanisms of the indigenous community, according to their customs and subject to laws such as the law on environmental protection.
- (g) Article 28: Rights to immovable properties owned by indigenous communities cannot be acquired by any authority that is not a member of the said community.
- (h) Article 30: Persons with legally valid possession of land for five years (at the time the law came into effect) are allowed to be registered as the owner of the land.
- (i) Article 31: Persons who (at the time the law came into effect) held legal possession but had not yet completed the five years were allowed to remain in possession until they were eligible to be registered as the owner.
- (j) Articles 29, 34: Temporary possession claims made by persons after the law comes into effect will not be recognised, rescinding a previous right under the 1992 Land Law for acquiring land by taking possession.
- (k) Articles 50, 51: Landless people may apply for land for residential and subsistence farming purposes at no cost, as part of a social land concessions scheme. The concessionaire may obtain ownership of this land after fulfilling conditions set out in a

separate Sub-Decree on Social Land Concessions.

- (l) Articles 80-84: Acquisition of land through gifts is permitted with the following conditions: (i) the gift of immovable property is only effective if it is made in writing and registered with the Cadastral Registry Unit; (ii) once accepted, gifts of immovable property are irrevocable; and, (iii) the donor may retain the right of usufruct in the property, and the right of use and habitation of an immovable property.

(ADB 2011)

### **3. Expropriation Law**

The Expropriation Law was passed by the National Assembly on 29 December 2009 and promulgated by the King on 4 February 2010. It provides clear procedures on acquiring private properties for national and public interests. Key articles in the law are listed below:

- (a) Article 2: The law aims to render the deprivation of a legal right to ownership of private property just and appropriate, to provide appropriate advance compensation, to benefit the public and national interests of Cambodia, and to develop public physical infrastructure.
- (b) Article 3: The law applies to expropriations involving public physical infrastructure projects in Cambodia. The law does not govern any issues on expropriation in any agreement or memorandum on supporting investment between the RGC and partner countries. In case there is no such agreement or in case the agreement or the memorandum does not deal with expropriation, any expropriation shall be governed by this law.
- (c) Article 5: The article defines which projects fall under development of public physical infrastructure, as stated in Article 2.
- (d) Article 7: Only the State may carry out an expropriation for use in the public and national interests.
- (e) Article 8: The State shall accept the purchase of part of the real property left over from an expropriation at a reasonable and just price at the request of the owner of and/or the holder of right in the expropriated real property who is unable to live near the expropriated scheme or to build a residence or conduct any business.
- (f) Article 12: An expropriation committee shall be established and headed by a representative from the MEF and composed of representatives from relevant ministries and institutions. The organisation and functioning of the expropriation committee shall be determined by a sub-decree.
- (g) Article 14: The article calls for the establishment of a Complaint Resolution Committee to be led by representatives of the MLMUPC and with the involvement of other

concerned ministries or institutions.

- (h) Article 22: An amount of compensation to be paid to the owner of and/or holder of rights in the real property shall be based on the market value of the real property or the alternative value as of the date of the issuance of the Prakas on the expropriation scheme. The market value or the alternative value shall be determined by an independent commission or agent appointed by the expropriation committee.

(JICA2012a, ADB 2011)

#### **4. The Sub-Decree on Social Concessions**

The Sub-Decree on Social Concessions provides a legal basis for allocations of state private land for the alleviation of landlessness and poverty, including the replacement of land lost in the context of involuntary resettlement.

Private ownership of land was re-established in 1989 and confirmed in the 2001 Land Law (Article 4). Cambodians are able to register the land they occupy with the local Cadastral Administration Office (CAO), whereupon a certificate of land title is granted. Issuing land titles is a lengthy process, and most offices have a major backlog of applications. Applicants are given a receipt, and until the official title deed is issued, this receipt is accepted as a title for many purposes.

The present legal status of land use in Cambodia can be classified as follows:

- (a) Privately owned land with title: The owner has an official title to the land, and both the owner and the CAO have a copy of the deed.
- (b) Privately owned land without title: The owner has made an application for a title to the land and is waiting for the issuance of a title deed. The CAO recognises the owner.
- (c) Land use rights certified by the government: In this case, a receipt for long-term land use has been issued, and the owner's right to use the land is recognised by the CAO.
- (d) Lease land: The government or private owners lease the land, usually for a short period. There is a provision for the owner to reclaim the land if it is needed for development.
- (e) Non-legal occupation: The user has no land use rights to state land that he occupies or uses. The CAO does not recognise the use of this land.

#### **5. Prakas No.6**

Prakas No. 6, entitled 'Measures to Crack Down on Anarchic Land Grabbing and Encroachments', sets a ROW of 50m for national roads 2, 3, 6, and 7, and a ROW of 60m for national roads 1, 4, 5, 11, 22, 64, and 78. Exceptions are made for urban areas traversed by these

national roads, where the ROW can be reduced, subject to the decision of the government. In support of this Prakas, the MEF on 6 April 2000 issued Decree No. 961 prohibiting compensation for structures and other assets located in the road ROW.

Prakas No. 6 may have been prompted by the influx of people inside the road ROW following the 1979 ouster of the Khmer Rouge after the regime held power for nearly four years. During that short period, private property was abolished and all land records destroyed. The years that followed 1979 until the restoration of private property in 1989 were very disorderly, often chaotic, and exacerbated by more armed conflicts. Returning people who had been forced to evacuate from cities and do manual farm labour during the Khmer Rouge regime occupied any vacant or empty property they could find along roads and in town centres. To systematise the re-occupation of abandoned properties and the distribution of land, the post-1979 government introduced usufruct rights, organising families in rural areas into groups that collectively owned land and assets. Each group of families had a head, and land was distributed to individual families according to its fertility (ADB 2011).

## 6. Other relevant laws and edicts

There are also other laws, decrees, sub-decrees, regulations, and guidelines that may be relevant to resettlement in the design and implementation of projects. Table 6.1.1 shows the summary of other relevant laws and regulations.

**Table 6.1.1: Summary of other relevant laws and regulations**

Laws and regulations	Summary
Prakas on Collection of Tax on Unused Land (1996)	Decision No.224 by the MEF; it addresses the issue of taxation of unused lands, the taxable unused land defined as lands without the characteristics listed in article 1 of the Prakas. The land owner must calculate the tax according to the appropriate tax declaration procedure and based on the MEF's announcement of the value of the land per square metre.
Sub-Decree No.118: State Land Management (2005)	Chapter 1 determines the legal definition of state land and the differences between public and private state lands; public state lands being lands with public interest use and with any of the following types: a) having a natural origin; b) property developed for general public use; c) property made available in its natural state or specifically developed for public use; d) property allocated to render a public service; e) natural reserves protected by law; f) archaeological, historical, and cultural patrimonies; g) royal properties

Laws and regulations	Summary
	<p>that are not the private property of the royal family; h) other lands having public interest use characteristics and determined legal basis; private state land being any land that is not legally privately or collectively owned under the Land Law of 2001. It can be a) escheat; b) given by the owner to the state; c) without any legal owner. Processes of state land identification and mapping, and the corresponding responsible actors are explained in Chapter 2. The sub-decree next details the registration process of state land that goes basically through processes of confirmation of state ownership, demarcation of boundaries, resolution of any disputes and finally registration in the Land Register. The land is registered as public when relevant proves that it is public; if not it is registered as private. Chapter 4 deals with the processes to classify the land as public/private in the situations where the land has been registered as state land, but its public/private status has not been determined yet, and when the sporadic first registration of the land has not been conducted. Chapter 5 addresses the procedures to reclassify a state land from public to private or vice versa. Chapter 6 details the procedures to maintain and update the State Land Map and Database as well as the access rights to the database. Chapter 7 indicates the procedures to assign a mandate for administering state land to a trustee authority as well as the latter's rights and duties in administering the land. Chapter 8 explains how different uses of private state land can be allocated by the Provincial/Municipal State Land Management Committee. Allocation for use takes place through social land concessions (Sub-Decree on social Land Concessions), economic land concessions (Sub-Decree on Economic Land Concessions) and through other types of concessions. Chapter 9 outlines the structure of the administrative bodies, namely the Provincial/Municipal State Land Management Committee and the District/Khan State Land Working Group and the mapping mechanism. The respective duties are also defined in this chapter. Chapter 10 mandates that the budget to operate the state land management must come from the MLMUPC. Additional provisions are listed in Chapter 11.</p>
Sub-Decree No.146: Economic Land Concessions	<p>The Sub-Decree's purpose is to determine the necessary processes to initiate, grant and monitor the economic performance of the economic land concessions contracts, as well as to review whether economic land concessions granted prior to Sub-Decree No.146 comply with the 2001 Land</p>

Laws and regulations	Summary
(December 27, 2003)	Law.
Sub-Decree No. 197: Right of Way of National Road Channels and Railroads of the Kingdom of Cambodia	Issued in 2009, the sub-decree's purpose is to determine the management and use of pavements along national roads (1 and 2 digit roads only) and railroads in Cambodia. The main objectives are to eliminate the appropriation for the purposes of development and planting, reducing obstacles to road developments and state's expenditures for the settlements due to impacts on housing along the roads, preventing road accidents, maintaining social order, facilitating the legalisation of residents with ownership on road channels, and ensuring the sustainable development of Cambodian physical infrastructure.
Circular No. 2: Illegal State Land Occupation	The circular determines under which conditions occupation of state lands is considered illegal, the relevant procedures to apply in order to resolve different types of conflicts over occupations of State lands, and the measures the state land authorities are allowed to take in order to resolve the conflicts.

Source: JICA (2012a)

## 6.2 Procedures and Relevant Organisations

Table 6.2.1 shows relevant laws and regulations in relation to relevant organisations for land acquisition and involuntary resettlement in Cambodia.

**Table 6.2.1: Relevant Laws and Regulations and Organisations Related to Land Acquisition and Involuntary Resettlement**

Authority and Institutions in charge	Laws and Regulations	Function	Remarks
Nation	Constitution (2003)	Fundamental base for the right to ownership and the right to confiscate (land) possession only in the public interest with fair and just compensation in advance.	The Land Law (2001) and the Law on Expropriation (2011) both support the Constitution. However, there is still a need to establish further supporting procedures or regulatory frameworks such as sub-decrees.

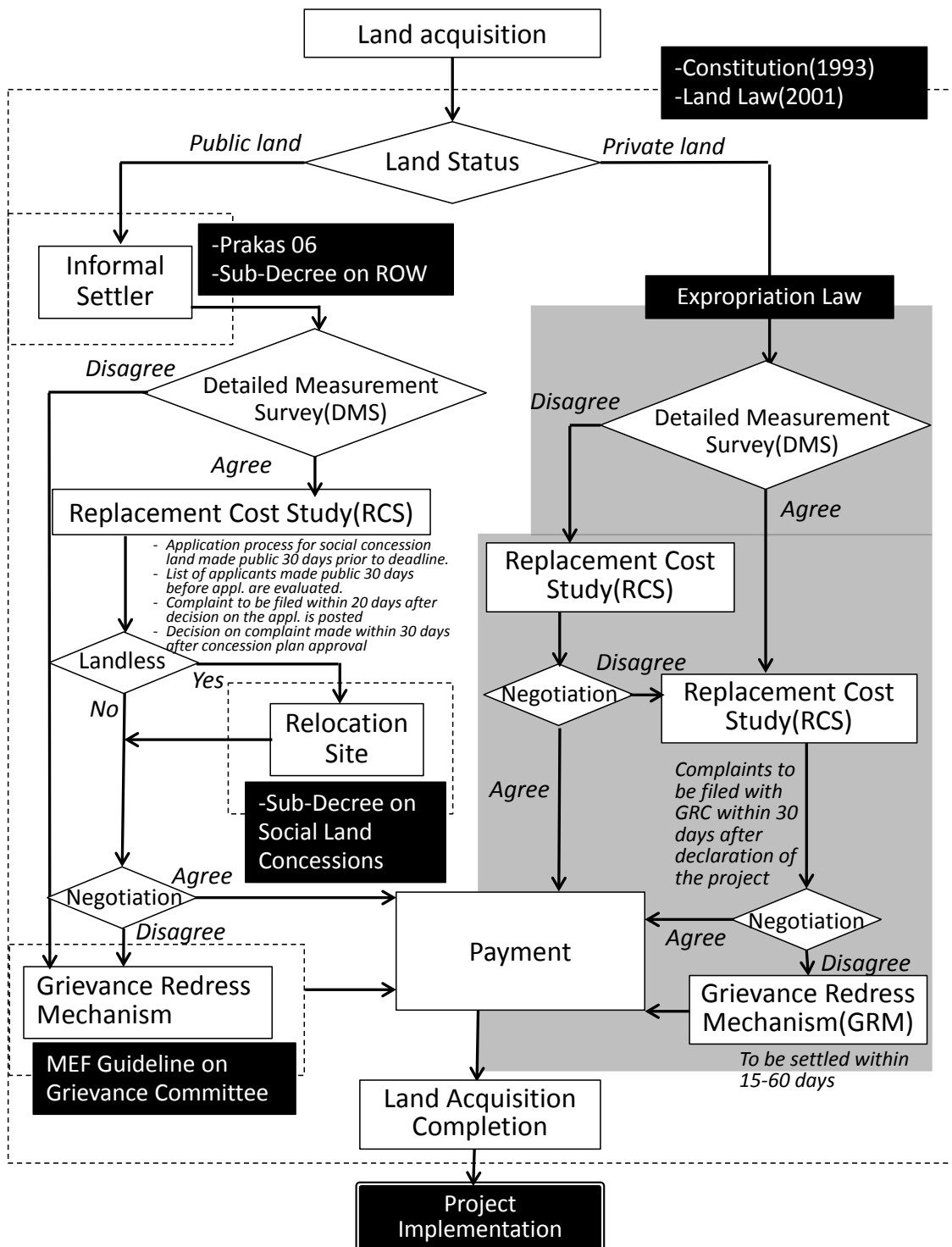
Authority and Institutions in charge	Laws and Regulations	Function	Remarks
Prime Minister's Office (PMO)	-Sechkdey PrakasNo.6: Measure to Crack Down on Anarchic land Grabbing and Encroachment (1999)	- The first regulation to set the ROW.  - Compulsory acquisition with public enforcement.	- Prior to the issuance of the Prakas, the width of the ROW D33 was not legally defined.  - Does not provide how to acquire land from those who are living within the set ROW before its issuance.  - Article about land ownership with five years peaceful occupancy is reiterated in Land Law 2001.
Ministry of Economy and Finance (MEF)	- Decision No. 13 and Prakas No. 098 (1997)  -MEF Prakas No.961(2000)  - Sub-Decree on Socio-Economic Impact caused by Development Project (Draft, 2008)  - Law on Expropriation (2011)	- It created the Inter-Ministerial Resettlement Committee (IRC) chaired by MEF.  - It disallows any payment to be drawn from the national budget for structures and other assets located within the ROW.  - This Sub-Decree follows the safeguard policy of ADB.  - The policy, mechanism, and procedure of land expropriation from the legitimate land owner.	- The IRC plays a major role in resettlement planning and implementation.  - Not entitled to any compensation or social support, regardless of their being an Affected Person (AP) or a member of vulnerable groups.  - Does not govern any expropriation regulated in any agreement or memorandum on supporting investment between the RGC and DP countries. In case no such agreement or memorandum exists, or if expropriation is not mentioned, any expropriation shall be governed under this law.
Ministry of Land Management, Urban Planning, and Construction (MLMUPC)	- Land Law (2001, 1992)  - Sub-Decree on Social Land Concession (2003)	- Individual's rights to ownership and compensation.  - The criteria, procedures, and mechanism for granting and transferring private state land to the poor for residential and/or family farming purposes with development plan.	- The mechanisms and standards for land acquisition or for determining levels of compensation are not clearly defined.  -While the sub-decree requires the preparation of a development plan, it does not provide the framework and procedures for the preparation and fulfilment /accomplishment of the plan. For this reason, the guidelines of DPs in development projects are

Authority and Institutions in charge	Laws and Regulations	Function	Remarks
			followed.
Ministry of Public Works and Transport (MPWT)	- Sub-Decree on Right of Way of National Roads and Railways in Kingdom of Cambodia (2009)	- The sub-decree sets the ROW to 30m from the centreline for national roads with a one digit number.	- Same issue as Sechkdey Prakas No.6.

Source: JICA (2012b)



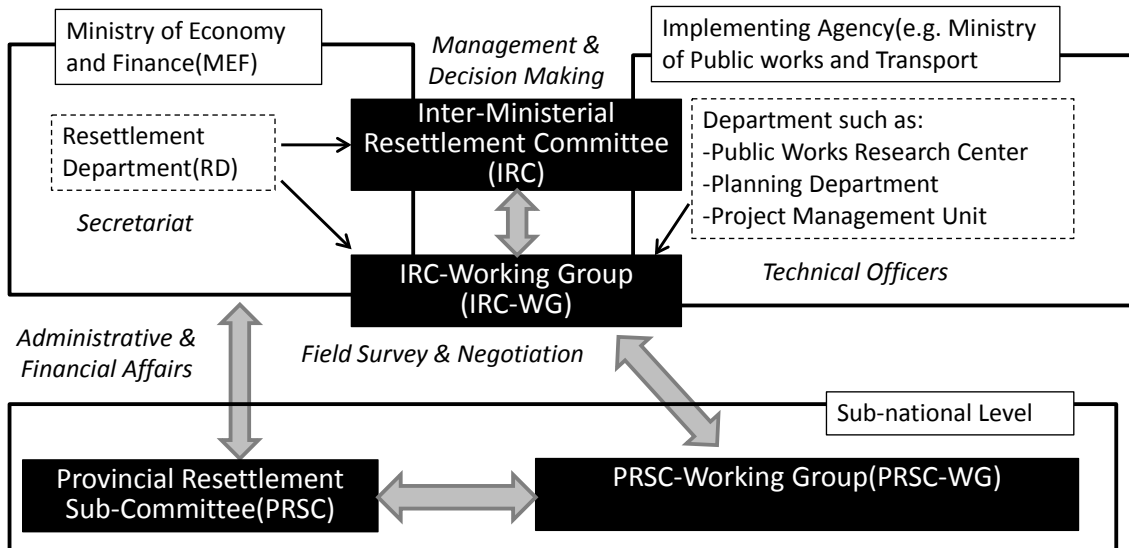
Land acquisition procedures and relevant laws and regulations in Cambodia are described in the following chart:



Source: MEF (2012)

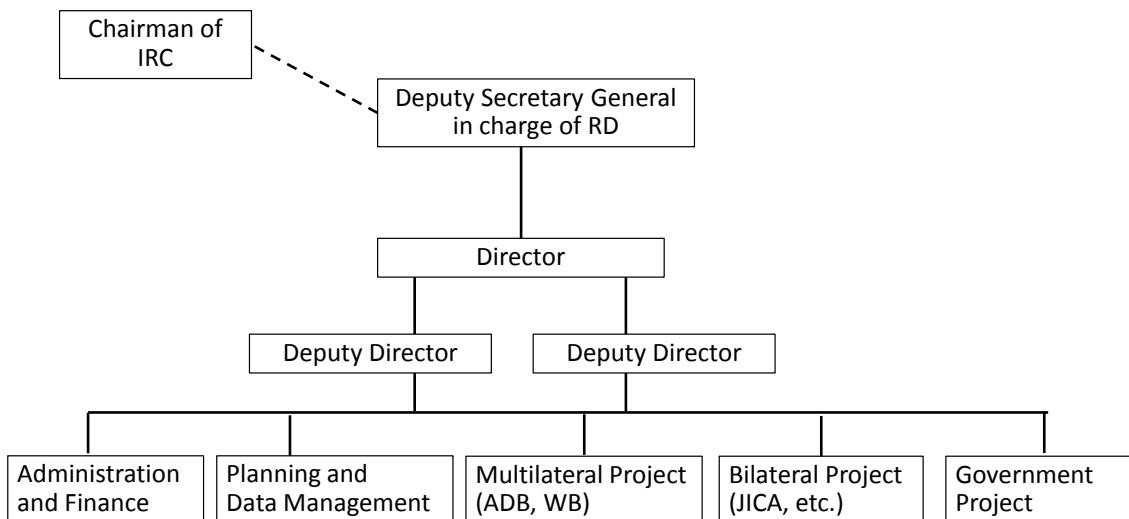
**Figure 6.2.1: Land Acquisition Procedures and Relevant Laws and Regulations**

Administration of legislation and policy related to involuntary resettlement falls under the mandate of the MEF through its Resettlement Department (RD-MEF). The RD-MEF also serves as secretariat to the Inter-Ministerial Committee on Resettlement (IRC), which is convened for projects requiring land acquisition and involuntary resettlement. Figures 6.2.2 and 6.2.3 illustrate the organisations:



Source: MEF (2012)

**Figure 6.2.2: IRC and relevant organisations**



Source: MEF (2012)

**Figure 6.2.3: RD-MEF Organisation Chart**

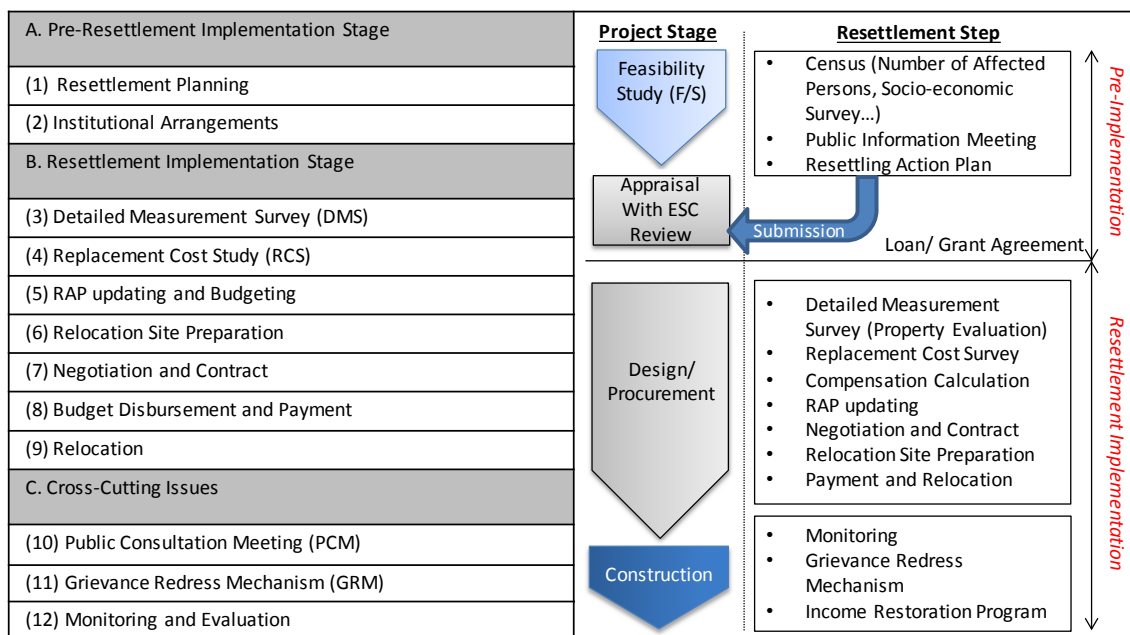
The only exception to these procedures is that Electricité du Cambodge (EDC), rather than the IRC, is responsible for land acquisition and involuntary resettlement for energy-related projects implemented by EDC. EDC is a wholly state-owned limited liability company that generates, transmits, and distributes electric power throughout Cambodia. Its land acquisition and resettlement duties were separated from the IRC in December 2010.

The organisations dealing with involuntary resettlement in the case of energy-related projects are almost the same as those detailed in Figure 6.2.2, with the exception that IRC is replaced by EDC, and MEF and RD are not involved. EDC sets up its own committee and requests relevant ministries such as the MOE, the MIME or the MLMUPC to join the resettlement working group (not on EDC's own committee). Currently EDC follows the Basic Resettlement Procedures (BRP), and also plans to create its own guidelines with funding from the Agence Française de Développement (AFD).

The BRP, a roadmap for resettlement in Cambodia, were jointly discussed and developed in December 2011 by the MEF, the MPWT, and JICA, under JICA's technical cooperation project on capacity enhancement of environmental and social considerations for resettlement. A booklet of BRP was created for use by relevant organisations as an administrative procedure manual (not yet a policy or a guideline) for resettlement in public projects.

As Cambodia currently lacks a comprehensive resettlement policy, the information on procedures and relevant organisations concerned with resettlement is provided in the BRP.

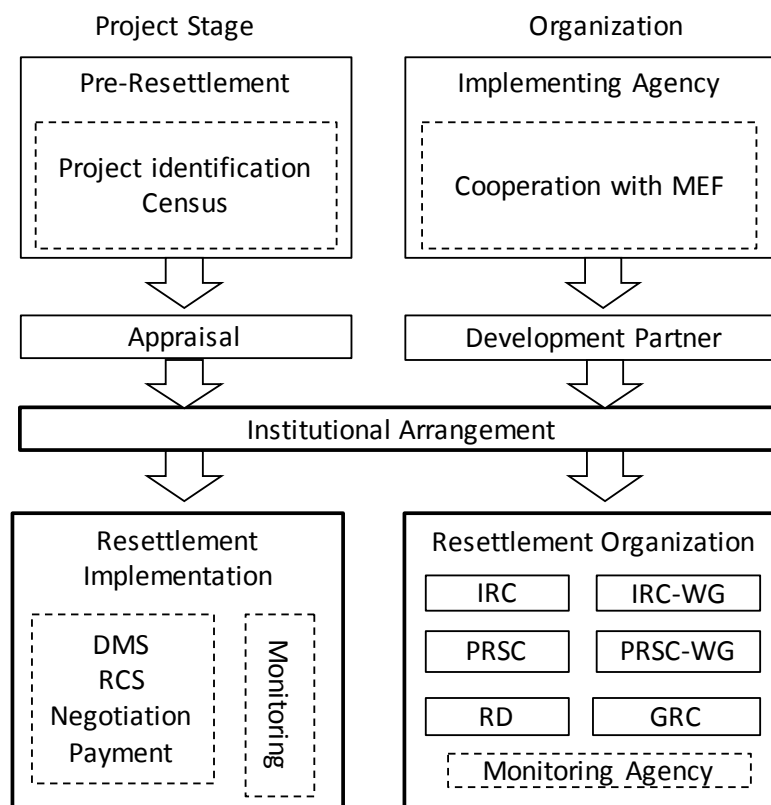
Figure 6.2.4 illustrates the general resettlement workflow:



Source: MEF (2012)

**Figure 6.2.4: Resettlement Workflow**

For resettlement work in Cambodia, institutional arrangements are a necessary step. Their purpose is to conduct effective resettlement by clarifying institutional roles and responsibilities. Effective resettlement depends on the commitment of organisations responsible for resettlement preparation and implementation. It is necessary to ensure the close coordination of all organisations involved in resettlement activities, because these organisations are not under the administrative control of the implementing agency. Figure 6.2.5 shows the concepts of project stage and organisation.



Source: MEF (2012)

**Figure 6.2.5: Concepts of Project Stage and Organisation**

**Table 6.2.2: Work Steps of Involuntary Resettlement**

IRC and IRC-Working Group (IRC-WG) establishment	<ol style="list-style-type: none"> <li>1) Implementing agency requests that MEF establish IRC.</li> <li>2) MEF passes the request to the head of the government, and the head of the Government approves the request.</li> <li>3) IRC is established.</li> <li>4) IRC requests live ministries to assign members to IRC-WG.</li> <li>5) IRC-WG is established.</li> </ol>
Provincial Resettlement Sub-Committee Working Group (PRSC) and PRSC-Working Group (PRSC-WG) establishment	<p>IRC requests the provincial governor to establish PRSC and PRSC-WG.</p> <ol style="list-style-type: none"> <li>1) PRSC and PRSC-WG are established by provincial governor based on the IRC's request.</li> </ol>
Provincial Grievance Committee establishment	<ol style="list-style-type: none"> <li>1) IRC requests that the provincial governor establish a Grievance Redress Committee.</li> <li>2) Grievance Redress Committee is established by provincial</li> </ol>

	governor based on the IRC's request.
Internal and External Monitoring Agency establishment	1) Implementing agency assigns responsible members to conduct internal monitoring. 2) IRC hires external monitoring agency.

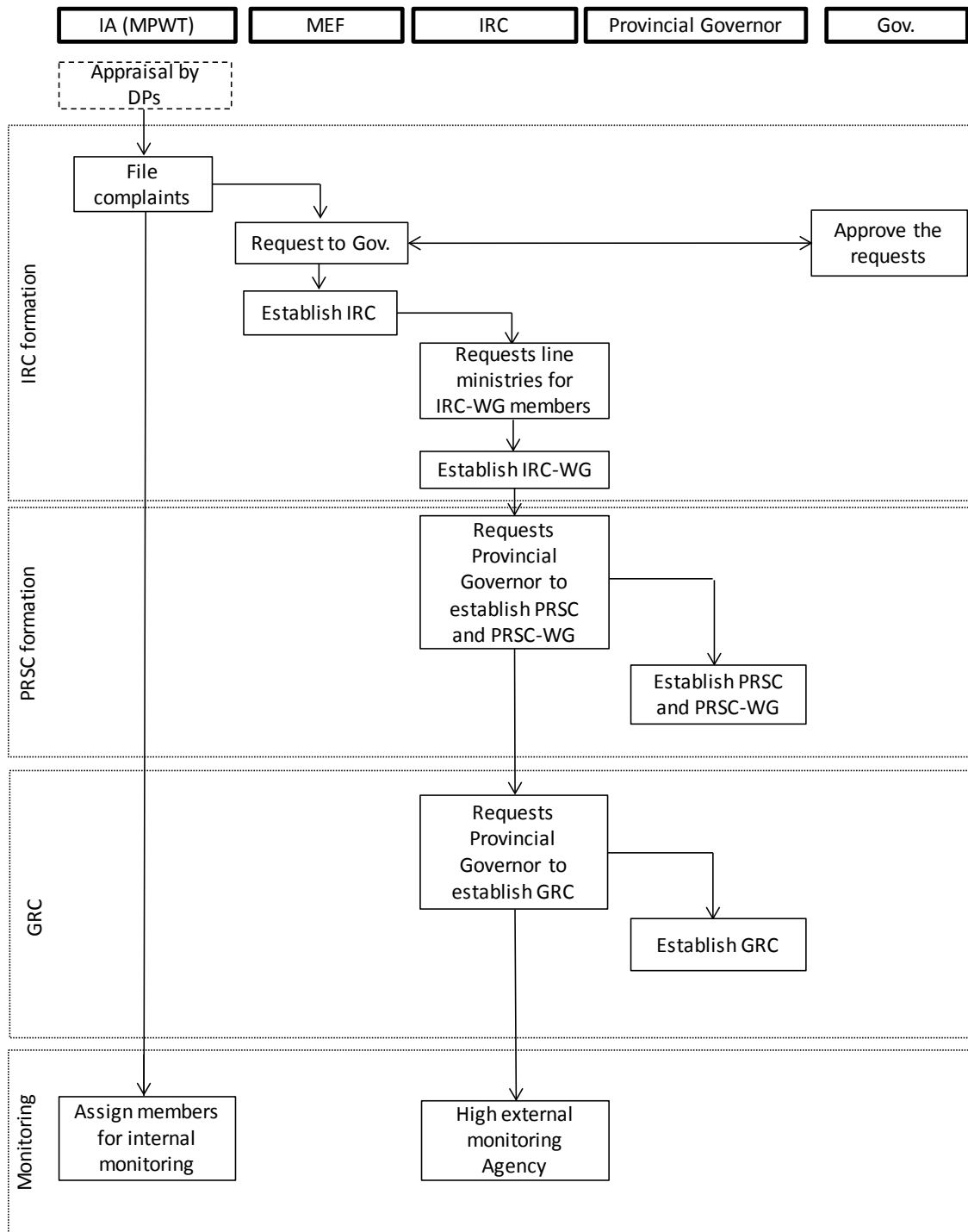
Source: MEF (2012)

**Table 6.2.3: Roles and Responsibilities of Involuntary Resettlement**

Organisation	Roles and Responsibilities
Implementing Agency	<ul style="list-style-type: none"> <li>Request MEF to establish IRC.</li> <li>Assign internal monitoring members.</li> </ul>
MEF	<ul style="list-style-type: none"> <li>Request the government to set up IRC.</li> <li>Establish IRC.</li> </ul>
IRC	<ul style="list-style-type: none"> <li>Request line ministries to assign members for IRC-WG.</li> <li>Request Provincial Governor to establish PRSC, PRSC-WG, and Grievance Redress Committee.</li> <li>Hire external monitoring agency.</li> </ul>
Provincial Governor	<ul style="list-style-type: none"> <li>Establish PRSC, PRSC-WG, and Grievance Redress Committee based on the IRC's Request</li> </ul>

Source: MEF (2012)

The following figure illustrates the workflow of organisations relevant to resettlement:



Source: MEF (2012)

**Figure 6.2.6: Work Flow of Resettlement with Relevant Organisations**

More detailed roles and responsibilities for each organisation and work-steps are as follows:

**Table 6.2.3: Roles and Responsibilities for Each Organisation and Work Steps**

Organisation		Work	Roles and Responsibilities
Central	RD-MEF	Detailed Measurement Survey (DMS)	<ul style="list-style-type: none"> <li>• Assign staff for IRC-WG.</li> <li>• Manage DMS.</li> <li>• Prepare Budget Disbursement.</li> </ul>
		Replacement Cost Study (RCS)	<ul style="list-style-type: none"> <li>• Make a contract with IE for RCS and check the RCS report.</li> <li>• Obtain approval for using RCS results from MEF higher management.</li> </ul>
		N&C*	<ul style="list-style-type: none"> <li>• Provide instruction to IRC-WG.</li> </ul>
		B&P*	<ul style="list-style-type: none"> <li>• Verify and prepare documents for disbursement.</li> <li>• Notify to the PRSC that disbursement voucher is ready for withdrawal.</li> </ul>
	Implementing Agency (MPWT)	DMS	<ul style="list-style-type: none"> <li>• Demonstrate the project area.</li> <li>• Provide detailed alignment.</li> <li>• Assign staff for IRC &amp; IRC-WG.</li> <li>• Verify DMS results.</li> </ul>
Committee	IRC	DMS	<ul style="list-style-type: none"> <li>• Manage and supervise DMS.</li> </ul>
		N&C*	<ul style="list-style-type: none"> <li>• Present solutions to requests arising from PAPs during negotiations.</li> </ul>
		B&P*	<ul style="list-style-type: none"> <li>• Approve budget for disbursement.</li> </ul>
	IRC-WG	DMS	<ul style="list-style-type: none"> <li>• Conduct DMS training.</li> <li>• Conduct Public Consultation Meeting.</li> <li>• Conduct DMS.</li> <li>• Make DMS report.</li> <li>• Calculate compensation amount.</li> </ul>
		N&C*	<ul style="list-style-type: none"> <li>• Negotiate with PAPs and contract with PAPs.</li> <li>• Report progress to IRC/RD.</li> </ul>
		B&P*	<ul style="list-style-type: none"> <li>• Prepare necessary documents for payment and join payment activity.</li> </ul>
	PRSC	DMS	<ul style="list-style-type: none"> <li>• Cooperate with IRC-WG and assist Public Consultation Meeting.</li> </ul>
		B&P*	<ul style="list-style-type: none"> <li>• Manage payment activities.</li> </ul>



Organisation		Work	Roles and Responsibilities
			<ul style="list-style-type: none"> <li>• Send payment documents to RD after payment and liquidation for the payment.</li> </ul>
	PRSC-WG	DMS	<ul style="list-style-type: none"> <li>• Conduct DMS with IRC-WG.</li> </ul>
		N&C*	<ul style="list-style-type: none"> <li>• Conduct negotiations and contract with IRC-WG.</li> </ul>
		B&P*	<ul style="list-style-type: none"> <li>• Notify PAPs the date and venue and prepare necessary documents for the payment.</li> <li>• Implement payment.</li> </ul>
Grievance Redress Committee	Grievance Redress Mechanism (GRM)	<ul style="list-style-type: none"> <li>• Receive and resolve grievances.</li> </ul>	
Other	Court	GRM	<ul style="list-style-type: none"> <li>• Make a final decision.</li> </ul>
	Independent Consultant	RCS	<ul style="list-style-type: none"> <li>• Conduct RCS based on the Terms of Reference (TOR) and submit RCS report to RD.</li> </ul>

Source: MEF (2012)

### 6.3 Grievance Redress Mechanism, Information Disclosure, and Monitoring

#### 6.3.1 Grievance Redress Mechanism (GRM)

Establishment of a Grievance Redress Mechanism (GRM) is clearly stipulated in the Expropriation Law, as ‘the owners of a real right who disagree with a decision of the Expropriation Committee can bring their complaint to the Grievance Redress Committee’ (Article 14).

The BRP introduces GRM as a mechanism through which Project Affected Persons (PAPs) can have their complaints and grievances settled in a transparent and fair manner. PAPs will be able to access this mechanism at no cost.

The MEF developed ‘Guidelines on the Functioning and Duties of Grievance Committee under Development Projects (No.004 S.H.V., IRC)’ in June 2006, issuing them under the name of the IRC chairman. The RGC is now preparing a new grievance mechanism in accordance with the Expropriation Law. Under this law, the types of grievances covered by GRM are the following:

- (a) Involuntary land acquisition/expropriation procedures, including resettlement procedures that are not properly implemented
- (b) Involuntary land acquisition/expropriation that is not in the public or national interest
- (c) Unfair and unjust compensation

PAPs' grievances in connection to resettlement plan implementation will be handled through negotiations or mediation aiming at achieving consensus. GRM includes the following four stages, and every grievance must be started from the first stage. During the Public Consultation Meeting, APs shall be clearly informed that the grievances must first be filed with the Provincial Resettlement Sub-Committee Working Group (PRSC-WG), the Inter-Ministerial Resettlement Committee Working Group (IRC-WG) or the Commune/Sangkat. If the case is not resolved within 15 days of receiving the grievance at the above-mentioned institutions (the first level), the grievance will be filed with the District/Khan Office at the second level. Similarly, if the case is not resolved there within 15 days of receiving the grievance, it will be presented to the Provincial Grievance Committee. Then, if the case is not resolved within 30 days, and if the petitioner wishes to pursue his case further, it will be brought to court for a judicial decision.

**Table 6.3.1: Roles and Responsibilities and Work Steps for Grievance Redress**

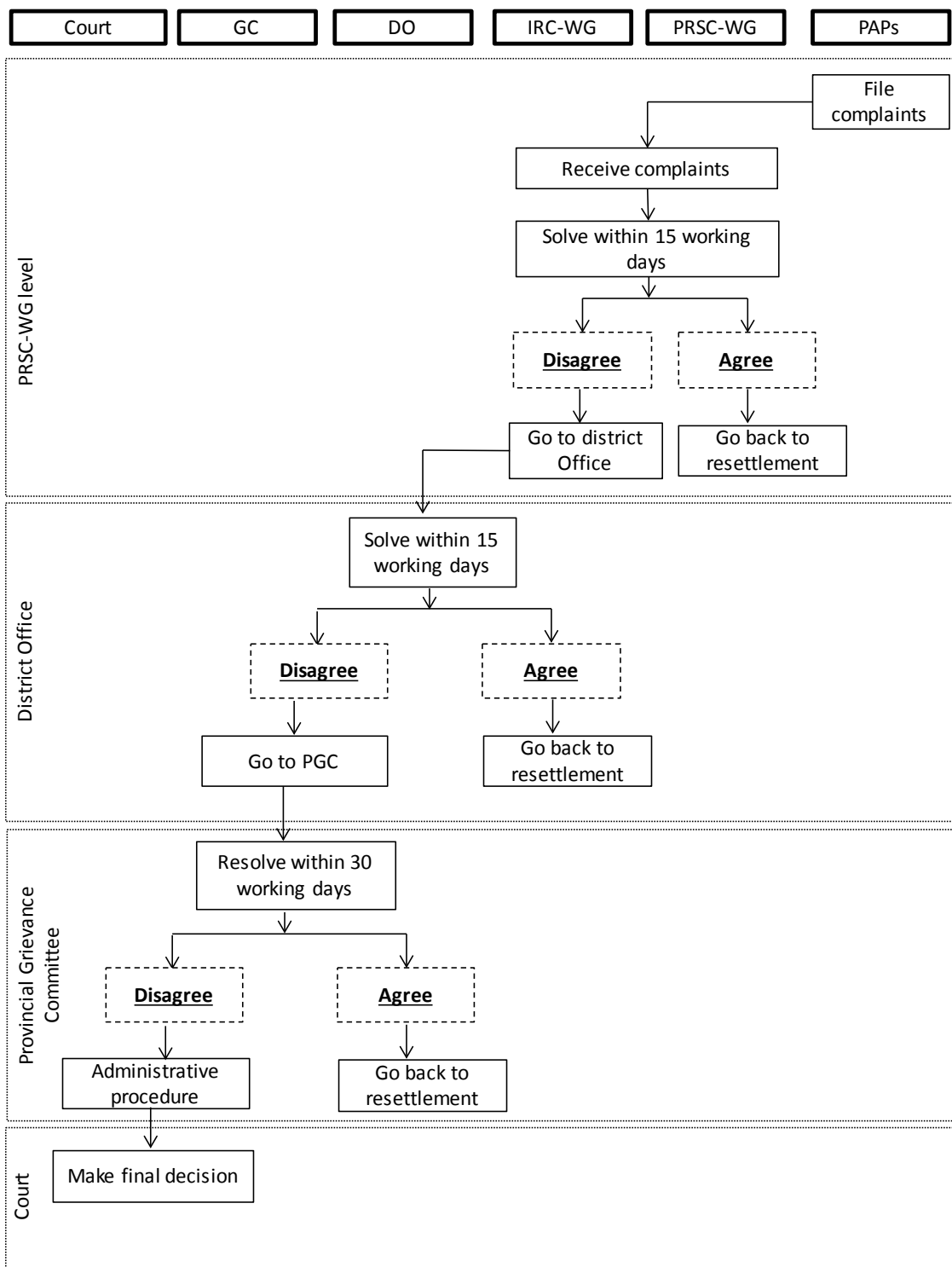
Organisation		Roles and Responsibilities
1 <sup>st</sup> stage (PAPs submit grievance to whichever 1st Stage organisation they want.)	PRSC-WG	1) Receive grievances. 2) Consult with PAPs and settle grievances within 15 working days. 3) If not, tell PAPs to move on to the next stage. 4) Report the unresolved case to the 2 <sup>nd</sup> stage. 5) Send the unresolved case to the 2 <sup>nd</sup> stage on demand of PAPs.
	IRC-WG	
	Commune/Sangkat	
2 <sup>nd</sup> stage (The grievance cannot be settled at the 1st Stage and moves on to the 2 <sup>nd</sup> .)	District/Khan Office (DO)	1) Receive the unresolved case. 2) Consult with PAPs and settle grievance within 15 working days. 3) If not, tell PAPs to move on to the next stage. 4) Report the unresolved case to the 3 <sup>rd</sup> stage. 5) Send the unresolved case to the 3 <sup>rd</sup>

Organisation		Roles and Responsibilities
		stage on demand of PAPs.
3 <sup>rd</sup> stage (The grievance cannot be settled at the 2 <sup>nd</sup> Stage and moves on to the 3 <sup>rd</sup> .)	Provincial/City Grievance Committee	<ol style="list-style-type: none"> <li>1) Receive the unresolved case.</li> <li>2) Consult with PAPs and settle grievance within 30 working days.</li> <li>3) If not, implement administrative procedures with participation from a provincial/municipal prosecutor.</li> <li>4) Tell PAPs to move on to the next stage.</li> </ol>
4 <sup>th</sup> stage (The grievance cannot be settled in the administrative stages (1 <sup>st</sup> to 3 <sup>rd</sup> ) and is transferred to a court.)	Court	<ol style="list-style-type: none"> <li>1) Receive the unresolved case lodged by the PAPs.</li> <li>2) Make a final decision.</li> <li>3) Both the government and PAPs abide by the decision.</li> </ol>

**\* Note**

- Under the Expropriation Law, courts cannot accept complaints about project design details (Art. 34).

Source: MEF (2012)



Source: MEF (2012)

**Figure 6.3.1: Flowchart of the Grievance Redress Mechanism (GRM)**

### 6.3.2 Information Disclosure and Public Participation

There are no particular laws and regulations addressing information disclosure in the context of involuntary resettlement in Cambodia, although the Environmental Impact Assessment (EIA) Guideline ensures information disclosure and public consultation.

The BRP defines the Public Consultation Meeting (PCM) as the process by which public concerns, needs, and values are incorporated into governmental decision-making. The purpose of public consultation is to improve the quality of decision-making and to ensure the transparency and accountability of the decision-making process. PCMs will be organised several times during the resettlement process, as shown below:

**Table 6.3.2: PCM during the Resettlement Process**

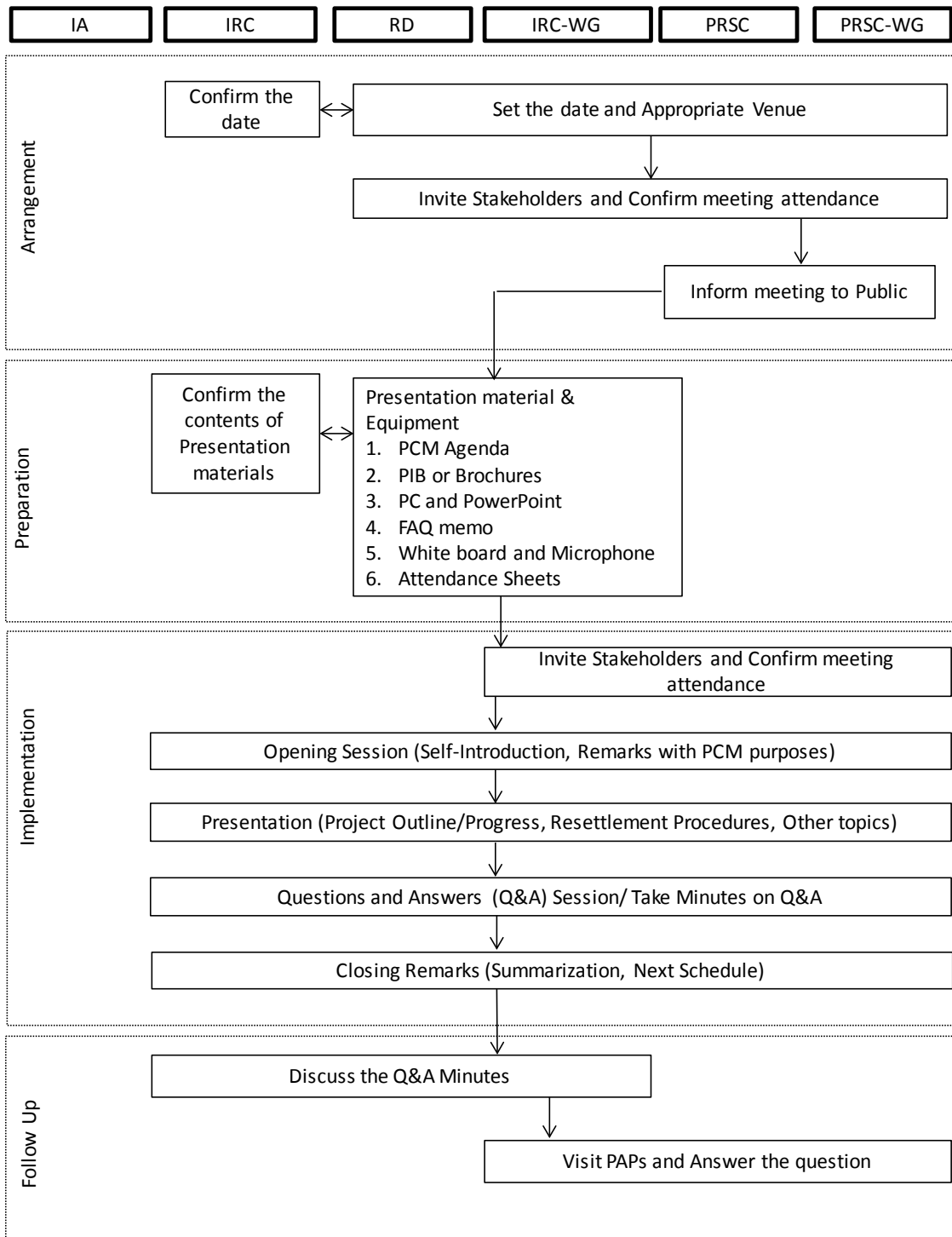
Timing		Main contents	Organiser	Materials
Pre-Resettlement Implementation	PCM-Simple survey/census survey	- Project outline - Simple survey/census	Implementing agency	Project information materials (if any)
Resettlement Implementation	PCM-DMS	- DMS process - Grievance Redress Mechanism	IRC/ IRC-WG/PRSC-WG	Public Information Booklet (PIB)
	PCM-NEGOTIATION	- Negotiation process - Grievance Redress Mechanism	IRC/ IRC-WG/PRSC-WG	Updated PIB including compensation rate
	PIM-PAY (Public Information Meeting)	- Payment process - Warning regarding ROW and encroachment	IRC/ IRC-WG/PRSC-WG	Flyer or brochures

Source: MEF (2012)

**Table 6.3.3: PCM Work Steps**

Arrangement	<ol style="list-style-type: none"><li>1) Set date and appropriate venue for public consultation meeting.</li><li>2) Invite stakeholders.</li><li>3) Confirm meeting attendance (IRC-Chairman, local authorities).</li><li>4) Confirm roles and responsibilities.</li><li>5) Inform PAPs of public consultation meeting.</li></ol>
Preparation	<ol style="list-style-type: none"><li>1) Brochures on agenda for public consultation meeting (PCM).</li><li>2) FAQ memo.</li><li>3) White board and microphone.</li><li>4) PC and PowerPoint.</li></ol>
Implementation	<ol style="list-style-type: none"><li>1) Distribute PIB and agenda.</li><li>2) Start PCM (opening speech, project outline, etc.).</li><li>3) Q&amp;A session.</li><li>4) Write memo.</li></ol>
Follow up	<ol style="list-style-type: none"><li>1) Write minutes of meeting (MM).</li><li>2) Confirm the contents of MM.</li><li>3) Visit PAPs and answer their questions individually.</li></ol>

Source: MEF (2012)



Source: MEF (2012)

**Figure 6.3.2: PCM Work Flowchart**

### 6.3.3 Monitoring and Evaluation

Currently, there are no particular laws and regulations addressing the implementation of involuntary resettlement monitoring in Cambodia.

The BRP explains the purpose of monitoring as to verify compliance with the Resettlement Action Plan (RAP) and identify any issues arising during resettlement implementation, as well as making recommendations as early as possible so that the implementation arrangements can be adjusted. Monitoring is the responsibility of the government and can be divided into internal and external monitoring, depending on the roles and monitoring methods.

Internal monitoring of the overall process of the projects is conducted by the implementing agency, including regular monitoring and evaluation of implementation of RAP. External monitoring is conducted by an external monitoring agency (EMA), an independent institution or a group hired by the IRC to carry out external monitoring and post-evaluation study.

**Table 6.3.4: Roles and Responsibilities for Monitoring and Evaluation**

Organisation	Roles and Responsibilities
Implementing Agency (IA)	<ul style="list-style-type: none"> <li>• Assign members for internal monitoring</li> </ul>
IRC	<ul style="list-style-type: none"> <li>• Prepare TOR for the engagement of EMA</li> <li>• Make a contract with EMA</li> </ul>
Internal Monitoring Unit (IMU)	<ul style="list-style-type: none"> <li>• Conduct internal monitoring</li> <li>• Submit monitoring reports to development partners and IRC</li> </ul>
EMA	<ul style="list-style-type: none"> <li>• Conduct external monitoring</li> <li>• Propose possible improvements</li> <li>• Conduct post-evaluation study</li> </ul>

Source: MEF (2012)

**Table 6.3.5: Work Steps for Monitoring and Evaluation**

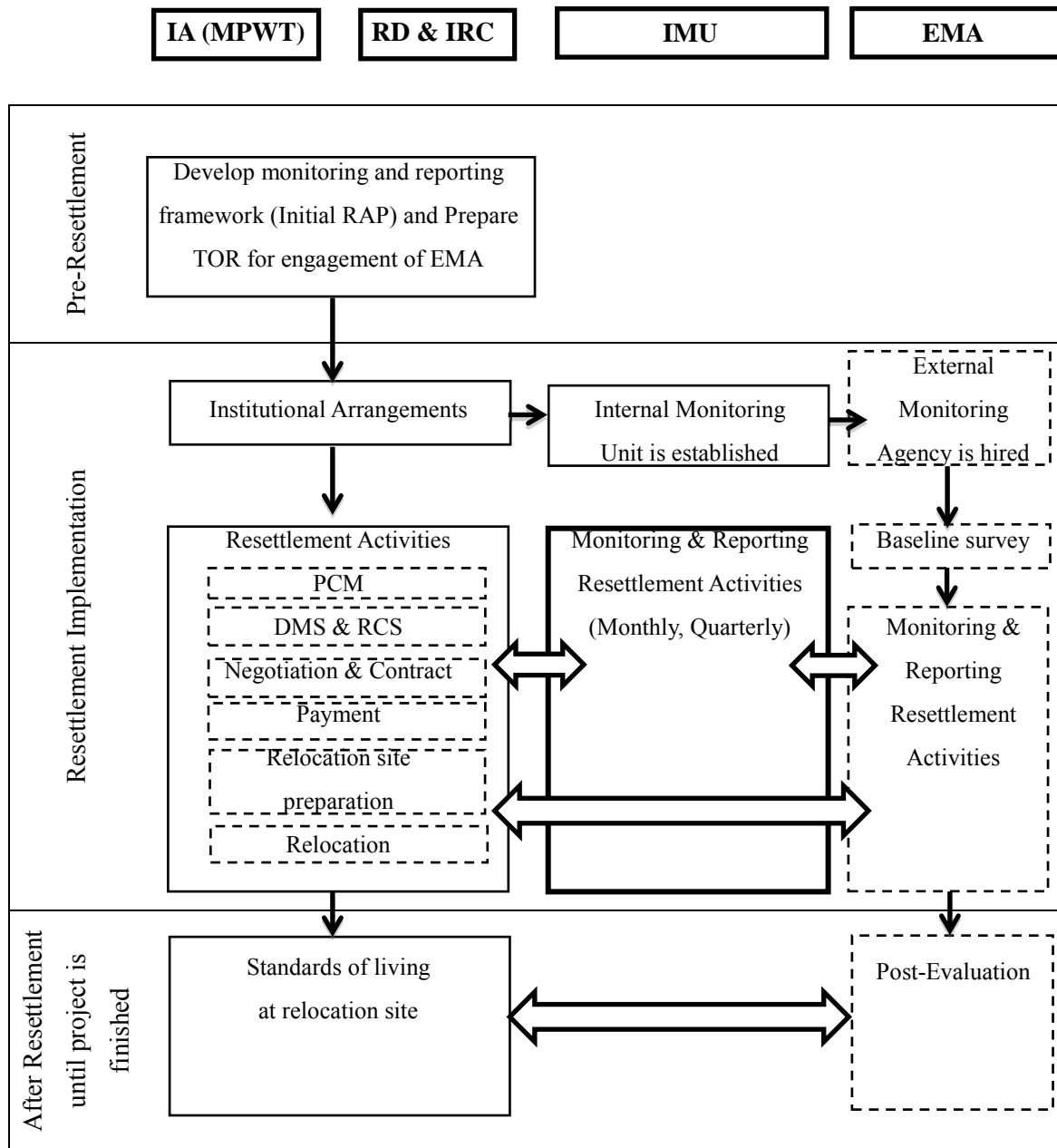
Type	Stage	Work steps
Internal Monitoring	Resettlement implementation	[IMU establishment] 1) Implementing Agency assigns members for IMU.
		[Conduct internal monitoring] 1) IMU conducts internal monitoring in cooperation with



Type	Stage	Work steps
		<p>IRC and IRC-WG and evaluates by following indicators:</p> <ol style="list-style-type: none"> <li>1. Public consultation procedures.</li> <li>2. Transition between resettlement and civil works.</li> </ol> <p>2) IMU submits internal monitoring reports to development partners and IRC.</p>
External Monitoring	Pre-Resettlement implementation	1) Prepare the TOR for the engagement with consent of development partners.
	Resettlement implementation	<p>[Hire external monitoring agency]</p> <ol style="list-style-type: none"> <li>1) IRC prepares TOR for the engagement of EMA with consent of development partners.</li> <li>2) IRC makes a contract with EMA.</li> </ol> <p>[External monitoring]</p> <ol style="list-style-type: none"> <li>1) EMA conducts external monitoring and evaluates by the following indicators: <ol style="list-style-type: none"> <li>1. Public consultation and awareness of compensation policy.</li> <li>2. Coordination of resettlement activities with construction schedule.</li> <li>3. Payments of compensation.</li> <li>4. Process of providing allowances to all entitled PAPs.</li> <li>5. Facilitation of access to income restoration program and restoration of income.</li> <li>6. Level of satisfaction of PAPs and trends in living standards.</li> <li>7. Functioning of GRM</li> </ol> </li> <li>2) EMA advises implementing agency, IRC, and development partners regarding possible improvements.</li> </ol>
	After resettlement	<p>[Post evaluation]</p> <ol style="list-style-type: none"> <li>1) EMA submits completion report to IRC, implementing agency, and development partners.</li> <li>2) EMA conducts post-evaluation study within a reasonable period of time (6-12 months) after the completion of resettlement activities.</li> </ol>

Source: MEF (2012)

**Table 6.3.6: Workflow for Monitoring and Evaluation**



Source: MEF (2012)

#### 6.4 Major Issues and Challenges in the Current System

Cambodia today lacks a comprehensive resettlement policy, and resettlement is conducted by a variety of actors ranging from the IRC and EDC to municipalities and private companies. As a result, the quality of resettlement varies from case to case.

The government's current laws and policies on ROW acquisition are a key issue when acquiring land and other assets needed for development projects in the most expeditious and cheapest way. Under the Land Law, those who have occupied a ROW or public property are not entitled to any compensation or social support, regardless of whether they are an AP or from a vulnerable group. Letter No. 961 reiterates this legal position.

In general, the legal framework and policies supporting resettlement are very limited, although the constitution and the Land Law do protect the rights of individuals to possess and occupy land. The current IRC conducts replacement cost studies jointly with representatives from line ministries, NGOs, local consultants, and provincial subcommittees to get acceptable compensation rates for all affected assets (ADB 2010).

#### 6.5 Gap Analysis between the Existing Domestic Regulations, the JICA Guidelines for Environmental and Social Considerations, and the World Bank Safeguard Policy

As stated in Section 6.4, Cambodia currently does not have a comprehensive involuntary resettlement policy. There are gaps between the donors' policies and governmental laws.

For example, under the 2001 Land Law, those who have occupied a ROW or public property are not entitled to any compensation or social support. In contrast, the position of international development partner agencies such as JICA and the World Bank is that the absence of a formal legal title to land by APs should not be a bar to compensation, that all APs should be assisted to at least restore their pre-project social and economic status, and that vulnerable APs should be assisted to improve their status.

The Land Law provides that persons having assets on road and rail ROWs can be held accountable if their failure to relocate results in delays in works of public interest. On the other hand, international development partner agencies believe that where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as a sustainable development programme, providing sufficient investment resources to enable APs to share in project benefits. Additionally, APs should be fully informed and meaningfully consulted, and should have opportunities to participate in planning and implementing resettlement programs.

For claims for compensation where land is taken, Article 5 of the Land Law states that no

person shall be ‘deprived of their ownership unless this action is for the public interest consistent with formalities and procedures provided by law...and after just and fair compensation’. It does not provide compensation for other types of losses. Also, Article 44 of the 1993 Constitution states that the right to confiscate (land) possession 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. In contrast, JICA and World Bank policies require that compensation for lost assets must be paid in full at the replacement cost.

The government has no clear policy or procedure to restore the livelihoods of APs, while JICA and World Bank policies aim to ensure that the quality of life of APs should be restored to at least pre-project level. Policies of development partner agencies on involuntary resettlement pay special attention to vulnerable groups. In this regard, JICA and WB policy requires that vulnerable groups be assisted to improve their status. The 1993 Constitution and the 2001 Land Law do not address involuntary resettlement.

In the absence of a national resettlement policy or a law on the appropriation or acquisition of land, all locally funded development endeavours carried out by the government are governed by the state’s inherent power of eminent domain, as set forth in the 1993 Constitution and the 2001 Land Law. On the other hand, the government waives the application of any law that is not consistent with the resettlement policy of foreign development partner agencies and commits itself to abide by the said resettlement policy of the development partner agency. This approach by the government creates confusion within agencies implementing public infrastructure projects and creates a two-tiered system with quite different levels of legal protection, individual and collective rights, and assistance provision. To date, resettlement projects have been conducted on an *ad hoc* basis, with some projects having an RP developed for that specific project, while others have none. Although RPs may exist for partner-financed development projects, their implementation varies greatly from project to project (ADB 2007).

When dealing with ODA-funded projects, the government has adopted the resettlement policies of donor agencies on a project-by-project basis. Thus, projects supported by such funding agencies have been governed by the resettlement policies of these agencies as well as relevant laws and government regulations (ADB 2011).

Chapter 8 provides further detailed gap analysis information between the governmental laws of Cambodia and other donors’ guidelines, including case studies.

## **Chapter 7**

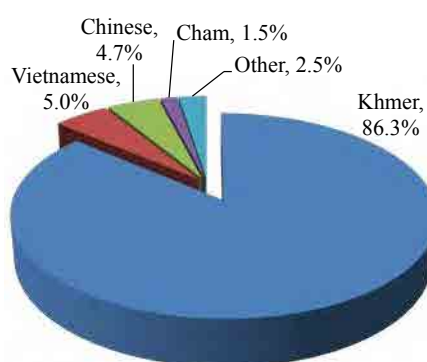
# **Indigenous Peoples and Ethnic Minority Groups**



## 7 Indigenous Peoples and Ethnic Minority Groups

### 7.1 Social and Economic Situation

The population of Cambodia is composed of ethnic Khmer (83%), Vietnamese (5%), Chinese (4.7%), Cham (1.5%), and indigenous peoples and other minority ethnic groups (2.5%). Although as an ethnic group, the Khmer are not considered an indigenous minority, a significant number of them share similar characteristics with indigenous minorities living in the same provinces.



Source: CIA (2013)

**Figure 7.1.1: Ethnic Groups in Cambodia**

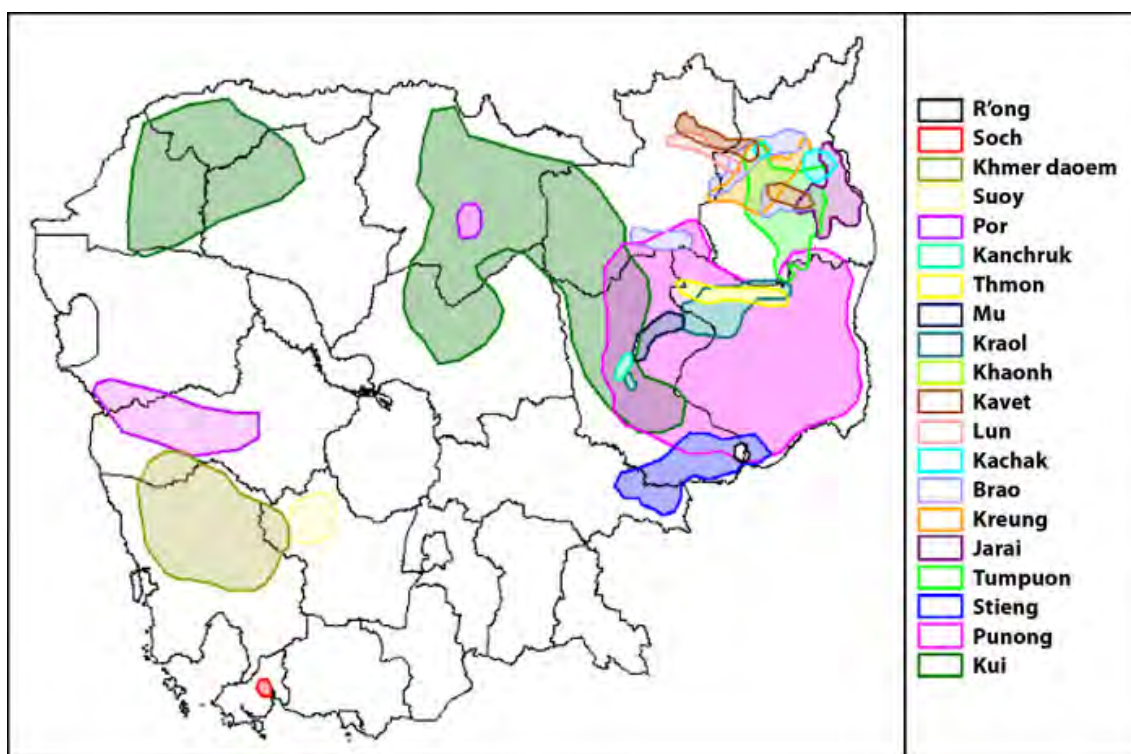
Limited studies have been conducted on the exact number of indigenous people living in Cambodia and the national census provides inaccurate estimates. In 2011, the number of indigenous people was approximately 200,000. They accounted for 1.2% of the Cambodian population at that time (IWGIA 2011). Despite its multi-ethnicity, Cambodia has the smallest ethnic minority population in Southeast Asia. The National Policy on the Development of Indigenous Peoples (NPDIP) of Cambodia indicates that there are 24 indigenous groups in 15 of its 23 provinces (IFAD 2012). These groups include indigenous minorities shown in Table 7.1.1.

**Table 7.1.1: Indigenous peoples and ethnic minority groups in Cambodia (NPDIP)**

Indigenous peoples and ethnic minority groups					
Broa	Kavet	Kreung	Mil	Ro'Ang	Spong
Chhong	Kel	Krol	Phnong	Sa'Ouch	Stieng
Jarai	Koang	La'Eun	Por	Sam Rei	Thmoun
Kachak	Kouy	Lun	Radei	Souy	Tompoun

Source: IFAD (2012)

Figure 7.1.2 is a geographical distribution map of indigenous peoples based on preliminary analysis of key informant interviews conducted by the NGO Forum of Cambodia. The groups included in the map are slightly different from those in Table 7.1.1. The groups of Kanchruk, Khaonh, Khmer daoem, and Mu are added while the groups of Chhong, Kel, Koang, Mil, Radei, Sam Rei, and Spong are not included.



Source: NGO Forum of Cambodia (2006)

**Figure 7.1.2 Geographical Distribution Map of Indigenous Peoples in Cambodia**

Indigenous peoples found in Cambodia are not limited to the country geographically. They belong to two distinct linguistic families: the Austronesian-speaking Jarai and the Mon-Khmer speaking Brao, Kreung, Tampuan, Punong, Stieng, Kui, and Poar (ICSO 2010).

Two-thirds of these groups are found in the Northeast of Cambodia, in the provinces of Ratanakiri and Mondulakiri (Comfrel 2012). The National Institute of Statistics (NIS) of the Ministry of Planning (MoP), in collaboration with the Ministry of Rural Development (MRD) and the Ministry of Interior (MoI), is responsible for compiling indigenous population statistics. The National Committee for Decentralisation and Deconcentration (NCDD) aggregates data for the indigenous population at the national level. Data is not available at the commune, district, and provincial levels.



The MRD, NSI, and Commune Database conducted a study to determine the provinces in which indigenous groups are currently residing. Table 7.1.2 shows the names of the indigenous peoples and ethnic minorities, and the provinces where they are found. Compared to the groups listed in Table 7.1.1, the groups of Kaol, Khnong, KreungSteang, Steang, Tumuon, Tumuon, and Radaer are added but the groups of Chhong, Kel, Koang, Radei, Ro'Ang, Sam Rei, and Spong are not included.

**Table 7.1.2: Indigenous peoples and ethnic minority groups in 15 provinces in Cambodia**

Province	Indigenous peoples and ethnic minority groups
Bantay Meanchey	Kui, Por, Saoch, Stieng
Battambang	Kui, Por, Saoch, Stieng
Kampong Cham	Kui, Por, Saoch, Stieng
Kampong Speu	Suoy
Kampong Thom	Kui
Koh Kong	Por
Kratie	Kraol, Khnong, Kui, Mil, Phnong, Steang, Thmoon
Mondulkiri	Jarai, Kaol, Kreung, Steang, Kui, Phnong, Steang, Thmoon, Tumuon
Oddar Meach Chay	Kui, Por, Saoch, Stieng
Preah Vihear	Kui
Pursat	Por
Ratanakiri	Brao, Jarai, Kachak, Kavet, Kreung, Lun, Phnong, Tumuon, Radaer
Seam Reap	Kui, Por, Saoch, Stieng
Sihanoukville	Saoch
Stung Treng	Jarai, Kreung, Kui, Phnong, Tumpuon

Source: IFAD (2012)

Forest related livelihood activities, such as the collection of non-timber products and weaving are the main sources of income for indigenous communities. As the forest is the main source of their livelihood, they preserve it as their ancestors did before them. This is also due to their strong and unified respect for customary law, practices, and religion that bring blessings of good health and high-yielding crops.

Table 7.1.3 shows the IFAD (2012) statistics obtained from MRD on the indigenous populations living in six main provinces. Since the regions are limited, the groups of indigenous peoples are

more detailed compared to Table 7.1.1. The groups of Knoung and Radaer are added and the groups of Chhong, Kel, Koang, Mil, Radei, Sam Rei, Spong, and Sa'Ouch are not included.

**Table 7.1.3: Distribution of Indigenous peoples in the six provinces of Kampong Speu, Kratiè, Mondulkiri, Preah Vihear, Ratanakiri and Stung Treng**

No.	Indigenous Groups	Ratankiri	Kratiè	Steung Treng	Mondulkiri	Kampong Speu	Preah Vihear	Total
1	Tumpoung	27,239	0	4	382	0	0	27,625
2	Kreung	17,683	0	278	598	0	0	18,559
3	Jarai	20,312	0	12	93	0	0	20,417
4	Brao/Brou	8,560	0	444	0	0	8	9,012
5	Kavet	2,620	0	2,710	0	0	0	5,330
6	Kachak	3,383	0	1	0	0	0	3,384
7	Lun	267	0	251	0	0	0	518
8	Phnong	270	8,306	430	23,964	0	39	33,009
9	Kraol/Kroy	0	2,389	0	597	0	0	2,986
10	Stieng	0	3,311	0	1,335	0	1	4,647
11	Thmun/Thmoon	0	669	0	147	0	0	816
12	Kuoy	0	5,216	1,644	2	0	4,536	11,398
13	Knoung	0	544	0	0	0	0	544
14	Roong	0	0	0	0	0	0	0
15	Radaer	3	0	0	0	0	0	3
16	Suoy	0	0	0	0	1,833	0	1,833
17	Pear	0	0	0	0	0	316	316
	Total	80,337	20,435	5,774	27,118	1,833	4,900	140,397

Source: IFAD (2012)

Research by the World Bank on poverty among indigenous peoples in Cambodia is also lacking. Data on poverty in the whole Cambodia exists and is found to have decreased from 47% in 1994 to 30% in 2007. In rural areas where the majority of the indigenous communities live, a third of the population still lives below the poverty line (IFAD 2011), which points to the possibility that a significant number of indigenous people are experiencing poverty. Their poverty is associated with land alienation, poor public services such as education and health, lack of access to information, lack of understanding of legal matters, and a lack of representation in decision-making, especially in the formulation and enforcement of policies and laws concerning

them. Representation comes in the form of NGOs who work to include the indigenous peoples in discussions relevant to them.

Although education in Cambodia has been improving due to the Education Sector Program (ESP), education in most rural areas remains poor. There is a lack of qualified teachers, low attendance of both students and teachers, and textbooks are not always available. The majority of schools in indigenous villages do not go past grade 2 or 3 (NGO Forum on Cambodia 2006).

The health of indigenous peoples is poorer than that of other Cambodians. A poor environment caused by degrading natural resources contributes to further worsening of the health and nutritional status of indigenous people. The poor environment and health are the cause of high mortality rates, malaria, tuberculosis, intestinal parasite infections, diarrhoeal diseases, and acute respiratory infections. Many children and women are anaemic, and the risk of cholera epidemics is high – the last outbreak having taken place in 1999 (NGO Forum on Cambodia). Adding to that, the potential for HIV/AIDS is high in these areas.

Among the ethnic minority groups, the Vietnamese in Cambodia are the most vulnerable and the most prone to discrimination and violations of their rights. Their status has much to do with the difficult history and relationship between Cambodia and Vietnam, which has helped create animosity and intolerance towards ethnic Vietnamese in Cambodia. Section 7.5.5 describes in detail the current issues they are facing.

## 7.2 Legal Framework

### 7.2.1 Domestic Laws

The Cambodian government has made reference to indigenous peoples (literal translation: ‘indigenous minority peoples’) in various laws and policies, but the concept of indigenous peoples is not so clear-cut. In Cambodia, there are no specific national laws focusing on the comprehensive rights of indigenous peoples and ethnic minority groups. However, some existing laws, regulations, and policies are relevant to the issue of community development as it pertains to indigenous peoples.

The Ethnic Minority Development in northeastern Cambodia is the policy related to indigenous peoples prior to 1998. The current official policy in use is the NPDIP of 2009, and it is in line with the 2001 Land Law as well as the 2002 Forest Law (IWGIA 2011). This policy

concentrates on 10 development sectors: culture, education and vocational training, health, environment, land, agriculture and water resources, infrastructure, justice, tourism and industry, and mines and energy. It aims to improve the livelihoods of indigenous peoples as well as their quality of life by, among others, the equitable distribution of natural resources and improving education. By the protection and maintenance of indigenous peoples' culture, traditions, and beliefs, indigenous people will be able to support the establishment of their communities and the management of their communal land.

The 1993 Cambodian Constitution stipulates that all citizens have the same rights 'regardless of race, colour, sex, language, and religious belief'. Additionally, the Universal Declaration of Human Rights recognises the 'inherent dignity and equal and inalienable rights of all members of the human family' (UN 2013).

Indigenous peoples are also included in some local laws and policies, such as the 2001 Cambodian Land Law, the 2009 Policy on Registration and Right to Use of Land of Indigenous Communities in Cambodia, the 2009 Sub-Decree on Procedures of Registration of Land of indigenous communities, and the 2002 Forestry Law. These laws provide the indigenous peoples with rights to communal land titling and protect their traditional use rights such as the practices of animal husbandry and shifting cultivation (IPNN-AIPP 2010). Also, the Forestry Law contains a provision for community forestry that aims to give indigenous communities the opportunity to obtain user and management rights to forests in 15-year intervals that can be renewed.

Other laws related to land rights and forestry that also mention and acknowledge the relevance of indigenous people in the issues are: Interim Paper on Strategy of Land Policy Framework (2001); Sub-Decree on Community Forestry (2003); Sub-Decree on Procedure, Establishment, Classification and Registration of Permanent Forest Estate (2005); Sub-Decree on State Land Management (2005); Prakas on Guideline for Community Forestry (2006); the Natural Protected Area Law (2008); Prakas on Guideline for Community Protected Area (2006); Law on Tourism (2009); Law on Commune/Sangkat (2002); Prakas on Identification and Mapping of State Land and State Land Classification (2006); National Policy on Indigenous Peoples' Development in Cambodia (2009); Sub-Decree on Procedure of Commune Land Use Planning Process (2009); and Implementation Manual on Commune Land Use Planning (2009).

The Land Law (2001) has direct significance as it sets out the basis for indigenous peoples' collective rights to land in Cambodia. The chapter starts by defining 'indigenous community' in

Article 23. Article 24 seeks to further define membership in an indigenous community. Article 25 provides for collective ownership to have ‘all the rights and protections of ownership as are enjoyed by private owners’; except the right to ‘dispose of any collective ownership that is State Public Property to any person or group’. Article 26 emphasises and recognises the role of traditional authorities, mechanisms, and customs in decision-making and exercising the ownership rights of immovable properties of the community. Since the application and titling procedures are rather lengthy and complicated, and in order to provide some protection during the period of awaiting and undertaking the titling process, an inter-ministerial circular on interim protective measures regarding the lands of indigenous communities who have applied for collective ownership titling was issued and became effective in 2011.

Aside from policies related to land rights, a number of government policies and strategies for development and planning are also in place, such as Rectangular Strategy, 10-year national programmes (under drafting by NCDD), and National Strategic Development Plan (NSDP) 2006–2010 (extended to 2013 to complement the Rectangular Strategy and laws relevant to land, forest, fishery, mining, etc.) (IWGIA 2011).

**Table 7.2.1: Domestic Laws of Cambodia**

Relevant laws and policies	Year
Laws	
Cambodian Land Law	2001
Forestry Law	2002
Law on Commune/Sangkat	2002
Sub-Decree on Community Forestry	2003
Sub-Decree on Procedure, Establishment, Classification and Registration of Permanent Forest Estate	2005
Sub-Decree on State Land Management, October	2005
Prakas on Guideline for Community Forestry	2006
Prakas on Guideline for Community Protected Area	2006
Prakas on Identification and Mapping of State Land and State Land Classification, March	2006
the Natural Protected Area Law	2008
Law on Tourism	2009
Sub-Decree on Procedures of Registration of Land of indigenous communities	2009
Sub-Decree on Procedure of Commune Land Use Planning Process	2009
Policies and plans	

Relevant laws and policies	Year
Interim Paper on Strategy of Land Policy Framework	2001
Rectangular Strategy	2004
Policy on Registration and Right to Use of Land of Indigenous Communities in Cambodia	2009
National Policy on Indigenous Peoples' Development in Cambodia	2009
Implementation Manual on Commune Land Use Planning	2009
National Strategic Development Plan (NSDP)	2009

Table 7.2.2 shows the summary of other relevant laws and regulations.

**Table 7.2.2: Summary of other relevant laws and regulations**

Laws and regulations	Summary
Sub-Decree on Community Forestry (CF) (2003)	The sub-decree defines the rules for the establishment, management, and the use of community forests. The sub-decree implements the Forestry Law (2002) and other laws concerned with community management of forests. It also states the rights and duties of the Forestry Administration and other actors (Community Forest Communities) involved in community forests. Regarding indigenous people, the document does not mention indigenous explicitly. Instead, the term used is Communities (Cambodian citizens can form CF communities). The decree aims to establish procedures enabling the communities to manage forest resources for their benefit, preserve their culture and traditions, and to improve their livelihoods. It also aims at safeguarding the rights of CF communities by a Community Forest Agreement.
Sub-Decree On Procedure Establishment Classification and Registration of Permanent Forest Estate	This sub-decree No.53 defines the procedure to establish, classify, and register permanent forest estates. It outlines which forests are eligible for being labeled as permanent forest areas, the Ministry of Agriculture, Forestry and Fisheries' obligation in mapping and communicating the extent of permanent forest reserve areas at the national level. The right to complain against the creation of permanent forest reserve areas is also stipulated (Article 4). The sub-decree mandates the establishment of a national committee to manage the process of creating permanent forest reserve areas. It also defines its structures and duties.
Prakas on Guideline for Community	The Prakas's purpose is to determine guidelines for the establishment, formulation, and function of the community forestry. It aims at outlining rules to form a Community Forestry, the rules and conditions for the election of a

Laws and regulations	Summary
Forestry (2006)	community forestry management committee as well as its main positions, required profiles of members and the structure of the committee, the procedures for developing by-laws and community forestry regulations, the procedures regulating the formulation of a Community Forest Agreement, and the community forest management plan as well as the roles of the Forestry Administration Cantonment in the relevant procedures.
Protected area law (2008)	<p>The law defines the processes for managing, conserving biodiversity, and the sustainable use of natural resources in protected areas. These duties fall under the jurisdiction of the Ministry of Environment (MoE) and are operated through the Nature Protection and Conservation Administration (NPCA). Article 4 explicitly mentions that the management of protected areas is to guarantee the rights of the local communities, indigenous communities, and the public to participate in decision-making processes. The law also defines the duties of the NPCA. Article 6, detailing the rights and duties of the officials of the NPCA explicitly states that officials have to coordinate with the local indigenous communities in the management of community-protected areas. It is important to note that article 6 also mentions that a Prakas by MoE will define the rights and duties of the officials in more detail. The law then details the procedures for establishing/modifying protected areas with an explicit mention that the proposal for establishing/modifying a protected area shall be informed by discussion with stakeholders. Article 11 is concerned with zoning issues. In Conservation Zones, local ethnic communities may be allowed access for the use of small-scale non-timber forest products as long as they do not threaten biodiversity inside the zone. This is not the case for Core Zones in which fragile ecosystems and threatened species exist. Sustainable Use Zones are defined as areas of high economic value for national economic development, and in which conservation activities improve the local and indigenous communities' livelihoods. The government, in accordance with a request by MoE, has the right to allow investment and development activities in the area after deliberations with the relevant authorities and concerned communities. In a Community Zone are defined as management areas the socio-economic development of the local and indigenous communities and ethnic minorities but can include residential, Chamkar, gardens, and paddy fields. Article 12 defines the criteria on which the zoning process is to be</p>

Laws and regulations	Summary
	<p>based. Of relevance to indigenous communities is the criterion mentioning the cultural implications of the area. Again, Article 13 defining the basis for changing the boundaries of zones, there is explicit mention of the necessity of information of the socio-economic and cultural aspects of the area being changed and/or threatened. Article 15 states that MoE is to develop a National Protected Area Strategic Management Plan (NPASMP). The NPASMP is to be reviewed in case of improved understanding of the socio-cultural resources of a certain area (other criteria can initiate a process of revision but I am only picking the ones relevant to local communities). Article 18 states that the NPCA an action plan per protected area in accordance with the NPASMP by consulting with local communities and indigenous ethnic minorities. Chapter 6 is titled ‘Involvement and Access Rights of Local Communities and Indigenous Ethnic Minority Communities’ and is solely concerned with that issue. Articles 21 to 28 state that the public, indigenous ethnic minorities, and local communities are encouraged to provide information relevant to the management of protected areas, that the State is to acknowledge and allow access to traditional uses of natural resources and customary practices of local and indigenous communities and ethnic minorities on a family scale in Sustainable and Conservations zones according to guidelines defined by Prakas issued by MoE, that the use of natural resources according to the articles of the Protected Area law shall be allowed in the sustainable use zones of areas designated as community protected areas, that Swidden agricultural practices are forbidden in core and conservation zones of protected areas, the procedures by which MoE can allocate parts of sustainable use zones as community protected areas and the guidelines regulating the establishment and revocation of the community protected area, the activities that local communities and indigenous ethnic minorities are prohibited from practicing in the community protected areas, the duty of the NPCA in conducting a feasibility on the establishment of community protected areas after consultation with the local communities and indigenous ethnic minorities and the need for the community in protected areas to develop a resources management plan to be approved by the NPCA. Article 31 on the education, dissemination, rehabilitation, improvement, and funding of the protected areas mentions that MoE shall rehabilitate degraded environments within protected</p>



Laws and regulations	Summary
	<p>areas in collaboration with NGOs, national and international organisations, local communities, and indigenous ethnic minorities. Other chapters and articles in the law detail the major prohibited activities, the need for environmental and social assessments, procedures and actions permitted to enforce laws and to resolve offences, penalties for the different grades of natural resource offences, and the final provision.</p> <p>The formal definition of indigenous people and local community given by the law is the following:</p> <p>Indigenous Ethnic Minority: Indigenous people living in mountainous areas, most of whom make their living by practicing shifting agriculture and other additional livelihoods, such as hunting, fishing, and collection of forest products/by-products.</p> <p>Local community: Refers to indigenous ethnic minority communities or a group of villagers who have original houses in one or more villages that are in or near State’s forest areas that have tradition, costume, belief, religion, culture, and living by depending on finding product, by-product, and use those forest resources as basic.</p>
Law on Tourism (2009)	<p>The law formulates rules and mechanisms for the governance and sustainable development of the tourism sector in Cambodia with the objectives of reducing poverty, conserving natural resources, cultures and customs, introducing a quality assurance system to increase tourists’ satisfaction, minimising negative impacts and maximising positive ones, developing the human resources for the tourism sector and the development of international friendship through the tourism sector. The law outlines what the Tourism Development Plan should contain and gives the ministry of tourism the duty for the preparation of the plan. Article 11 in the law states that the Ministry of Tourism shall have shared responsibility with other relevant authorities regarding the regulation of areas affected by or affecting the tourism industry. Areas of significance include the protection and presentation of natural and cultural heritage as well local tourism communities. The remainder body of the law contains chapters and articles classifying tourism businesses and other rights, regulations for tour guides and tourism licenses and the duties of the ministry of tourism in regulating the sector. The law does not specific references to ethnic minorities</p>

Laws and regulations	Summary
	but it requires in article 48 ‘Safeguard national interests and tourists’ interests and contribute to maintaining natural resources, not to pollute or destroy environment, protect and conserve cultural heritages, arts, customs, and traditions of the Khmer people in all of its tourism activities’. Article 50 has a similar obligation for tourists.

### 7.2.2 International Conventions

The Royal Government of Cambodia (RGC) is also a signatory to conventions, international treaties, and declarations that are directly concerned with the welfare of indigenous peoples. It ratified the International Covenant on Economic, Social, and Cultural Rights (ICESCR), which includes the rights to practice a specific culture and the rights to means of livelihoods. In 2007, it voted in favour of the nonbinding UN Declaration on the Right of Indigenous People and ratified the Convention on the Protection and Promotion of the Diversity of Cultural Expressions (MoEYS 2013). Although it has not ratified ILO’s Indigenous Tribal Peoples Convention (Convention 169), the ILO and the Indigenous and Tribal Peoples (ILO-ITP) have projects in three provinces with high populations of indigenous peoples (IFAD 2012).

Other conventions, international treaties, and declarations that also encompass the rights of indigenous peoples that Cambodia is a party to are: International Convention on the Elimination of All Forms of Racial Discrimination (1983), Convention concerning the Protection of the World Cultural and Natural Heritage (1991), Convention on the Elimination of All Forms of Discrimination against Women (1992), International Covenant on Civil and Political Rights (1992), Convention on the Rights of the Child (1992), Convention on Biological Diversity (1992), Convention on Wetlands of International Importance especially as Waterfowl Habitat (1999), Convention for the Safeguarding of the Intangible Cultural Heritage (2006), and Convention on the Protection of the Underwater Cultural Heritage (2007) (IFAD 2012).

## 7.3 Procedures and Relevant Organisations

### 7.3.1 National/Government Institutions and Procedures

The principal government agency with responsibility for policies and programmes towards ethnic minorities is the Inter-Ministerial Committee (IMC) for Highland People's Development, formed in 1994, at the same time that a Highland Peoples Programme (HPP) was established by UNDP. It is also the main body representing the government in coordinating with the institutions working in the northeastern provinces of Cambodia. Its secretariat has since been based at the MRD, which, with the cooperation of relevant ministries, developed the NPDIP.

In 2001, the government decided to create a new Department of Ethnic Minorities Development, also under MRD, to follow up the work of the IMC's recommendations and to plan the development of ethnic minorities. Its roles include the planning of programmes for ethnic minority development; improving the current draft policy for highland peoples' development; research on the identity, culture, and traditions of ethnic minorities; and training for development workers in cooperation with local and international development agencies active in highland areas.

Relating to the Land Law and the Forestry Law, it is the Ministry of Agriculture, Forest, and Fisheries (MAFF) that is responsible for coordinating with local communities and authorities to assist in registering land property and preparing the national land-use map.

In line with the Land Law (2001), the government, in 2008 and 2009, issued the supportive Policy and Sub-Decree for Indigenous Peoples' Registration of Collective Land Rights. A condition for receiving collective title is that the community registers as a legal entity – a process that is supported by the MoI. So far, only three pilot communities are registered as legal entities, and they are, in theory, ready for a collective title. However, they are still waiting for the Ministry of Land Management Urban Planning and Construction (MLMUPC) to take action. Civil society organisations prevailed on the RGC and donors to discuss a mechanism for 'interim protection measures', to ensure that the lands of indigenous communities are not lost to economic land concession (ELC) while they wait for their collective title. No such mechanism has been established yet.

Land disputes fall under the Cadastral Commissions (CC), where complaints are first submitted at the district/khan (DKCC) level, and, if remaining unsolved, they will keep going up to the higher levels: the provincial/municipal (PMCC) level and the national (NCC) level. If, at the

NCC level, there is still no conciliation, those in dispute may complain to the court for judicial review. The CC, however, are known to be ineffective in resolving high-profile land disputes. Due to the lack of independence of the courts, communities take their complaints directly to the prime minister (IPNN-AIPP 2010).

### 7.3.2 International Organisations and Nongovernmental Organisations

A NGO network called the Indigenous Peoples NGO Network (IPNN) works on indigenous land rights in Cambodia. It is composed of active NGOs working on the same issues. These NGOs include Cambodian Human Rights and Development Association (ADHOC), Ponlok Khmer (PKH), Community Economic Development (CED), Centre d'Etude et de Développement Agricole Cambodgien (CEDAC), Community Legal Education Center (CLEC), Highlander Association (HA), Henrich Boll Foundation (HBF), Indigenous Community Support Organization (ICSO), My Village (MVI), Non-Timber Forest Products-Exchange Programme (NTFP-EP), Non-Timber Forest Products Organization (NTFP), Organization to Promote Kui Culture (OPKC), Southeast Development Programme (SADP), Village Focus Cambodia (VFC), and Wildlife Conservation Society (WCS) (IFAD 2012).

**Table 7.3.1: NGOs in the IPNN in Cambodia**

NGOs
Cambodian Human Rights and Development Association (ADHOC)
Centre d'Etude et de Développement Agricole Cambodgien (CEDAC)
Community Economic Development (CED)
Community Legal Education Center (CLEC)
Henrich Boll Foundation (HBF)
Highlander Association (HA)
Indigenous Community Support Organization (ICSO)
My Village (MVI)
Non-Timber Forest Products Organization (NTFP)
Non-Timber Forest Products-Exchange Programme (NTFP-EP)
Organization to Promote Kui Culture (OPKC)
Ponlok Khmer (PKH)
Southeast Development Programme (SADP)
Village Focus Cambodia (VFC)
Wildlife Conservation Society (WCS)

Source: IFAD (2012)

Indigenous communities also have their own organisations. The Indigenous Peoples' Organizations Alliance (IPOA) was formed by four indigenous organisations. It seeks to promote and strengthen indigenous values related to ownership, self-determination, and representation. Its formation followed the establishment of an indigenous peoples' learning and coordination group by members of the IPNN.

The organisations making up the alliance include Indigenous Rights Active Members (IRAM). Formed in 2003, IRAM is a network of national indigenous people composed of indigenous leaders from around 15 provinces. IRAM coordinates local and national events, raises awareness, and mobilises indigenous peoples to advocate for their rights (IFAD 2012). Another network is the Highlander's Association (HA), the oldest indigenous organisation in Cambodia, which also works on organising the community, capacity building, and improving community livelihoods. The Organization to Promote Kui Culture (OPKC) works on community information, organisation, capacity building, advocacy support, and livelihood development of the Kui communities. Last but not least, the Cambodian Indigenous Youth Association (CIYA) uses the power of the indigenous youth to help their respective communities.

International organisations such as WWF and WCS support MAFF and MoE in conserving protected forests and areas, some of which are livelihood sources of indigenous peoples. They also push for the sustainability of the production of non-timber forest products by improving traditional techniques, equity in community livelihood, and community empowerment. This and other projects that are relevant to the development of the indigenous peoples are being done in provinces such as those in the northeastern part of Cambodia (IFAD 2012).

Organisations like Fauna and Flora International, Conservation International, and Bird Life International work on wildlife conservation and law enforcement in the provinces of Koh Kong, Kratie, Kamong Thom, Kampot, Mondulhiri, Preah Vihear, and Stung Treng, where indigenous peoples are found.

Other organisations working with indigenous communities are CARE Cambodia and Health Unlimited (HU), which are based in the northeastern provinces of Cambodia. CARE is one of the NGOs that work on indigenous languages. They have developed a bilingual education program for primary education in a community school model.

## 7.4 Affirmative Actions

There has been no clear affirmative action for indigenous peoples and ethnic minority groups in Cambodia. However, there have been measures that will benefit indigenous peoples and ethnic minority groups, which are provided not only by the government, but also by international organisations and NGOs.

Phase II of the Rectangular Strategy, a socioeconomic policy agenda drafted by the RGC, has stated that it will 'accord priority to the land conflict-free areas and areas inhabited by indigenous communities in order to reduce conflict, ensure security of land ownership, and eliminate illegal land holding. This strategy also promotes community farming and aims to reduce the problems caused by rampant illegal logging.

Cambodia is host to a large number of NGOs that work with indigenous peoples in Cambodia. They help with a wide range of activities such as defending and pushing for indigenous rights. They are also signatories to treaties on human rights and other treaties that mention the rights of indigenous peoples.

Institutions such as the specialised agencies of the United Nations also help promote dialogue among indigenous peoples, governments, and other stakeholders.

On the issue of land rights, NGOs provide support with indigenous communities' identifications, indigenous communities' legal entity registrations, and land titling, as these are very resource-intensive processes that indigenous peoples need help with. They provide education on the land registration process and provide legal representation in disputes (US Department of State 2012). They also call for moratorium on land sales and land concessions that affect the communities. ILO is one of the organisations supporting a project to incorporate indigenous communities as legal entities for collective title with MoI under DANIDA funding. As of 2011, the MoI had 20 indigenous communities registered as legal entities, and the MRD has recognised 43 indigenous communities (IWGIA 2011). Interim protection measures are also being discussed to ensure that the lands of indigenous peoples are not lost to ELCs while waiting for their titles.

## 7.5 Major Issues and Challenges in the Current System

The modern history of Cambodia has been marked by tumultuous events such as genocide, war, massive migration, and forced resettlement. Those events have contributed to the lack of available reliable demographic and ethnographic information.

### 7.5.1 Policy Issues

Indigenous peoples of Cambodia are, by law, considered to be citizens of Cambodia. Their situation, however, is different from that of normal citizens of Cambodia in both social and economic aspects. Although efforts were made to consider indigenous peoples in issues of land reform, a development plan for indigenous peoples was not outlined in the 2006-2010 NSDP. The NSDP states that there is a need to ‘continue to discuss and develop the required legal framework for effective implementation of the Land Law, including registration of indigenous peoples’ land rights’.

The NPDIP represents a step towards the development of indigenous peoples. The policy, however, needs resources, including financial and technical support. It also needs the support of the government, international organisations, indigenous leaders, and NGOs in its implementation.

Indigenous peoples are underrepresented in the local government as commune councils due to fundamental requirements, such as being able to read and write Khmer script. The RGC decided to let commune councils appoint village chiefs, which limits the autonomy of indigenous communities.

### 7.5.2 Land Rights

The issue of land rights is still a serious concern for indigenous communities. The assistance provided by NGOs in processes concerning land rights is not enough due to the slowness of the procedures. Despite these efforts, land alienation continues, and indigenous communities continue to lose their land through small-scale voluntary sales by community members or chiefs and land grabs. The government’s large-scale economic land concession (ELCs) which are being issued for mining, tourism, and hydropower projects can lead to involuntary resettlement. The Committee on the Elimination of All Forms of Racial Discrimination, a body of independent experts that monitors the implementation of the Convention on the Elimination of

All Forms of Racial Discrimination of the Office of the High Commissioner for Human Rights, have also raised concerns and recommendations regarding land concessions (IWGIA 2011). The Law on Expropriation passed in 2009 allows the RGC to confiscate the properties of Cambodian citizens if the government needs the land for the ‘benefit of the nation’.

It should also be noted that a sub-decree to the 2001 Land Law and the Sub-Decree on Registration of Indigenous Peoples’ Lands was not adopted until 2009, 8 years after it was passed. It is considered to be inconsistent with rights provided in the Land Law (IFAD 2012). Both the law and the sub-decree do not, in reality, include tenure over forest and water resources within traditional territories, and enforcement of the two is lacking.

Land alienation, as a result, has contributed to loss of jobs, impoverished livelihoods and health, loss of opportunity to attend school, and loss of traditional and cultural practices. The poverty of indigenous communities is also related to indigenous peoples’ lack of representation in decision-making and in formulating and enforcing policies and laws.

### 7.5.3 Livelihood

Indigenous peoples rely on the forest for their livelihood. Land rights, as well as impacts of logging, mining, and other large-scale developments affect them negatively (IFAD 2012). In losing their source of livelihood, they are forced to leave their traditional homes and move elsewhere. Moreover, these kinds of activities have negative impacts on the sustainability of the area where they are undertaken.

### 7.5.4 Voting Rights

Indigenous peoples are eligible to vote. Civil society organisations, such as the ICSO, promote the voting rights of the indigenous peoples of Cambodia. Registered voters of Cambodia are issued an Identification Certificate for Elections (ICE), which is an identification document that verifies the eligibility to vote, and a Voter Information Notice (VIN), which helps voters to find their polling stations and help in the identification process. A voter needs to bring their ICE and can vote even without their VIN. Alone, the VIN cannot be used to vote.

The total number of eligible indigenous voters, as well as voter turnout, is unknown. COMFREL (2012) conducted a rapid voter survey after Election Day. They found and interviewed 23 eligible indigenous voters; among them, 13 stayed away from the elections



because a lack of education contributed to difficulties during voter registration and updating of voter list. Out of the same 23 voters, 12 said that they did not find their names on the voters list and that they had not received an ICE nor VIN.

#### 7.5.5 Other Ethnic Groups

As mentioned in Section 1, among the ethnic minority groups in Cambodia, Vietnamese are the most vulnerable and the most prone to discrimination and violations of their rights. The current citizenship law of Cambodia makes it difficult for many of them to prove that they are citizens of Cambodia. This in turn severely limits their enjoyment of a variety of rights. Because they are not ethnically 'Khmer', the presumption of authorities continues to be that they are probably illegal immigrants. Unless they have identity papers demonstrating their Cambodian nationality, they risk losing their land or homes that they may have occupied for decades.

#### 7.6 Gap Analysis between the Existing Domestic Regulations, the JICA Guidelines for Environmental and Social Considerations, and the World Bank Safeguard Policy

A review of the legal framework and guidelines reveals that despite some common provisions between the existing domestic regulations, JICA's Guidelines for Environmental and Social Considerations, and the World Bank's Safeguard Policy, there are certain differences mainly at the level of the consideration, although they align themselves with the United Nations Declaration on the Rights of Indigenous Peoples.

In general, Cambodia is rather rich with laws and policies to protect land and natural resources and to provide for rights to local communities. These are, however, only to some extent related to international instruments and safeguard policies on indigenous peoples (such as JICA or WB's guidelines) as the legal instruments do not further stipulate the details of the considerations. For example, the Land Law clearly stipulates the characteristics of communities of indigenous peoples and their communal (collective) ownership rights over land. However, when it comes to environmental and social considerations in development projects, the legal instruments do not have requirements such as preparation of Indigenous Peoples Plan (IPP) / Indigenous Peoples Planning Framework (IPPF) or free, prior, and informed consultation. In fact, the government can grant land concessions without free, prior, and informed consultation or consent of the indigenous communities. Moreover, other subjects such as detail of social

assessment, information disclosure, grievance redress mechanism, and monitoring and evaluation do not clearly mention the consideration on indigenous peoples, whereas the WB policies do.

It should also be pointed out that despite the development of various national laws and regulations, the implementation of those laws and regulations in Cambodia can be more improved (IFAD 2012).

In order to bridge the gaps between domestic regulations and donors' guidelines, when carrying out a project that will affect indigenous peoples, the project proponent should follow its guideline, which provides detailed considerations to indigenous peoples. Subsequent losses resulting from the project will be assessed through social assessment focusing on indigenous peoples and compensated according to the requirements of the IPP/IPPF.

Chapter 8 provides further detailed gap analysis information between the governmental laws of Cambodia and other donors' guidelines, including case studies.

**Chapter 8**  
**Environmental and Social Considerations in**  
**Other Donors' Projects**



## 8 Environmental and Social Considerations in Other Donors' Projects

This chapter was prepared to provide an overview of other donor agencies' projects in Cambodia. The overview includes a review of the approach that some major donor agencies take when implementing projects in Cambodia and how they address potential gaps with local regulations.

Donor agencies' safeguard policies regarding Environmental Assessment, Land Acquisition and Involuntary Resettlement, and Indigenous Peoples were reviewed. Past projects were also studied to identify potential implementation barriers and how they were addressed. In addition, the monitoring and information disclosure process was analysed to provide a benchmark for these activities.

### 8.1 World Bank

#### **Current project situation of WB in Cambodia as of September 2013**

The World Bank (WB) has currently stopped providing loans to Cambodia due to a dispute over the forced evictions of thousands of people around the Boeung Kak Lake area in Phnom Penh. The Bank's last loan to Cambodia was disbursed in December 2010, and it will not resume lending until an agreement is reached with the residents there (BBC 2011). The WB continues to discuss with the RGC how to support the country's development to ensure that all Cambodians can participate in and benefit from their country's future (WB 2009).

#### **Case of Boeung-Kak Lake**

In 2009, Boeung Kak community representatives made a formal complaint to the WB alleging noncompliance with the WB's safeguard policies in forced evictions in the neighbourhood. The forced evictions were conducted by a property developer engaged in a building project in the area. The WB admitted that it had failed to secure land rights for the people there during a WB-financed land titling and administration project (WB 2009). While this project was established with the aim of improving land tenure security, reducing land conflicts, improving land registration and issuing land titles across the country, the WB's operational policies were not adequately enforced. Reuters estimates that 30,000 people are evicted from their land every year (Reuters 2011).

In 2010, after an inspection panel determined non-compliance with operational policies, the WB acknowledged that the implementation of the Land Management Administration Project (LMAP) was not completely compliant with its Involuntary Resettlement Safeguards and made a commitment to address the harms caused by the land titling and administration. However, the Royal Government of Cambodia (RGC) decided not to cooperate and said it 'no longer appreciated' loans from the WB, as the bank was 'not a proper help to Cambodia' in the cause of development (Reuters 2011).

### 8.1.1 Environmental Assessment

The WB conducts environmental screening of each proposed project in order to determine the appropriate extent and type of environmental assessment (EA). The WB classifies the proposed project into one of four categories, depending on the type, location, sensitivity, and scale of the project, and the nature and magnitude of its potential environmental impacts, as follows:

- Category A: A proposed project is classified as Category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. EA for a Category A project examines the project's potential negative and positive environmental impacts, compares them with those of feasible alternatives (including the 'without project' situation), and recommends any measures needed to prevent, minimise, mitigate, or compensate for adverse impacts and improve environmental performance. For a Category A project, the borrower is responsible for preparing a report, normally an Environmental Impact Assessment (EIA) (or a suitably comprehensive regional or sectorial EA) that includes, as necessary, elements of the other instruments referred to in paragraph 7 of Operational Policy (OP) 4.01.
- Category B: A Category B project has potential adverse environmental impacts on human populations or environmentally important areas—including wetlands, forests, grasslands, and other natural habitats—which are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases, mitigation measures can be designed more readily than for Category A projects. The scope of the EA for a Category B project may vary from project to project, but it is narrower than that of a Category A assessment. Like Category A, a Category B environmental assessment examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimise, mitigate, or compensate for adverse impacts and improve environmental performance. The findings and results of an

EA for a Category B project are described in the project documentation (WB 2013a).

- Category C: A Category C project is likely to have minimal or no adverse environmental impacts and therefore does not require further EA action beyond screening.
- Category FI: Category FI projects are those in which the World Bank provides funds to participating national banks, credit institutions and other financial intermediaries (FIs) for lending at the FIs' risk to final borrowers. In the case of such projects, the FI screens each subproject proposed for financing and classifies it into one of the three categories A, B, or C (WB 2013a).

For all Category A and B projects, the borrower provides relevant material in a timely manner prior to consultation and in a form and language that are understandable and accessible to the groups being consulted (OP 4.01, 14) (WB 2013a).

Additionally, in Cambodia, WB projects must comply with the 1996 Law on Environmental Protection and Natural Resource Management, which is the main framework law protecting the environment. Article 6 of the law states that an EIA of all proposed projects approved by the Ministry of Environment is required under procedures determined by the 1999 Sub-Decree on Environmental Impact Assessment Process. Additionally, Article 7 assigns to the MoE the responsibility for considering and making recommendations on the Initial Environmental Impact Assessment (IEIA) (corresponding to Initial Environmental Examination) or Environmental Impact Assessment (EIA)) also referred to as Full Environmental Impact Assessment, to relevant competent bodies within a period determined in the Law on Investment of the Kingdom of Cambodia. Articles 16, 17, and 18 require public participation and dissemination of information in the EA process and set out the procedures for this.

**Table 8.1.1: World Bank Projects in Cambodia**

Project Name (ID)	Date of Approval	Description
Provincial and Rural Infrastructure Project (P071207) Category A	11 Sep 2003	A five-year project implemented by the Ministry of Public Works and Transport (MPWT), responsible for secondary and provincial roads, and the Ministry of Rural Development (MRD), responsible for rural roads. The project was part of the country's efforts to improve its roads and carrying capacity, which have been severely damaged by the war. To comply with WB safeguard policies, an Environmental Assessment was prepared to identify any

Project Name (ID)	Date of Approval	Description
		potential environmental impact. The project was classified as Category A for environmental impact, as three important protected areas were located within the four provinces where new road infrastructure was planned. To reduce impact, emphasis was placed on road reconstruction rather than constructing new roads.
Provincial and Peri-Urban Water and Sanitation Project (P073311)  Category: B	22 Apr 2003	A project was implemented by the Department of Potable Water Supply (DPWS) of the Ministry of Industry, Mining and Energy (MIME), and the Phnom Penh Water Supply Authority (PPWSA). It aimed to provide a piped water supply to 19 service areas in provincial towns ranging from 350 to 3,850 families. From the Environmental Assessment carried out for the project, it was determined that any environmental impact of the project would likely be inconsequential and temporary and the project was classified as Category B for environmental impact.
Rural Electrification and Transmission Project (P064844, P071591)  Category :B	16 Dec 2003	A project jointly financed by the Kingdom of Cambodia, the International Development Association ( part of The World Bank Group), the Asian Development Bank (ADB), the Global Environment Facility (GEF) and other private funds with the main objective of eliminating barriers to renewable energy development in Cambodia, including those related to lack of a policy framework, financing, information, and institutional capacity. It was classified as Category B for Environmental Impact. To reduce environmental impact, an Environmental Management Plan was created to provide clearer guidance for the construction of mini- and micro-hydropower projects, biomass project development and solar power installation.

Source: WB (2013b)



### **Case example: Provincial and Rural Infrastructure Project (P071207)**

The objective of the project was to assist the Royal Government of Cambodia (RGC) to enhance the livelihood of people residing in the provinces of Kampong Thom, Oddar Meanchey, Preah Vihear, and Siem Reap through road rehabilitation and maintenance that could improve access to markets and essential services. The output of the project was a reduction in travel time and costs along the project roads.

The EIA of the project identified a number of negative environmental impacts, including pollution from construction works, traffic, dust, noise and other nuisances, potential erosion, and damage to small ponds and wetlands. It was considered that these impacts would be caused primarily by construction activities. Additional long-term negative impacts included an increase in traffic and travel speeds along the roads and the potential for damage to a national reserve due to the improved access through the road about seven kilometres of the northern boundary of Beng Per Wildlife Sanctuary.

Consistent with the WB's safeguard policy, mitigation measures for the identified impacts were included in the EIA. The following mitigation measures were required for this project:

- The contractor shall prepare a dust control programme
- Water shall be sprayed where dry materials are handled, crushed and transported
- Vehicles transporting materials will be covered to reduce spills and dust
- Extra care will be taken to prevent runoff from works sites entering water bodies by providing and maintaining sediment controls such as silt traps, rice-straw bales and plant cover within and around worksites
- Waste oil storage will be in drums raised off the ground, covered to keep rain out and surrounded by a bund to contain any spills and simplify clean-up
- Vehicles and equipment will be maintained to meet Cambodian emission and noise standards
- Provide seminars on environmental management to contractors and engineers to ensure that they understand their environmental management responsibilities
- Construction within one hundred metres of a village or town will be limited to daylight hours
- The contractor shall prepare a Spill Contingency Plan (including measures to be taken and equipment to be used) to ensure adequate clean-up of any spills.

To enhance the local environment, the project also included requirements and funding for tree planting along the completed road corridors (WB 2003a).

### **Case example: Provincial and Peri-Urban Water and Sanitation Project (P073311)**

The objective of the project, approved in 2003, was to improve water supply and sanitation in provincial towns and district towns, as well as low income communities in urban centres through financial support of new water supply systems, including water treatment facilities. By the completion of the project in 2012, approximately 26,670 households, or about 133,350 people, gained access to safe water supply.

During the design phase of the project, an EA report was prepared to ensure that all potential impacts could be identified. The report was prepared with the objective of identifying all potential environmental impacts associated with the project type and tried to resolve all significant environmental impacts within the scope of the EA report (WB 2003b) The methodology followed was compliant with the following WB safeguards and the RCG regulations:

Royal Government of Cambodia:

- Sub-decree on Water Pollution (1999, No.27 ANRK.BK)
- Sub-degree on Environmental Impact Assessment process (2001, No.72 ANRK BK)
- Guideline for conducting Environmental Impact Assessment (EIA) report (Ministry of Environment)

The World Bank:

- World Bank guidelines on Environmental Assessment (OP and BP 4.01),
- World Bank Guidelines on Involuntary Resettlement (OP and BP 4.12)

The WB provided consultants and engineers with an operation manual to provide guidelines on the preparation the EA reports and the procedures required to obtain required operating permits. The project was classified as Category B for environmental impact and an environmental management plan (EMP) was prepared to monitor the impacts of the project and determine mitigation measures of potential impacts. The mitigation measures considered for this project include:

- Replanting of areas affected by the project.
- Utilisation of proper land protection and drainage channels to minimise soil erosion.
- Construct on-site soak ways for wastewater to avoid public health problems due to the increase of wastewater after operation starts.

The implementation of the project suffered several delays but the project was rated as moderately satisfactory by the WB as the threshold of providing safe water to more than 100,000 people was met (WB 2002b).

### **Case Study: Rural Electrification and Transmission Project (P064844, P071591)**

The Rural Electrification and Transmission Project (RETP) was jointly financed by the RGC, the WB, the Asian Development Bank (ADB), and the Global Environment Facility (GEF) as well as other private funds. The funds were used for the preparation of the Feasibility Studies (FS), Detailed Engineering Designs (DED), and Bidding Documents (BD), while the funds for actual implementation of the project should be provided by the Rural Electrification Fund (REF), which was established by the RGC to provide grants to lower the capital costs of electricity services projects. Through the project, it is expected that RETP sub-project will receive guidance on how to comply with the RGC's relevant environmental and social regulations as well as the WB's Safeguards policies. Sub-projects will focus on the following types of renewable energy: mini and micro hydropower, biomass plants and solar housing systems. Assumptions for each category were considered for the RETP to ensure that the potential issues that might be faced in each type of sub project are addressed as the negative environmental and social impacts expected from biomass and solar installations are lower than that of hydropower sub-projects (WB 2010).

The mitigation activities considered by the project and included in the EMP (WB 2010) are:

- Limit construction activities during day time hours to minimise noise impact. If night construction is needed, local people must be informed beforehand.
- Water sprinkle site during hot, dry and/or windy weather and build up physical barriers around the construction site to avoid dust.
- Avoid tree cutting, if deemed necessary, local people should be informed about the eligibility of receiving compensation. The compensation rate should be determined on full consultation basis.
- Minimise crop disturbance by installing poles that allow access to farming in and around the poles.
- Ensure dirty oils from diesel generators are not disposed in the village.

The WB rated this project as moderately satisfactory as it considered that Cambodia's energy sector was improved due to the support that the project provided through system planning, and guidance on how to enhance and achieve reliable power supply (WB 2012).

### 8.1.2 Land Acquisition and Involuntary Resettlement

The World Bank's Operational Policy 4.12: Involuntary Resettlement prescribes the conditions in which involuntary resettlement should be conducted. It establishes that involuntary resettlement should be avoided where feasible, or minimised, exploring all viable alternative project designs. In cases where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient resources to enable the persons displaced by the project to share in project benefits. To warrant that all potential impacts of the resettlement are addressed and mitigation measures are defined, The WB Operational Policy 4.12 requires a resettlement plan (RP) that includes all the necessary measures to ensure that the displaced persons are

- informed about their options and rights pertaining to resettlement;
- consulted and provided with technically and economically feasible resettlement alternatives; and
- provided prompt and effective compensation at full replacement cost for losses of assets attributable directly to the project (WB 2013a).

The WB also emphasises the importance of conducting regular monitoring by an external monitoring agent to confirm:

- the results of internal monitoring;
- that the compensation process has been accomplished adhering to procedures communicated to project-affected families and indigenous peoples during consultation;
- whether the resettlement entitlements were suitable to the objectives, whether the objectives were suited to the project-affected families, and if the livelihood and standard of living were restored or enhanced;
- that the affected enterprises received enough assistance to re-establish themselves; and
- if vulnerable groups were provided with effective and sustainable income earning opportunities to help restore pre-project income levels (WB 2013a).

Resettlement planning includes early screening, scoping of key issues, choosing a resettlement instrument, and obtaining the information required to prepare the resettlement component or subcomponent. The scope and level of detail of the resettlement instruments vary with the magnitude and complexity of resettlement. In preparing the resettlement component, the borrower draws on appropriate social, technical, and legal expertise and on relevant community-based organisations and non-governmental organisations (NGOs). While some provisions for resettlement are included in Cambodia's Land Law, Cambodia currently does not have a comprehensive involuntary resettlement policy.

During the period between 1975 and 1979, private land ownership was abolished in Cambodia and all existing land records were destroyed. While the current law recognises private ownership of land, the process of land registration is complex, as most ownership documentation was destroyed. This situation has often led to land evictions even in projects receiving loans from international agencies where RPs were formulated.

The World Bank started getting involved in the land sector in 2002 after the promulgation of the Land Law (2001), with the LMAP, which sponsored mapping and land registration. The Land Law, which recognised ownership exclusively on the basis of formal registration with a centralised cadastral agency, was the source of numerous evictions. Due to these evictions, and specifically the controversy caused by its involvement with LMAP, the WB decided in 2011 to stop providing any loans to Cambodia. The LMAP consisted of assisting Cambodia to create the framework to improve land tenure. The objectives were not fully met.

**Table 8.1.2: World Bank Projects in Cambodia with Resettlement Plans**

Project name (ID)	Approval Date	Description
Provincial and Rural Infrastructure Project (P071207)	11 Sep 2003	A five-year project implemented by the MPWT, responsible for secondary and provincial roads, and the MRD, responsible for rural roads, as part of the country's efforts to improve its roads and carrying capacity, which had been severely damaged by the war. To comply with the WB policies, a RP was prepared to identify potential people affected by the project. To reduce impact, emphasis was placed on road reconstruction rather than constructing new roads.
Rural Investment and Local Governance Project (P071146)	22 Apr 2003	A project aiming to contribute to rural development and poverty reduction through supporting the provision of priority public goods and services at the commune level, as well as promoting good local governance through support of decentralised participatory local governance systems at the commune and provincial levels. During the initial financing part of the project, some concern was expressed regarding land acquisition and involuntary resettlement. To tackle this concern, three regional safeguard advisors were recruited to improve review and clearance procedures, and an NGO was engaged to pilot a campaign for improving land awareness issues.

Project name (ID)	Approval Date	Description
Provincial and Peri-Urban Water and Sanitation Project (P073311)	22 Apr 2003	A project implemented by the Department of Potable Water Supply (DPWS) of the Ministry of Industry, Mining and Energy (MIME), and the Phnom Penh Water Supply Authority (PPWSA). It aimed to provide a piped water supply to 19 service areas in provincial towns ranging from 350 to 3,850 families. Land acquisition for this project was minimal, because the land chosen was readily available for infrastructure development. The land that had to be acquired was done through private-to-public contribution (gift), public-to-public transfer (school land given over to water infrastructure), or commune chief transfer to provincial level MIME.

Source: WB (2013b)

#### **Case Study: Provincial and Rural Infrastructure Project (P071207)**

The Provincial and Rural Infrastructure Project, approved in 2003 and completed in 2011, had the objective of rehabilitating and upgrading rural roads that connect village roads and tracks to the national road network and improve rural accessibility to markets and essential services in the provinces of Siem Reap, Oddar Mancheay, Kampong Thom, and Preah Vihear. While considered to be minimal, the possibility of requiring acquisition of land or involuntary resettlement to complete the rehabilitation of some road was considered. As the subject land acquisition and resettlement could result in loss of private assets, including loss of incomes or place of residence. To minimise these impacts, the project emphasised the importance of road rehabilitation over construction of new roads (WB 2003a).

Additionally, in compliance with World Bank Safeguard Policies, a Resettlement Policy Framework (RPF) was prepared to address all potential adverse social impacts caused by the involuntary acquisition of assets and changes in land use. The RPF included provisions for compensation and rehabilitation assistance depending on the type of land (arable, commercial, residential, etc.) and the severity of the impact.

Local authorities involved in the project, were responsible for public consultation and public information dissemination throughout project planning, design, and implementation stages.

The relevant details of the project included during the public consultations were;

- The RP and degrees of project impact;
- Details of entitlements under the RP and what is required in order to claim their entitlements;
- Compensation process and compensation rates;
- Relocation and resettlement site development operation in order to obtain agreement and support of affected people in participating in these operations;
- Implementation schedule with a timetable for the delivery of entitlements; and
- Information concerning grievance procedures and how to use them.

After completion, the project was rated as moderately unsatisfactory mainly due to risk underestimation, the overly complex design, and implementation arrangements. Also employment generation benefits were limited as the employment generated was only during the construction period, and the numbers were relatively small.

**Case study: Rural Investment and Local Governance Project (P071146)**

Through this project, enhanced rural development and poverty reduction were expected through the provision of priority public goods and services at the commune level. The project also aimed to promote good local governance at the commune and provincial levels.

The project involved more than 1,000 communes in 15 provinces. Commune-level decision-making processes were to determine local priorities for investment, selected from priority lists resulting from village-level participatory processes. According to the Involuntary Resettlement Framework for this project, and in compliance with the WB safeguard policies, if the project was likely to affect fewer than 200 persons, and if the potential impacts were relatively insignificant (i.e., no one must move to a new residence, and no one must resort to different income-generating activities as a result of the project), then only a relatively brief plan had to be prepared. If more than 200 persons were likely to be adversely affected, or if potential impacts were significant, a full RP had to be prepared.

Additionally, to avoid involuntary resettlement in cases involving only small amounts of land in private use or ownership, and provided that the amount of land required from any individual does not exceed 5% of that individual's holding, the most effective means to avoid involuntary acquisition of land is reliance on local participatory processes. The Commune Council, acting in cooperation with the village representatives to the Commune Planning and Budgeting Committee (CPBC), may assess the willingness of individual owners or users to voluntarily contribute land. The results of such assessments must be publicly disclosed and validated by a

public meeting of villagers.

The following provisions were indicated in the Involuntary Resettlement Framework for this project:

- Loss of agricultural land: Any persons losing a significant proportion (i.e., more than 5%) of their agricultural land must be given an option to receive in-kind replacement, allowing them to obtain access to land of equal productive value. Such persons may also be offered optional cash compensation at full replacement cost. Those whose land holdings are not significantly affected can be compensated at full replacement cost.
- Loss of productive assets: Affected persons losing land upon which seasonal crops are standing must be compensated at the market value of the crop. Those losing perennial fruit or pulp trees should be compensated in cash at net present value.
- Temporary loss of land: Any persons temporarily losing access to land must be compensated for losses, and land must be restored following temporary use. Contractors should be informed before bidding in any case where use of private land or damage to private property, including crops, is likely to be necessary, so that compensation or restoration costs can be included in the bid price.
- Loss of structures: Project selection and design processes should emphasise avoidance of demolition or relocation of residential or business structures. If demolition is deemed necessary, compensation must be paid to the owner at replacement cost, and transitional assistance may be necessary to help residents or business owners obtain replacement premises.
- Loss of other assets: Where fixed assets other than land or structures (such as wells or fencing) will be lost, compensation must be paid to the owner at replacement cost.

(WB 2002a)

#### **Case Study: Provincial and Peri-Urban Water and Sanitation Project (P073311)**

The Provincial and Peri-Urban Water and Sanitation Project was implemented by the Department of Potable Water Supply (DPWS) of the Ministry of Industry, Mining and Energy (MIME), and the Phnom Penh Water Supply Authority (PPWSA). The project was approved in 2003. Land acquisition was considered minimal, because the land chosen was readily available for infrastructure development but an Operation Manual for Involuntary Resettlement and Land Acquisition Policy Framework was prepared for the project. The Operation Manual used the provisions of the Land Law of 2001 as the baseline regarding land acquisition. Regarding involuntary resettlement, the Land Law of 2001 does not have provisions for involuntary resettlement therefore involuntary resettlement provisions from the World Bank's Policy OP



4.12 were used. The Operation Manual determines that for this project, in case of a difference in policies between the World Bank and the RGC, the provisions of WB OP 4.12 shall prevail (WB 2002b).

As with all projects where there are potential affected people, the WB requires that project proponents conduct public consultations and ensure public participation. For public consultations, community meetings were conducted to present the design of the sub-project, describe the localisation, size, and other requirements of the water supply and sanitation structures that were going to be constructed, expanded, and/or demolished, and the water sources that need to be protected. Supervision and Monitoring was also considered in the Resettlement Action Plan (RAP). As part of the monitoring activities a monthly report that included information on payment of compensation and other entitlements to the people affected by the project had to be submitted to the Ministry of Industries, Mineral and Energy, and to Phnom Penh Water Supply Authority. In the project completion report, the WB reported that the resettlement activities as a result of this project were limited and implemented appropriately. All necessary public consultations were carried out and land transfers were officially documented (WB 2012).

### 8.1.3 Indigenous Peoples

The World Bank's Safeguard Policy OP 4.10 is the WB's safeguard policy that provides for indigenous peoples. It requires that borrowers and the Bank staff identify indigenous peoples that might be affected by a project and ensure that consultation is conducted and promote their participation in a culturally appropriate way as well to avoid any adverse impacts, or where not feasible, minimised or mitigated. OP 4.10 requires the followings:

- Screening by the Bank to identify whether indigenous peoples are present, or have a collective attachment to the project area;
- Social assessment by the borrower. The assessment should include baseline information on the demographic, social, cultural, and political characteristics of the affected indigenous peoples' communities;
- Free, prior, and informed consultation with the affected indigenous peoples' communities at each stage of the project, and particularly during project preparation, to fully identify their views and ascertain their broad community support for the project;
- Preparation of an Indigenous Peoples Plan or an Indigenous Peoples Planning Framework; and
- Disclosure of the draft Indigenous Peoples Plan or draft Indigenous Peoples Planning

## Framework.

The World Bank assumes responsibility for disclosing information to the public in accordance with the World Bank Policy on Disclosure of Information, while the borrower should make information available to the affected indigenous peoples' communities in a culturally appropriate form, manner, and language.

The RGC does not maintain official statistics regarding its ethnic minorities, and available estimates of ethnic demographics and geographic distribution are scarce and contradictory. As mentioned in Chapter 7, in 2011 there were believed to be around 200,000 indigenous people in Cambodia, or 1.2% of the Cambodian population at that time. Cambodia's National Policy on the Development of Indigenous Peoples (NPDIP) indicates that there are 24 separate indigenous groups in the country. The Cambodian Constitution stipulates that all citizens have the same rights 'regardless of race, colour, sex, language, and religious belief'. At present there is no comprehensive legislation or regulation relating specifically to the protection of the rights or interests of indigenous peoples and ethnic minority groups in Cambodia.

Although their numbers are relatively small in proportion to the national population, the Highland Peoples are estimated to represent a majority of the population of the northeastern provinces of Ratanakiri and Mondulakiri. They make up much smaller proportions in other provinces. These groups, among them the Tampuan, Kuy, Jarai, Phnong, Kreung, Kvaet, Brou, Stieng and Lun, are estimated to total about 120,000 people, or about 1% of the national population.

The 2001 Land Law grants collective land ownership rights to indigenous communities. However, many indigenous peoples have been displaced due to large-scale processes of land expropriation and natural resources exploitation throughout Ratanakiri province.

**Table 8.1.3: World Bank Projects in Cambodia with Indigenous Peoples Plans**

Project Name (ID)	Approval Date	Description
Provincial and Rural Infrastructure Project (P071207)	11 Sep 2013	A five-year project implemented by MPWT, responsible for secondary and provincial roads, and the MRD, responsible for rural roads, as part of the country's efforts to improve its roads and carrying capacity, which had been severely damaged by the war. The initial social assessment determined that Highland

Project Name (ID)	Approval Date	Description
		Peoples were potentially vulnerable to being disadvantaged in the development process; therefore, an Indigenous Peoples Plan was prepared to safeguard their interests.
Rural Investment and Local Governance Project (P071146)	22 Apr 2003	A project aiming to contribute to rural development and poverty reduction through supporting the provision of priority public goods and services at the commune level, as well as promoting good local governance through support of decentralised participatory local governance systems at the commune and provincial levels. During the initial financing part of the project, some concern was expressed regarding land acquisition and resettlement, which has been problematic in Cambodia. To tackle this concern, three regional safeguard advisors were recruited to improve review and clearance procedures, and an NGO was engaged to pilot a campaign for improving land awareness issues. Indigenous peoples were provided direct representation in commune-level development planning through the Commune Planning and Budgeting Committee.
Land Allocation for Social and Economic Development (P084787)	20 May 2008	A project proposed to improve the process for identification and use of state lands to be transferred to eligible, poor, and formerly landless or land-poor recipients. The recipients were selected through a transparent and well-targeted process as indicated by the adoption rates of improved land management and agricultural production systems in Social Land Concession (SLC) sub-projects; the proportion of land recipients who met poverty criteria and were landless or land-poor prior to project interventions; and the effective implementation of dispute resolution procedures under the project, related to challenges to the land recipient selection process. Under the land allocation component, the LASED project would offer landless and land-poor families an opportunity to resettle in a SLC area, but all such settlement would be fully voluntary. Families participating in an SLC program would apply for agricultural land and/or residential land.

Source: WB (2013b)

### **Case Study: Provincial and Rural Infrastructure Project (P071207)**

According to the Highland Peoples Development Plan prepared for the Provincial and Rural Infrastructure Project, Highland Peoples generally make use of traditional leadership and institutional arrangements to resolve conflicts arising within the village. The plan views these arrangements as the most appropriate way to resolve project-related conflicts. If traditional mediation fails, disputes relating to sub-projects will be addressed by the Commune Council prior to sub-project approval. Disputes arising in the course of implementation of the Indigenous People Development Plan will be addressed by the village chief/elders for submission to project authorities and other relevant authorities (WB 2003a).

### **Case Study: Rural Investment and Local Governance Project (P071146)**

The Rural Investment and Local Governance Project was part of the Seila program of the RGC that aims at promoting governmental decentralisation and increased local participation. The original Seila objectives and procedures did not explicitly consider program impacts on the Highland Peoples living in the region. However, the WB required compliance with the Operational Directive 4.20 as a prerequisite for support. Therefore, an Indigenous People's Development Program was prepared to protect the interests of Highland Peoples or any ethnic minority that may face disadvantages in the development process (WB 2003a).

The special provisions added to the Seila program as reported in the Highland People's Development Plan (WB 2003a) were:

- Information dissemination and public consultation in Highland Peoples villages should be conducted in the language most accessible to villagers.
- Establish a Commune Council to ensure that Highland Peoples are represented on the advisory committee, either as nominated and appointed village representatives or as members selected by the commune chief regardless of their fluency in Khmer language.
- Develop long term development objectives consistent with Highland Peoples wishes and refrain from funding any activities that affect Highland Peoples without their consent, which should be provided at a facilitated village meeting.
- Ensure that the priority needs identified by Highland Peoples villages are included in the annual commune development plans. If these priority needs are not included, the Commune Council will have the authority to utilise a three-year financing plan within the project's broader five-year planning horizon to establish when and to what extent these priorities should be addressed.

### **Case Study: Land Allocation for Social and Economic Development (P084787)**

Under the Land Allocation for Social and Economic Development project (LASED), and for the purpose of the WB's OP 4.10, only ethnic minority groups belonging to the 'Khmer Loeu' or 'hill tribes' are considered indigenous people. Since LASED comprises multiple commune level sub-projects that are not identified by appraisal, an Indigenous Peoples Planning Framework (IPPF) was applied to the preparation of sub-projects. The IPPF takes into account both the legal provisions pertaining to land and indigenous communities, and the participatory commune-level planning process for SLCs under LASED. In addition, the provisions of Land Law, states in its article 25 and 26 that define indigenous land as the land where indigenous communities have established their residencies and where they carry out their traditional agriculture, including reserves necessary for the shifting cultivation which is required by the agricultural methods they currently practice and that ownership of these properties is granted by the State to indigenous communities as collective property (WB 2007).

In view of the basic difference between an approach for individual titling for small land grants to landless or land-poor households within SLCs, and an approach required for provision of collective title to indigenous peoples' lands, the LASED will:

- Not finance establishment of SLCs in areas predominantly inhabited by indigenous peoples.
- Avoid including lands in SLCs that are predominantly used by indigenous communities.

Notwithstanding the above, the SLC planning approach as described in the LASED Implementation Manual and in the Resettlement Policy Framework includes the following principles:

- In communes where SLCs are established, and which include indigenous minority hamlets or settlements, households will be entitled to apply for plots within the SLCs on a voluntary basis along with other commune members.
- To ensure that indigenous land use is taken into account in SLC planning, and that indigenous households have equitable opportunities to become TLRs, information dissemination on the LASED principles for SLCs will target villages (i.e., elected village chiefs) in addition to Commune Council members. If indigenous groups are living in the commune, land use mapping and planning will likewise involve indigenous representatives in addition to Commune Council members.
- The baseline data on the social profile of commune members and on illegal land users in SLC areas, as well as the monitoring data on SLC land use planning, SLC beneficiaries, and management of land acquisition impacts, will provide disaggregated information on

indigenous peoples.

#### 8.1.4 Monitoring

The WB has developed a monitoring and evaluation system for use during project implementation as well as after completion of the project. The WB task team will initially conduct a mid-term monitoring review. During the course of the review, the team's environmental and social considerations specialist will periodically (at least twice a year) visit the field to monitor.

The team verifies compliance with the conditions agreed upon between the WB and the borrower, and the monitoring results obtained by the borrowers. The World Bank also stipulates that during project implementation, the borrower must report on:

- compliance with measures agreed upon with the WB on the basis of the findings and results of the EA, including implementation of any EMP, as set out in the project documents;
- the status of mitigatory measures; and
- the findings of monitoring programs.

The World Bank bases supervision of the project's environmental aspects on the findings and recommendations of the EA, including measures set out in the legal agreements, any EMP and other project documents.

According to an EIA study conducted by the WB, EMPs must include the activities to be monitored (parameters and indicators) during three separate project phases: pre-construction, construction and operation. Monitoring provides reliable information and a scientific basis for environmental management by investigating environmental quality prior to the project's commencement and keeping records of the project's impact on environmental quality during construction and operation (WB 2013a).

There are currently no particular regulations specifying monitoring for involuntary resettlement in Cambodia, although WB operational policies require the borrower to prepare and disclose monitoring reports. Therefore, the WB conducts monitoring activities based on its own safeguard policy.

For example, for the Rural Electrification and Transmission Project (P064844 and P071591), the WB established in its safeguards that the implementation of the RAP should be regularly

supervised and monitored by the company in charge of the Electricite du Cambodge (EDC) project through its project management offices.

The overall supervision and internal monitoring of resettlement implementation will initially be carried out by the Design and Construction Contractor, and later by the Project Implementation Consultant. The responsibility for day-to-day supervision of the RAP falls on the Environmental Coordinator (RAPEC), who will report to contractors. The RAPEC works day-to-day in close conjunction with a 'resettlement group' comprising the project manager's office, local authorities and the Inter-ministerial Resettlement Committee. Both internal and external monitoring are conducted according to the following monitoring indicators:

- The Affected Person's (AP) entitlements must be in accordance with approved policy, and the assessment of compensation must be carried out in accordance with agreed procedures.
- Payment of compensation to APs depending on category should be carried out according to the level of compensation described in the RAP.
- Public information and public consultation and grievance procedures must be followed as described in the RAP.
- Relocation and payment of subsistence and shifting allowances must be made in a timely manner.
- Public facilities and infrastructure affected by the project must be restored.
- Job creation must be carried out when feasible (according to the number of persons who need job provision and the number who have found jobs).
- Linkage of satisfactory completion of compensation and resettlement and clearance of all encumbrances and commencement of civil works.
- All monitoring data shall be disaggregated by gender.

#### 8.1.5 Information Disclosure

The WB's safeguard policies state that, for meaningful consultations between the borrower, project-affected groups and local NGOs in all Category A and B projects, the borrower should provide relevant material in a timely manner prior to the consultation and in a form and language understandable and accessible to the groups being consulted.

For a Category A project, the borrower must provide a summary of the proposed project's objectives, description, and potential impacts ahead of the initial consultation. In addition, for a Category A project, the borrower must make the draft EA report available in a public place

accessible to project-affected groups and local NGOs. Any separate Category B report for a project proposed for IDA financing must be made available to project-affected groups and local NGOs (WB 2013a).

The 2001 Land Law and the 2007 Civil Code do not make any provision for the preparation of a RAP for persons affected by involuntary resettlement or land acquisition. This contrasts with the WB safeguard policies, which explicitly requires information disclosure to affected persons. Additionally, neither the Land Law nor the Civil Code makes a provision for disclosure of IPP when indigenous peoples are affected by a project. When these provisions are missing from national law, the WB safeguards become the only framework for information disclosure. Moreover, the WB also requires that all project information be disclosed to Indigenous Peoples in a language that they understand and in a culturally appropriate form.

Regarding information disclosure, both the RGC and the WB emphasise the importance of public participation to ensure a transparent project implementation process and achieving social acceptability for the project. For example, in the Provincial and Peri-Urban Water and Sanitation Project (P073311), participation of the local authorities and population was secured through regular community consultations during the entire process. The consultation process was conducted in two phases. The first phase involved consultations with local governments and the second one directly with the prospective users of the water supply as well as affected people from the project. The areas for consultation and negotiations were focused on the following:

1. Technical options for the water supply system, including environmental and social implications, the project investment cost;
2. Cost recovery options and water tariff structure;
3. Operation and management scheme for the system; and
4. Project implementation arrangement (Design/Build/Lease) of the water utility.

For this project, WB decided to set an approval rate of 51% by the heads of households' approval as the minimum threshold before being able to proceed to full preliminary design for each town (WB 2002b).



## 8.2 Asian Development Bank

### 8.2.1 Environmental Assessment

The Asian Development Bank (ADB) Environmental Guidelines updated the Safeguard Policy Statement in 2009 in order to

- incorporate the increasing expectations of environmental assessment that reflect the growing environmental concerns around the globe;
- have a more transparent procedure for determining the environmental category;
- formalize approaches for the ADB's lending activities to financial intermediaries;
- refine approaches to sector lending where the subprojects and specific locations may not be known in advance; and
- strengthen requirements for environmental management plans.

In accordance with the project's assessed potential environmental impacts, a project is categorised into one of four groups:

- Category A: A Category A project is likely to have significant adverse environmental impacts and requires an environmental impact assessment (EIA).
- Category B: A Category B project includes potentially adverse environmental impacts that are less than those of Category A. An initial environmental examination (IEE) is required to determine whether or not significant environmental impacts warranting an EIA are likely. If an EIA is not needed, the IEE is regarded as the final environmental assessment report (ADB 2003).
- Category C: A Category C project does not require an EIA or an IEE, although environmental implications are still reviewed.
- Category FI: Projects are classified as Category FI if they involve a credit line through a financial intermediary or an equity investment in a financial intermediary.

**Table 8.2.1: ADB Projects with Environmental Assessment in Cambodia**

Project Name (ID)	Approved Date	Description
Provincial Roads Improvement Project (43309) Category B	16 Dec 2011	The project is part of the government's key infrastructure development agenda. The main objective of the project is to provide access to the rural agricultural communities of southeastern Cambodia and rehabilitate 87 km of provincial roads. An initial environmental examination was conducted, and the project was classified as Category B for

		Environmental Impact, as only minor adverse environmental impacts were anticipated for the improvement of project roads.
Medium-Voltage Sub-Transmission Expansion Sector Project (42361)  Category B	14 Dec 2012	Cambodia's power sector was severely damaged during long periods of conflict and civil war. The proposed project will expand the supply of reliable and cost-effective grid electricity in Cambodia, expanding the electricity transmission infrastructure by constructing 2,110 km of 22 kilovolt sub-transmission lines. During the initial environmental assessment, it was estimated that the main impact of this project would be during preconstruction, with the clearing of unexploded ordnance in the project's sub-transmission corridor. With this information, a certified unexploded ordnance clearance certificate was deemed necessary for this project.
Northwest Irrigation Sector Project (34379)  Category B	9 Dec 2003	The project was designed to help reduce poverty in the poor and neglected rural areas of northwest Cambodia by developing irrigated agriculture. It aimed to promote economic growth through enhanced agricultural production in rural areas in general, and reduce farmers' exposure to variability in crop yields and to food insecurity in remote, disadvantaged and poorer areas. Among the recommendations of the environmental assessment were limiting the project to less than 3,000 ha and monitoring water quality.

Source: ADB (2013)

#### **Case Study: Provincial Roads Improvement Project (43309)**

The project proposal included the rehabilitation of the pavement of about 157 km of roads in Kampong Chhnang, Kampong Speu, Prey Veng and Svay Rieng provinces. The objective of the rehabilitation program was to provide a safer, climate-resilient and cost-effective provincial road network with all-year access to markets and other social services for provincial centres of southeastern and midwestern Cambodia. A new cross-border facility at Prey Var, Svay Rieng, was created to facilitate efficient cross-border transport and trade between Cambodia and Vietnam, and to support a sustainable road maintenance regime, community-based road safety measures, an HIV/AIDS and human trafficking prevention program (HHTPP) and climate-resilient measures.

### **Case Study: Medium-Voltage Sub-Transmission Expansion Sector Project (42361)**

The project, which was approved in 2012, aims at increasing access to grid-electricity in Cambodia by expanding the supply of reliable and cost-effective electricity in Kampong Thom, Kampong Cham, Siem Reap, Kandal, and Banteay Meanchey provinces. The project will require the expansion of the Medium Voltage Sub-Transmission Network, however only small negative environmental impacts were expected as the scope of the project considered network expansion only along existing roads and restricted construction to small teams of workers, minimal use of powered mechanical equipment and limited excavation. Therefore the project was classified as Category B for Environment.

The Sub-Decree on Environmental Impact Assessment Process of RGC does not include sub-transmission, transmission and rural electrification projects in the list of projects requiring environmental assessment. However, compliance with ADB's requires an initial environmental examination (IEE) and an Environmental Management Plan for all Category B projects. In addition, since the project involved several subprojects in each one of the provinces covered, in compliance with ADB safeguards environmental assessments were required for each one of the subprojects. The Electricite du Cambodge (EDC) was appointed as the project executing agency and will have overall responsibility for the preparation of the environmental assessment of all subprojects and the corresponding implementation.

### **Case Study: Northwest Irrigation Sector Project (34379)**

The project consists in developing irrigated agriculture to help reduce poverty in the poor and neglected rural areas of northwest Cambodia. The project will include the rehabilitation of an existing reservoir formed by an embankment which covers approximately 200 hectares (ha), and a downstream service area of about 675 ha. The reservoir provides supplementary irrigation during dry spells in the wet season, but does not have the capacity enough water for dry season irrigation.

According to the IEE of the project, the area surrounding the reservoir and the service area is in transition between lowland paddy areas and degraded upland forest, and the nearest primary forest (according to recent satellite photos) is at least 8 km to the north. The project was classified as Category B for environment as only minor environmental impacts were expected as the project would only involve rehabilitation of already existing infrastructure.

### 8.2.2 Land Acquisition and Involuntary Resettlement

According to the ADB, Category A and B projects may involve land acquisition, potentially resulting in adverse social impacts, including the displacement of individuals and communities, under the following stipulations: the project proponent must avoid involuntary resettlement wherever possible and minimise involuntary resettlement by exploring design alternatives. The borrower/client must conduct social impact assessments and set a cut-off date to identify any affected persons or structures. Based on the results of these assessments, a RP is formulated and should include:

- the scope of land acquisition and resettlement;
- objectives, policy framework, and entitlements that describe key national and local land, compensation and resettlement policies, laws, and guidelines that apply to the project;
- consultation and grievance redress participation;
- compensation, relocation, and income restoration in which are described the arrangements for valuing and disbursing compensation and the arrangements for housing relocation, including transfer and establishment, as well as income restoration measures to be implemented;
- institutional framework;
- resettlement budget and financing;
- implementation schedule; and
- monitoring and evaluation (ADB 2009b).

The monitoring and evaluation of projects according to the ADB's policies should include:

- budget and timeframe: whether the resources are being allocated on time and if land has been acquired and occupied in time for project implementation;
- delivery of entitlements: whether all APs received entitlements according to the numbers and categories of loss set out in the entitlement matrix; if all AP received payment on time, including compensation to business and wage earners affected by the project; and if relocation sites have been developed as per agreed standards;
- consultation, grievances, and special issues; and
- livelihood development.

It can therefore be said that the ADB's methods of compensation are essentially similar to those of the World Bank. In both organisations' policies, the independent or external monitoring agents employed by project proponents are tasked with the same assignments and submission of compliance with monitoring reports. An independent land appraiser or a specialist in property appraisal is employed to confirm the means of compensation and property valuation or land

pricing.

Cambodia currently does not have a comprehensive involuntary resettlement policy. The 2001 Land Law and the 2007 Civil Code were both drafted with the help of international donors, including the WB in the case of the Land Law and JICA in the case of the Civil Code. These regulations are a step towards addressing the complex situation of land tenure in Cambodia. However, project proponents, including international donors, have had issues in the past with the implementation of RPs for their projects. Along with bridging the gaps between their own policies and local regulations, it is important to ensure that the provisions established in the RP are followed and implemented appropriately.

**Table 8.2.2: ADB Projects with Resettlement Plan in Cambodia**

Project Name (ID)	Approval Date	Description
Stung Chinit Irrigation and Rural Infrastructure Project (29257)	5 Sep 2000	This project finished in 2008. Its primary objectives were to increase agricultural productivity and farmers' incomes, and to stimulate the rural economy through the provision of irrigation and drainage for 7,000ha of land. It also sought to improve rural roads and markets in and around the project area. A total of 847 households were affected (i.e., they lost more than 10% of their land) by the project. According to ADB safeguard policies, an Involuntary Resettlement Plan was adopted along with an Income Restoration Program that included training in agriculture.
Northwest Irrigation Sector Project (34379)	9 Dec 2003	The project was designed to help reduce poverty in the poor and neglected rural areas of northwest Cambodia by developing irrigated agriculture. For this project, land acquisition was required for the construction of irrigation canals and drains, affecting a number of households. For this purpose, a RP was prepared.
Rehabilitation of the Railway in Cambodia (37269)	13 Dec 2006	The objective of the project was to restore Cambodia's railway infrastructure by rehabilitating its existing track and re-establishing Cambodia's rail connection with Thailand. The project was classified as Category A for resettlement, because it was estimated that around 1,200 families would be affected. While a RP was prepared for the project, an independent report

Project Name (ID)	Approval Date	Description
		by a resettlement expert indicated discrepancies between the resettlement process and the safeguards established in the subject RP.

Source: ADB (2013)

### **Case Study: Stung Chinit Irrigation and Rural Infrastructure Project (29257)**

The Stung Chinit Irrigation and Rural Infrastructure Project was approved on September 2000 and finished in 2008. The main objective of the project was to achieve poverty reduction by improving irrigation and poor roads in the area of Kampong Thom Province that is dominated by farming activities. The project suffered modifications after its approval, including a reduction in the scope by almost half of the total rehabilitation area. The result as stated in ADB's completion report is that the irrigation system delivery was somewhat different in quality due to the absence of quaternary canals.

Regarding resettlement caused by this project, the impact of the project was higher than initially estimated. During the design phase, engineers found that the irrigation system had to be reconstructed rather than only rehabilitated and no consideration for the people affected by the inundation of the area was considered in the original RP. After the first revision of the project, ADB decided to postpone the impounding of the water in the reservoir to minimise potential flooding impacts. In addition, floods in 2005 and 2006 showed miscalculations in the engineering design and households from the Kampong Sdach, which was not included in the original RP, were affected. ADB lists in the Resettlement Plan Completion Report the following challenges for successful resettlement of people affected by the project:

- Inaccuracy and/or incompleteness of meteorological data which led to miscalculations during the engineering design used as baseline for the preparation of the RP;
- Resettlement was handled in a reactive way; and
- Gaps between the policies and actual implementation.

ADB recognised in its completion report the importance of considering the above challenges in future projects (ADB 2009c).

### **Case Study: Northwest Irrigation Sector Project (34379)**

The project was designed to help reduce poverty in the poor and neglected rural areas of northwest Cambodia which suffers from lack of infrastructure and high poverty levels and low

agricultural productivity. The project consisted in the development of irrigated agriculture including the construction of irrigation canals which required land acquisition, however the project expects to have beneficial impacts on poverty reduction by improving food security and access of marginal farmer households to irrigation. In compliance with ADB's Safeguard Policy, a Resettlement Framework was prepared; no legal framework for involuntary resettlement in Cambodia, therefore the subject resettlement framework was prepared based on ADB's Safeguard Policies. In addition, it was identified that in previous projects, gaps between the project framework and actual implementation. The main fact was that affected peoples did not receive full compensation before the commencement of the works. To address this issues, a non-governmental agency was appointed for the monitoring the whole process for the full duration of the project (Romeo 2009).

#### **Case Study: Rehabilitation of the Railway in Cambodia (37269)**

During the initial phase of the Rehabilitation of the Railway in Cambodia Project, the ADB required that the MPWT prepares RPs based on detailed technical design specifications and a detailed survey of losses by the affected households, incorporating ADB safeguard policies into the plans. However, after the project was approved and the resettlement took place, a report by an external monitor revealed that the safeguards were not completely enforced. The report documented that many people affected by the resettlement faced the loss of land due to unsustainable indebtedness levels caused by the relocation (Cernea 2012).

#### **8.2.3 Indigenous Peoples**

In its Safeguard Policy Statement (2009), the ADB defines IPs as a distinct, vulnerable social and cultural group possessing the following characteristics to varying degrees:

- self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
- collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories;
- customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and
- a distinct language, often different from the official language of the country or region.

The ADB Safeguard Policy (2009) covers ethnic minorities, indigenous peoples and other disadvantaged groups. The policy ensures that these people should not be deprived from the benefits of a development project, as in the past they have had limited access to benefits

although they were located in resource-wealthy areas. Because of their unique culture and social characteristics, they should have an equal opportunity to participate in and gain from the project activities.

The policy outlines the requirements that borrowers or clients are required to meet in safeguarding the rights of indigenous peoples in projects supported by ADB, including:

- undertaking the social impact assessment and planning process;
- preparing social impact assessment reports and planning documents;
- disclosing information and undertaking consultation, including ascertaining consent of affected Indigenous Peoples community to selected project activities;
- establishing a grievance mechanism; and
- monitoring and reporting.

In line with the policy, it is necessary to undertake a social impact assessment as part of the project design to assess potential project impacts, both positive and adverse, on indigenous peoples. If the social impact assessment identifies indigenous peoples specifically as a significantly and adversely affected population, an Indigenous Peoples Plan (IPP) acceptable to the ADB must be prepared. The IPP should include a framework for continued consultation with the affected indigenous peoples' communities during project implementation that specifies measures to ensure that indigenous peoples receive culturally appropriate benefits; identifies measures to avoid, minimise, mitigate, or compensate for any adverse project impacts; and includes culturally appropriate grievance procedures, monitoring, and evaluation arrangements as well as a budget and time-bound actions for implementing the planned measures.

There are no specifications under Cambodia's national laws that consider the impact of projects on indigenous peoples; as a result, minority leaders have limited opportunities to participate in discussions at the planning and implementation stages of development projects. Because they have few opportunities to formulate and implement policies to strengthen their social position, indigenous peoples and ethnic minority groups have weak political clout and little means to defend their basic rights. Given the lack of local regulations regarding indigenous peoples, the ADB conducts impact assessments according to its own operational policy if the project may affect indigenous peoples. However, in ADB, considerations on indigenous peoples and ethnic minority groups are often included in the resettlement framework when their lifestyle is considered to be the same or similar to that of the Khmer.



**Table 8.2.3: ADB Projects in Cambodia with Indigenous Peoples Plans**

Project Name (ID)	Approval Date	Description
Third Education Sector Development Program (43260)	13 Sep 2012	The project aims at improving access to education in Cambodia and recognises that, despite the relative small indigenous population in Cambodia, special provisions should be made to ensure that indigenous communities will benefit from the project. An Indigenous Peoples Matrix that included the agreed mitigation and enhancement measures, implementation arrangements, and monitoring and reporting requirements was prepared to ensure ethnic minorities would benefit from the Third Education Sector Development Program in Cambodia.

Source: ADB (2013)

#### **Case Study: Third Education Sector Development Program (43260)**

Compared to its neighbours in Southeast Asia, Cambodia has the smallest population of indigenous peoples, both relatively and in absolute numbers (UN 2007). This project aims at improving access to education in Cambodia and recognises that, despite the relatively small indigenous population in Cambodia, special provisions should be made to ensure that indigenous communities will benefit from the project. Among the considerations included in the Indigenous People's Plan are:

- To ensure that the new learning centres are in areas populated by indigenous peoples to minimise exclusion due to site selection and failure of media campaigns.
- To design a School-based Dropout Intervention Program (SBDIP) that is sensitive to ethnicity and reflects awareness of IP cultural patterns and values.
- To include modules on advocacy and interventions to increase indigenous peoples' representation in school management positions.

Additionally, the Indigenous Peoples Plan established the need to have international and national consultants help integrate indigenous peoples' concerns into the project activities.

#### **8.2.4 Monitoring**

Upon its reorganisation in 2002, the ADB established arrangements for compliance by monitoring projects with its safeguard policies. With the support of the Environment and Social Safeguard Division, the ADB's Chief Compliance Officer is responsible for advising

management and operations departments on safeguard compliance and related operational procedures and guidelines. Compliance with the Safeguard Policies is monitored throughout the project cycle. If a project poses risks of noncompliance, actions to ensure compliance are recommended at the Management Review Meeting, and project compliance is reviewed again at a Staff Review Committee meeting. Operations departments take steps to ensure that outstanding safeguard requirements are met before board approval. As stated in the ADB Safeguard Policy Statement (SPS), the ADB assumes responsibility for conducting due diligence and for reviewing, monitoring and supervising projects throughout the ADB's project cycle in conformity with the principles and requirements embodied in the SPS (ADB 2009a). Likewise, the ADB requires borrowers/clients to follow SPS Section 57, which requires them to:

- establish and maintain procedures to monitor the progress of implementation of safeguard plans;
- verify compliance with safeguard measures and progress towards intended outcomes;
- document and disclose monitoring results and identify necessary corrective and preventive actions in the periodic monitoring reports;
- follow up on these actions to ensure progress towards the desired outcomes;
- retain qualified and experienced external experts or qualified NGOs to verify monitoring information for projects with significant impacts and risks;
- use independent advisory panels to monitor project implementation for highly complex and sensitive projects; and
- submit periodic monitoring reports on safeguard measures as agreed with the ADB.

For land acquisition and involuntary resettlement, there are currently no regulations specifying monitoring activities for involuntary resettlement in Cambodia, although the ADB SPS requires the borrower to prepare and disclose monitoring reports. Therefore, the ADB conducts monitoring activities based on its own safeguard policy where necessary, but ensures collaboration with the implementation agency.

For all projects, ADB is careful to comply with local regulations and identify any possible gap between the project plans and actual implementation. For example in the Northwest Irrigation Sector Project, ADB gave responsibility for internal monitoring to The Ministry of Water Resources and Meteorology (MOWRAM) and provided through the ADB Capacity Building Project assistance to conduct the monitoring and establish a resettlement database at the Project Management Office. The objective of the database was to store data from the cadastral survey and socio-economic survey that could be used for the environmental and social impact analysis

and provide a benchmark for future projects.

To ensure that the socio-economic survey was accurate, the following targets were selected as baseline for the internal monitoring:

- 100% of identifiable AP households surveyed as part of a Detailed Measurement Survey (DMS)
- A detailed socioeconomic sample survey of a minimum of 20% of AP households directed to providing baseline data for the monitoring and evaluation of RP implementation in each core subproject

In addition to internal monitoring, the MOWRAM appointed an independent non-governmental agency to conduct the external monitoring of the project throughout its six years duration and it also specified that the external monitor should conduct a follow-up evaluation of the project every eight months after implementation and for a period of 3 to 5 years. The external monitoring paid particular attention to gender equality and to compensation of vulnerable groups for livelihood restoration (ADB 2009b)

#### 8.2.5 Information Disclosure

According to the ADB's 2009 SPS, the borrower/client must submit to the ADB the following documents for disclosure on the ADB's website (ADB 2009a):

- a full EIA draft (including the draft EMP) at least 120 days prior to the ADB Board consideration, and/or environmental assessment and review frameworks before project appraisal, where applicable;
- the final EIA/IEE;
- a new or updated EIA/IEE and corrective action plan prepared during project implementation, if any; and
- environmental monitoring reports.

The 2001 Land Law does not make explicit provision for disclosure of RAP in cases of land acquisition or involuntary resettlement. Additionally, neither the Land Law nor the Civil Code provides for the disclosure of IPP when indigenous peoples are affected by a project. On the other hand, the ADB SPS requires disclosing draft RAP and IPP before appraisal formally begins. Therefore ADB conducts information disclosure activities based on its own policy, which is the only framework for the disclosure of information to indigenous peoples.

Public consultation plays a major role in information disclosure in most projects. In Cambodia, an important aspect of the participation of APs is provided by their membership of Commune or Village Resettlement Committees as these are the entities responsible of consulting with the project implementation unit on the implementation of compensation for losses of land, houses or other property and livelihoods. During the implementation of the Northern Irrigation Sector Project, ADB paid special attention to ensuring that Provincial and District governments were fully involved in all public consultations. To ensure that all households are provided with relevant information, it was decided in the RP that each household will be personally informed about the project during the Detailed Measurement Survey (DMS). This was considered to be additional to the activities of the village resettlement committees and with the objective of providing detailed information on:

- Relevant details of the Project scope and schedule to APs;
- RP and the impacts expected;
- Relocation and resettlement operations;
- Compensation process and rates;
- Grievance mechanism, including the provision for valuation of property and other support in arbitration

(ADB 2009b)

The information disclosed during the survey is important for ensuring that the Project will have the maximum socio-economic benefit in combination with consultation and disclosure activities during the Project construction and operation phases. Information disclosure during all phases of project implementation is a requirement for both ADB safeguards and RGC laws.

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**TABLE A-1****Major Acts and Rules Related to Environmental and Social Considerations in Cambodia**

No.	Name	Year
General		
1	Constitution of the Kingdom of Cambodia <a href="http://cambodia.ohchr.org/klc_pages/KLC_files/section_001/section_01_01_ENG.pdf">http://cambodia.ohchr.org/klc_pages/KLC_files/section_001/section_01_01_ENG.pdf</a>	1993
2	Code of Civil Procedure <a href="http://sogi.sithi.org/admin/upload/media/145-ytztwvj1371009279.pdf">http://sogi.sithi.org/admin/upload/media/145-ytztwvj1371009279.pdf</a>	2006
3	Civil Code <a href="http://www.metheavy.com/Cambodian%20Laws%20in%20English/Civil%20Code_L-Draft_JICA_Eng_2008.pdf">http://www.metheavy.com/Cambodian%20Laws%20in%20English/Civil%20Code_L-Draft_JICA_Eng_2008.pdf</a>	2007
5	National Education Law <a href="http://planipolis.iiep.unesco.org/upload/Cambodia/Cambodia_Education_Law.pdf">http://planipolis.iiep.unesco.org/upload/Cambodia/Cambodia_Education_Law.pdf</a>	2007
6	Protected Areas Law <a href="http://www.thereddesk.org/sites/default/files/protected_area_law_2008_1.pdf">http://www.thereddesk.org/sites/default/files/protected_area_law_2008_1.pdf</a>	2008
7	Law on Nationality <a href="http://www.refworld.org/docid/3ae6b5210.html">http://www.refworld.org/docid/3ae6b5210.html</a>	1996
Pollution and Conservation		
1	Sub-Decree on Water Pollution Control <a href="http://www.wepa-db.net/policies/law/cambodia/02.htm">http://www.wepa-db.net/policies/law/cambodia/02.htm</a>	1999
2	Sub-Decree on the Control of Air Pollution and Noise Disturbance <a href="http://khmerologie.files.wordpress.com/2013/01/decret-pollution-air-et-sonore.pdf">http://khmerologie.files.wordpress.com/2013/01/decret-pollution-air-et-sonore.pdf</a>	1996
3	Sub-Decree on the Management of Ozone Depleting Substances	2005
4	Sub-Decree on the Industrial Standard of Cambodia	2001
5	Sub-Decree on Environmental Impact Assessment Process <a href="http://www.aecen.org/sites/default/files/cambodia_eia_sub_decree_1999.pdf">http://www.aecen.org/sites/default/files/cambodia_eia_sub_decree_1999.pdf</a>	1999
6	Sub-Decree on Solid Waste Management <a href="http://www.gmac-cambodia.org/legal/data/Sub_Degree_on_Solid_Waste_Management.pdf">http://www.gmac-cambodia.org/legal/data/Sub_Degree_on_Solid_Waste_Management.pdf</a>	1999
7	Law on Nature Protection Area <a href="http://www.cambodiainvestment.gov.kh/law-on-nature-protection-area-protected-areas-law_080104_080104.html">http://www.cambodiainvestment.gov.kh/law-on-nature-protection-area-protected-areas-law_080104_080104.html</a>	2008
8	Regulations on the Creation and Designation of Protected Areas	1993
9	Decree on Protected Areas for Nature <a href="http://www.cambodiainvestment.gov.kh/law-on-nature-protection-area-protected-areas-law_080104_080104.html">http://www.cambodiainvestment.gov.kh/law-on-nature-protection-area-protected-areas-law_080104_080104.html</a>	1994
10	On the Establishment of Protected Forest Cardamom for Watershed and Biodiversity Conservation	2002
11	On Natural Resource Management for Preak Tueksap Area, Sihanouk Ville Municipality	1998
12	Royal Decree on the Protection of Natural Areas <a href="http://www.cambodiainvestment.gov.kh/law-on-nature-protection-area-protected-areas-law_080104_080104.html">http://www.cambodiainvestment.gov.kh/law-on-nature-protection-area-protected-areas-law_080104_080104.html</a>	1993
13	Law on Environment Protection and Natural Resources Management <a href="http://www.globalwitness.org/sites/default/files/pdfs/1996_environmental_protection_and_">http://www.globalwitness.org/sites/default/files/pdfs/1996_environmental_protection_and_</a>	1996



No.	Name	Year
	natural_resource_management_law_on_1996.pdf	
14	Law on Protected Areas in the Tonle Sap Lake	2001
15	Sub-Decree on Construction Permit <a href="http://www.cambodiainvestment.gov.kh/sub-decree-86-on-construction-permit_971219.html">http://www.cambodiainvestment.gov.kh/sub-decree-86-on-construction-permit_971219.html</a>	1997
16	Law on the Adoption of the Convention on Wetlands of International Importance, Especially as Waterfowl Habitat <a href="http://www.bigpond.com.kh/council_of_jurists/Treaties/tri006g.htm">http://www.bigpond.com.kh/council_of_jurists/Treaties/tri006g.htm</a>	1996
17	Sub-Decree on the Establishment of the National Climate Change Committee <a href="http://www.camclimate.org.kh/index.php/com-phocagallery/documents-and-media/library/category/12-national-policies.html?download=68:sub-degree-on-the-establishment-of-nccc-english">http://www.camclimate.org.kh/index.php/com-phocagallery/documents-and-media/library/category/12-national-policies.html?download=68:sub-degree-on-the-establishment-of-nccc-english</a>	2006
18	Convention on Wetlands (Ramsar Convention) <a href="http://www.ramsar.org/cda/en/ramsar-documents-texts-convention-on-20708/main/ramsar/1-31-38%5E20708_4000_0__">http://www.ramsar.org/cda/en/ramsar-documents-texts-convention-on-20708/main/ramsar/1-31-38%5E20708_4000_0__</a>	1999
19	Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin <a href="http://www.mrcmekong.org/assets/Publications/agreements/agreement-Apr95.pdf">http://www.mrcmekong.org/assets/Publications/agreements/agreement-Apr95.pdf</a>	1995
20	Agreement on the National Environmental Standard	2009
21	Declaration on Protected Areas	1994
22	The Prakas (Declaration) on Guidelines for Conducting Environmental Impact Assessment Reports	2000
23	The Prakas (Declaration) on Determination of Service Charge for EIA Report Review and Follow-up and Monitoring of Project Implementation	2000
24	The Prakas (Declaration) on General Guidelines for Conducting Initial and Full Environmental Impact Assessment Reports	2009
Health		
1	Law On Pharmaceuticals Management <a href="http://www.opbw.org/nat_imp/leg_reg/cambodia/Pharmaceuticals.pdf">http://www.opbw.org/nat_imp/leg_reg/cambodia/Pharmaceuticals.pdf</a>	1996
2	Law on the Control of Drugs <a href="http://www.apicc.info/apicc/inform/reform.jsp?mode=view&amp;article_no=20130201162424818093&amp;board_wrapper=%2Fapicc%2Finform%2Freform.jsp&amp;pager.offset=0&amp;board_no=10">http://www.apicc.info/apicc/inform/reform.jsp?mode=view&amp;article_no=20130201162424818093&amp;board_wrapper=%2Fapicc%2Finform%2Freform.jsp&amp;pager.offset=0&amp;board_no=10</a>	1997
3	Law on the Management of Quality And Safety of Products and Services <a href="http://www.wipo.int/wipolex/en/text.jsp?file_id=180080">http://www.wipo.int/wipolex/en/text.jsp?file_id=180080</a>	2000
4	Law on the Prevention and of HIV/AIDS. <a href="http://www.aidsdatahub.org/dmdocuments/Cambodia_Law_on_the_Prevention_and_Control_of_HIV_AIDS.pdf.pdf">http://www.aidsdatahub.org/dmdocuments/Cambodia_Law_on_the_Prevention_and_Control_of_HIV_AIDS.pdf.pdf</a>	2002
5	Regulation on Education on HIV/AIDS, Safe Migration, and Labour Rights for Cambodian Workers Abroad	2006
6	Regulation on the Creation of the HIV/AIDS Committee in Enterprises and Establishments and the Prevention of HIV/AIDS in the Workplace	2006
7	Joint Regulation on the Appointment of Occupational Health Network	1994

No.	Name	Year
8	Regulation concerning the Occupational Health and Safety Conditions in Garment and Shoes Factories	2007
9	Regulation on implementation of Occupational Health and Safety Measures in Brick Enterprises	2000
10	Law on Abortion	1997
11	Regulation Concerning the Sanitary Toilet	2000
12	Regulation Concerning the Seating Arrangement at the Work Place	2000
13	Regulation Concerning the Provision of the Safe Drink	2000
14	Regulation Concerning the Creation of Enterprise Infirmary	2000
15	Regulation Concerning the Heavy Object Lifting by Hand	2001
16	Regulation Concerning the Air Ventilation and Sanitation	2001
17	Regulation Concerning Conditions and Missions of the Enterprise Physicians	2001
18	Regulation Concerning the Noise at the Workplace	2003
19	Regulation Concerning the Work at the Confined Space	2003
20	Regulation Concerning the Light and the Lighting	2003
21	Regulation Concerning the Working and Living Conditions in Plantations	2007
22	Regulation Concerning the Working and Living Conditions in Salt Fields	2007
23	Regulation Concerning the Working and Living Conditions in Brick Enterprises	2007
24	Regulation Concerning the Information at the Construction Site	2011
25	Regulation Concerning the Prevention of Risks associated with the Changing Weather Conditions at the Construction Site	2011
26	Regulation Concerning the Storage, Waste Management and Cleanliness at the Construction Site	2011
27	Regulation Concerning the Notice on Work-Related Accidents, Compensation and Invalidity	2002
28	Regulation Concerning the List of Contagious Animal Diseases	2004
29	Regulation on the Strengthening of Preventive Measures for Avian Influenza (Bird Flu)	
Food and Consumer Protection		
1	Law on the Management of Quality and Safety of Product and Services <a href="http://www.wipo.int/wipolex/en/text.jsp?file_id=180080">http://www.wipo.int/wipolex/en/text.jsp?file_id=180080</a>	2000
2	Law on the Standards of Cambodia <a href="http://www.cambodiainvestment.gov.kh/law-on-standards-of-cambodia_070624.html">http://www.cambodiainvestment.gov.kh/law-on-standards-of-cambodia_070624.html</a>	2007
3	Sub-Decree on the Management of Cosmetics	2002
4	Law Concerning Marks, Trade Names, and Acts of Unfair Competition <a href="http://www.wipo.int/wipolex/en/text.jsp?file_id=180008">http://www.wipo.int/wipolex/en/text.jsp?file_id=180008</a>	2002
5	Sub-Decree on Food Hygiene <a href="http://faolex.fao.org/docs/pdf/cam86546.pdf">http://faolex.fao.org/docs/pdf/cam86546.pdf</a>	2003
6	Sub-Decree on the Management of the Import of Live Animal and Meat Products	
7	Sub-Decree on the Management of the Import of Fresh Vegetable	
8	Sub-Decree on Printing of Warning on the Cigarette Package <a href="http://seatca.org/dmdocuments/Cambodia%20-%20Sub-Decree%20on%20Health%20Warnings.pdf">http://seatca.org/dmdocuments/Cambodia%20-%20Sub-Decree%20on%20Health%20Warnings.pdf</a>	2009

No.	Name	Year
9	Sub-Decree Concerning the Control of the Slaughterhouse and the Animal Hygiene, Meat and Animal Products	2007
10	Sub-Decree Concerning the Establishment and Management of Village Animal Health Agents	2001
11	Sub-Decree Concerning the Control of Food Safety of Agricultural Production	2007
12	Circular Concerning the Control of the Import of Live Animals and Products Originated from Egg at the Border Line	2005
13	Law on Control of Qualities and Safety of Products and Services <a href="http://www.cambodiainvestment.gov.kh/law-on-the-management-of-quality-and-safety-of-products-and-services_000626.html">http://www.cambodiainvestment.gov.kh/law-on-the-management-of-quality-and-safety-of-products-and-services_000626.html</a>	2000
Occupational Rights and Safety		
1	Labor Law <a href="http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_150856.pdf">http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_150856.pdf</a>	1997
2	Law on Media <a href="http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/42145/60767/F879324365/KHM42145.pdf">http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/42145/60767/F879324365/KHM42145.pdf</a>	2011
3	Law on Demonstrations <a href="http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/75333/78359/F184524851/KHM75333.pdf">http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/75333/78359/F184524851/KHM75333.pdf</a>	2007
4	Law on Social Security Schemes for Persons Defined by the Provisions of the Labor Law <a href="http://www.cambodiainvestment.gov.kh/law-on-social-security-royal-kram-nsrkm0902018-the-social-security-law_020925.html">http://www.cambodiainvestment.gov.kh/law-on-social-security-royal-kram-nsrkm0902018-the-social-security-law_020925.html</a>	2002
5	Memorandum of Understanding on Improving Industrial Relations in the Garment Industry <a href="http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-phnom_penh/documents/genericdocument/wcms_145234.pdf">http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-phnom_penh/documents/genericdocument/wcms_145234.pdf</a>	2012
6	Regulation on Labour Dispute Settlement <a href="http://betterwork.com/cambodia/wp-content/uploads/2013/05/National-Strategy-on-Labour-Dispute-Prevention-and-Settlement.pdf">http://betterwork.com/cambodia/wp-content/uploads/2013/05/National-Strategy-on-Labour-Dispute-Prevention-and-Settlement.pdf</a>	2002
7	Regulation on the Representativeness of Professional Organizations of Workers at the Enterprise or Establishment Level and the Right to Collective Bargaining for the Conclusion of Collective Agreements at that Level	2001
8	Regulation on the Right to Strike	2000
9	Law on Suppression of Human Trafficking and Sexual Exploitation <a href="http://www.no-trafficking.org/content/Laws_Agreement/cambodia%20new%20law%20on%20trafficking%20&amp;%20sexual%20exploitation%20-%20english.pdf">http://www.no-trafficking.org/content/Laws_Agreement/cambodia%20new%20law%20on%20trafficking%20&amp;%20sexual%20exploitation%20-%20english.pdf</a>	2008
10	Regulation on Work in Sea Fishing <a href="http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/93365/109113/F2039016011/KHM93365%20Eng.pdf">http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/93365/109113/F2039016011/KHM93365%20Eng.pdf</a>	2008
11	Sub-Decree on the Establishment of the Ministry of Labour and Vocational Training.	2005
12	Regulation on Organization and Functions of the Secretariat of Disability Action Council	2011
13	Sub-Decree on the Composition and Functioning of the Labour Advisory Commission	2000
14	Sub-Decree on Organization and Functioning of Ministry of Social Affairs, Labour,	1999

No.	Name	Year
	Vocational Training and Youth Rehabilitation. <a href="http://www.cambodiainvestment.gov.kh/sub-decree-149-on-the-organization-and-functioning-of-the-cdc_081003.html">http://www.cambodiainvestment.gov.kh/sub-decree-149-on-the-organization-and-functioning-of-the-cdc_081003.html</a>	
15	Regulation on Increasing Attendance Bonus <a href="http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/89826/103281/F1620143098/KHM89826.pdf">http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/89826/103281/F1620143098/KHM89826.pdf</a>	2011
16	Regulation on Posting of Regulatory Papers <a href="http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/82028/89374/F1390866999/KHM82028.pdf">http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/82028/89374/F1390866999/KHM82028.pdf</a>	1998
17	Regulation on the Minimum Wage	2013
18	Regulation on the minimum wage of textile, garment, and shoe-sewing workers <a href="http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/89827/103282/F1122638522/KHM89827.pdf">http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/89827/103282/F1122638522/KHM89827.pdf</a>	2010
19	Regulation on Special Leave	2001
20	Regulation on Paid National Holidays <a href="http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/82025/89371/F333589106/KHM82025.pdf">http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/82025/89371/F333589106/KHM82025.pdf</a>	1994
21	Regulation on Fee Payment for Night Work. <a href="http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/82030/89376/F694330676/KHM82030.pdf">http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/82030/89376/F694330676/KHM82030.pdf</a>	1999
22	Regulation on Temperature and Ambiance in the Workplace	2002
23	Social Security Law <a href="http://www.cambodiainvestment.gov.kh/law-on-social-security-royal-kram-nsrkm0902018-the-social-security-law_020925.html">http://www.cambodiainvestment.gov.kh/law-on-social-security-royal-kram-nsrkm0902018-the-social-security-law_020925.html</a>	2002
24	Sub-Decree on Procedure for Recognition as a Refugee or Providing Asylum Rights to Foreigners in the Kingdom of Cambodia <a href="http://www.refworld.org/docid/4d81f0172.html">http://www.refworld.org/docid/4d81f0172.html</a>	2009
25	Sub-Decree on the Export of Khmer Labour to Work Overseas <a href="http://www.pic.org.kh/fileadmin/user_upload/Files/Library_Resources/CLRDA_Legal_Database_PDF/Part_14_-_Labor/ANK-57-95_Export_Khmer_Labor_Eng.pdf">http://www.pic.org.kh/fileadmin/user_upload/Files/Library_Resources/CLRDA_Legal_Database_PDF/Part_14_-_Labor/ANK-57-95_Export_Khmer_Labor_Eng.pdf</a>	1995
26	Sub-Decree on Immigration <a href="http://www.no-trafficking.org/content/pdf/law_on_immigrationeng.doc">http://www.no-trafficking.org/content/pdf/law_on_immigrationeng.doc</a>	1994
27	Sub-Decree on the general principles of procedures for management of civil servants. <a href="http://www.bigpond.com.kh/Council_of_Jurists/a00-Anukret/ANK00_06_39_E.htm">http://www.bigpond.com.kh/Council_of_Jurists/a00-Anukret/ANK00_06_39_E.htm</a>	2000
28	Sub-Decree on the General Principles of Organization of the State Civil Service <a href="http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl011g.htm">http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl011g.htm</a>	1997
29	Sub-Decree establishing procedures for imposing disciplinary sanctions on civil servants <a href="http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl008g.htm">http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl008g.htm</a>	1997
30	Sub Decree on criteria for postponing retirement of civil servants <a href="http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl007g.htm">http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl007g.htm</a>	1996
31	Sub -Decree on duration of work week of civil servants of Kingdom of Cambodia <a href="http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl013g.htm">http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl013g.htm</a>	1996
32	Sub-Decree on the Creation of Committee of Arrangements of Disputes Relating to Civil	1995

No.	Name	Year
	Service <a href="http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl004g.htm">http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl004g.htm</a>	
33	Sub-Decree on Common Statute of Civil Servants. <a href="http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl014g.htm">http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl014g.htm</a>	1994
34	Sub-Decree on the Legal Framework of Leave without Pay <a href="http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl009g.htm">http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl009g.htm</a>	1994
35	Sub-Decree on Improvement of Wages of Civil Servants and State Workers <a href="http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl004g.htm">http://www.bigpond.com.kh/Council_of_Jurists/Foncpubl/fpl004g.htm</a>	1992
Public Safety and Dangerous Substances		
1	Sub-Decree Concerning Globally Harmonized System (GHS) of Classification and Labelling of Hazardous Chemicals	2010
2	Law on Social Security <a href="http://www.cambodiainvestment.gov.kh/law-on-social-security-royal-kram-nsrkm0902018-the-social-security-law_020925.html">http://www.cambodiainvestment.gov.kh/law-on-social-security-royal-kram-nsrkm0902018-the-social-security-law_020925.html</a>	2002
3	Declaration on industrial hazardous waste management	2000
Land Use, Administration and Management		
1	Law on the Land <a href="http://www.gocambodia.com/laws/data%20pdf/Law%20on%20Land/Law%20on%20Land,%202001(EN).pdf">http://www.gocambodia.com/laws/data%20pdf/Law%20on%20Land/Law%20on%20Land,%202001(EN).pdf</a>	1992
2	Expropriation Law <a href="http://www.opendevdevelopmentcambodia.net/law/en/Expropriation-Law-Final-E.pdf">http://www.opendevdevelopmentcambodia.net/law/en/Expropriation-Law-Final-E.pdf</a>	2010
3	Land Law <a href="http://www.gocambodia.com/laws/data%20pdf/Law%20on%20Land/Law%20on%20Land,%202001(EN).pdf">http://www.gocambodia.com/laws/data%20pdf/Law%20on%20Land/Law%20on%20Land,%202001(EN).pdf</a>	2001
4	Law on Land use Planning, Urbanization and Construction <a href="http://www.gocambodia.com/laws/data%20pdf/Law%20on%20Land%20Management,%20Urban%20Planning%20and%20Construction/Law%20on%20Land%20Management,%20Urban%20Planning%20and%20Construction(EN).pdf">http://www.gocambodia.com/laws/data%20pdf/Law%20on%20Land%20Management,%20Urban%20Planning%20and%20Construction/Law%20on%20Land%20Management,%20Urban%20Planning%20and%20Construction(EN).pdf</a>	1994
5	Sub-Decree on State Land Management <a href="http://www.opendevdevelopmentcambodia.net/law/en/Sub-decree-on-State-Land-Management-E.pdf">http://www.opendevdevelopmentcambodia.net/law/en/Sub-decree-on-State-Land-Management-E.pdf</a>	2005
6	Sub-Decree on Economic Land Concessions <a href="http://www.opendevdevelopmentcambodia.net/law/en/ANK-146-05-Concession-Land-E.pdf">http://www.opendevdevelopmentcambodia.net/law/en/ANK-146-05-Concession-Land-E.pdf</a>	2009
7	Sub-Decree on Construction Permit <a href="http://www.cambodiainvestment.gov.kh/sub-decree-86-on-construction-permit_971219.html">http://www.cambodiainvestment.gov.kh/sub-decree-86-on-construction-permit_971219.html</a>	1997
8	Sub-Decree on Social Land Concessions <a href="http://www.gocambodia.com/laws/data%20pdf/Sub%20Decree%20on%20Social%20Land%20Concession/Sub%20Decree%20on%20Social%20Land%20Concession%20.pdf">http://www.gocambodia.com/laws/data%20pdf/Sub%20Decree%20on%20Social%20Land%20Concession/Sub%20Decree%20on%20Social%20Land%20Concession%20.pdf</a>	2003
9	Decree on the Establishment and Management of Watershed Areas in the Kingdom of Cambodia	1999
10	Regulation on Collection of Tax on Unused Land <a href="http://www.skpcambodia.com/Laws%20&amp;%20Regulations%20of%20the%20Kingdom%20">http://www.skpcambodia.com/Laws%20&amp;%20Regulations%20of%20the%20Kingdom%20</a>	1996

No.	Name	Year
	of%20Cambodia/Property%20&%20Land%20Law/_PK-MEF-224-96-Collection%20Tax%20Unused%20Land.pdf	
11	Regulation on Measures to Crack Down on Anarchic Land Grabbing and Encroachment	1999
12	Sub-Decree on State Land Management <a href="http://www.opendevdevelopmentcambodia.net/law/en/Sub-decree-on-State-Land-Management-E.pdf">http://www.opendevdevelopmentcambodia.net/law/en/Sub-decree-on-State-Land-Management-E.pdf</a>	2005
13	Sub-Decree on the Mortgage and Transfer of the Rights over a Long-Term Lease or an Economic Land Concession <a href="http://www.cambodiainvestment.gov.kh/sub-decree-114-rgc-on-the-mortgage-and-transfer-of-the-rights-over-a-long-term-lease-or-an-economic-land-concession_070829.html">http://www.cambodiainvestment.gov.kh/sub-decree-114-rgc-on-the-mortgage-and-transfer-of-the-rights-over-a-long-term-lease-or-an-economic-land-concession_070829.html</a>	2007
Agriculture and Agro-Chemicals		
1	Law on Biosafety	2008
2	Law on Pesticide and Chemical Fertiliser Control	2011
3	Sub-Degree on Standard and Management of Agricultural Materials <a href="http://www.wipo.int/edocs/lexdocs/laws/en/kh/kh027en.pdf">http://www.wipo.int/edocs/lexdocs/laws/en/kh/kh027en.pdf</a>	1998
4	Sub-Degree on Solid Waste Management <a href="http://www.gmac-cambodia.org/legal/data/Sub_Degree_on_Solid_Waste_Management.pdf">http://www.gmac-cambodia.org/legal/data/Sub_Degree_on_Solid_Waste_Management.pdf</a>	1999
5	Decree on the establishment and functioning of agricultural cooperatives, Union of the Agricultural Cooperatives and the Pre-Agricultural Cooperatives.	2007
6	Decree concerning the control of the botanical hygiene	2003
7	Guideline Concerning the Safe Use of Agro-Chemicals of the Ministry of Agriculture	2002
8	Notification concerning the poisonous fish	2004
9	Regulation on Quarantined Pest List and Dangerous Pests Banned for Importation into the Kingdom of Cambodia	2010
10	Regulation on Rules for Good Agricultural Practices	2010
Water Resources		
1	Law on Water Resources Management <a href="http://www.tnmckc.org/upload/document/bdp/2/2.7/Legal/Cambodia/C-draft-water-law%20.pdf">http://www.tnmckc.org/upload/document/bdp/2/2.7/Legal/Cambodia/C-draft-water-law%20.pdf</a>	2007
2	Circular on Management of Means of Water Transport <a href="http://www.cambodiainvestment.gov.kh/circular-003-on-management-of-means-of-water-transport_000627.html">http://www.cambodiainvestment.gov.kh/circular-003-on-management-of-means-of-water-transport_000627.html</a>	2000
Fishery		
1	Law on Fisheries <a href="http://www.opendevdevelopmentcambodia.net/law/en/LAW-0506-011-06-Fishery-Law-E.pdf">http://www.opendevdevelopmentcambodia.net/law/en/LAW-0506-011-06-Fishery-Law-E.pdf</a>	2006
2	Fisheries Management and Administration Law <a href="http://faolex.fao.org/docs/pdf/cam1068.pdf">http://faolex.fao.org/docs/pdf/cam1068.pdf</a>	1987
3	Sub-Decree on Community Fisheries <a href="http://faolex.fao.org/docs/pdf/cam82965.pdf">http://faolex.fao.org/docs/pdf/cam82965.pdf</a>	2007
4	Sub-Decree on Promulgation of the Fisheries Law	2006
5	Regulation on Work in Sea Fishing <a href="http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/93365/109113/F2039016011/KHM93365%20Eng.pdf">http://www.ilo.org/dyn/natlex/docs/ELECTRONIC/93365/109113/F2039016011/KHM93365%20Eng.pdf</a>	2007

No.	Name	Year
6	Sub-Decree on Community Fisheries Management	2007
Forestry		
1	Forestry Law <a href="http://caexpo.gxcic.gov.cn/upload/2011_01/11011216494455.pdf">http://caexpo.gxcic.gov.cn/upload/2011_01/11011216494455.pdf</a>	2002
2	Sub-Decree on Forest Concession Management (2000) <a href="http://www.opendevdevelopmentcambodia.net/law/en/ANK-05-00-Forest-Concession-Mgt-E.pdf">http://www.opendevdevelopmentcambodia.net/law/en/ANK-05-00-Forest-Concession-Mgt-E.pdf</a>	2000
3	Sub-Decree on Community Forestry Management (2003) <a href="http://www.twgfe.org/Docs/Legislations/Sub-Decree%20on%20Community%20Forestry%20Management-English.pdf">http://www.twgfe.org/Docs/Legislations/Sub-Decree%20on%20Community%20Forestry%20Management-English.pdf</a>	2003
4	Sub-Decree on Procedures for Establishment Classification and Registration of Permanent Forest Estate -2005	2005
5	Sub-Decree on the Establishment of the Protected Forest for Biodiversity Conservation, Elephant Corridor Protection and Wildlife Rehabilitation Centre in Koh Kong Province	2004
6	Sub-Decree on Timber and Non-Timber Forest Products Allowed for Export and Import <a href="http://www.cambodiainvestment.gov.kh/content/uploads/2012/03/Sub-Decree-131-on-Forest-and-Non-Timber-Forest-Products-Allow-For-Export-and-Import_061128.pdf">http://www.cambodiainvestment.gov.kh/content/uploads/2012/03/Sub-Decree-131-on-Forest-and-Non-Timber-Forest-Products-Allow-For-Export-and-Import_061128.pdf</a>	2006
7	Sub-Decree on Rules for Granting User Rights to Plant Trees Within State Forest Lands <a href="http://www.cambodiainvestment.gov.kh/content/uploads/2011/09/Sub-Decree-26-on-Rules-for-Granting-User-Rights-to-Plant-Trees-Within-State-Forest-Lands_080325.pdf">http://www.cambodiainvestment.gov.kh/content/uploads/2011/09/Sub-Decree-26-on-Rules-for-Granting-User-Rights-to-Plant-Trees-Within-State-Forest-Lands_080325.pdf</a>	2008
8	Sub-Decree on Community Forestry Management <a href="http://www.cambodiainvestment.gov.kh/sub-decree-79-on-community-forestry-management_031202.html">http://www.cambodiainvestment.gov.kh/sub-decree-79-on-community-forestry-management_031202.html</a>	2003
9	Sub-Decree on Forest Concession Management <a href="http://www.opendevdevelopmentcambodia.net/law/en/ANK-05-00-Forest-Concession-Mgt-E.pdf">http://www.opendevdevelopmentcambodia.net/law/en/ANK-05-00-Forest-Concession-Mgt-E.pdf</a>	2000
10	Sub-Decree on the Establishment of the National Committee to Manage and Execute Forest Management Policy <a href="http://faolex.fao.org/docs/pdf/cam7805.pdf">http://faolex.fao.org/docs/pdf/cam7805.pdf</a>	1998
11	Sub Decree on Forest Coupe Bidding for Harvesting	1991
12	Declaration on the Promulgation of Forest Revenue Management System	2004
13	Declaration on Forest Policy <a href="http://www.fao.org/docrep/003/ab576e/AB576E12.htm">http://www.fao.org/docrep/003/ab576e/AB576E12.htm</a>	1995
14	Declaration on Tree Species to be Prohibited for Cutting	1993
15	Code of Practice for Forest Harvest	1999
Wildlife and Domestic Animal		
1	Sub-Decree on the Establishment of the Protected Forest for Biodiversity Conservation Elephant Corridor Protection and Wildlife Rehabilitation Centre in Koh Kong Province.	2004
2	Sub-Decree on the Establishment of Protected Forest MondulKiri for Genetic Resources and Wildlife Conservation	2002
3	Sub-Decree on the Establishment of Protected Forest Preah Vihear for Genetic Resources and Wildlife Conservation	2002
4	Declaration on Wildlife Species to be Prohibited for Hunting	2004

No.	Name	Year
5	Declaration on the Prohibition of Forest Trade, Forest Harvesting, Forestland Encroachment and Wildlife Hunting in the Central Cardamom Region	2001
6	Declaration on Wildlife Species to be Prohibited for Hunting	1994
7	Declaration on the Suppression of Wildlife Destruction in the Kingdom of Cambodia	1996
8	Convention on the Conservation of Migratory Species of Wild Animals(Bonn convention) <a href="http://www.cms.int/about/cmsMembership_howTo.pdf">http://www.cms.int/about/cmsMembership_howTo.pdf</a>	1983
9	Declaration on Classification and List of Wildlife Species (2007) <a href="http://www.cites.org/eng/com/ac/25/snake/CambodiaLegislation.pdf">http://www.cites.org/eng/com/ac/25/snake/CambodiaLegislation.pdf</a>	2007
<b>Energy and Mineral Resources</b>		
1	Law on Mineral Resource Management and Exploitation <a href="http://www.gocambodia.com/laws/data%20pdf/Law%20on%20Mining%20Resources/Law%20on%20Mineral%20Resource(EN).pdf">http://www.gocambodia.com/laws/data%20pdf/Law%20on%20Mining%20Resources/Law%20on%20Mineral%20Resource(EN).pdf</a>	2001
2	Law on Electricity <a href="http://www.eac.gov.kh/pdf/publications/Electricity%20Law.en.pdf">http://www.eac.gov.kh/pdf/publications/Electricity%20Law.en.pdf</a>	2010
3	Regulation on Establishment Of Specific Requirement Of Electric Power Technical Standards <a href="http://www.cambodiainvestment.gov.kh/prakas-470-on-establishment-of-general-requirement-of-electric-power-technical-standards_040716.html">http://www.cambodiainvestment.gov.kh/prakas-470-on-establishment-of-general-requirement-of-electric-power-technical-standards_040716.html</a>	2007
4	Regulations on General Conditions of Supply of Electricity <a href="http://www.cambodiainvestment.gov.kh/regulations-on-general-conditions-of-supply-of-electricity_030117.html">http://www.cambodiainvestment.gov.kh/regulations-on-general-conditions-of-supply-of-electricity_030117.html</a>	2003
5	Regulations on General Principles for Regulating Electricity Tariffs <a href="http://www.cambodiainvestment.gov.kh/regulations-on-general-principles-for-regulating-electricity-tariffs_071026.html">http://www.cambodiainvestment.gov.kh/regulations-on-general-principles-for-regulating-electricity-tariffs_071026.html</a>	2007
6	Regulations On Overall Performance Standards For Electricity Suppliers <a href="http://www.eac.gov.kh/pdf/standards/Overall%20Performance%20Standards%20for%20Electricity%20Suppliers.en.pdf">http://www.eac.gov.kh/pdf/standards/Overall%20Performance%20Standards%20for%20Electricity%20Suppliers.en.pdf</a>	2004
<b>Rural and Urban Planning and Protection</b>		
1	Circular No. 2 Illegal State Land Occupation <a href="http://www.twgfe.org/Docs/Legislations/CIRCULAR%20on%20illegal%20occupation%20of%20state%20land.pdf">http://www.twgfe.org/Docs/Legislations/CIRCULAR%20on%20illegal%20occupation%20of%20state%20land.pdf</a>	2007
2	Circular No. 93 Settlement of the Illegal Construction on the State Land in Cities and Urban Areas	2010
3	Sub-Decree Concerning the Permit of the Construction <a href="http://www.cambodiainvestment.gov.kh/sub-decree-86-on-construction-permit_971219.html">http://www.cambodiainvestment.gov.kh/sub-decree-86-on-construction-permit_971219.html</a>	1997
4	Regulation Concerning the Administration of the Construction Site	2001
5	Sub-Decree on Addressing Socio-Economic Impacts Caused by Development Projects	DRAFT
6	Sub-Decree on Establishment of Special Economic Zone of Preah Sihanouk Municipal Port <a href="http://www.cambodiainvestment.gov.kh/content/uploads/2011/09/Sub-Decree-147-on-Establishment-of-Port-SEZ_090902.pdf">http://www.cambodiainvestment.gov.kh/content/uploads/2011/09/Sub-Decree-147-on-Establishment-of-Port-SEZ_090902.pdf</a>	2009
7	Sub-Decree on Establishment and Management of the Special Economic Zone <a href="http://www.jica.go.jp/cambodia/english/office/topics/pdf/17_Appendix-5.pdf">http://www.jica.go.jp/cambodia/english/office/topics/pdf/17_Appendix-5.pdf</a>	2006



No.	Name	Year
8	Sub-Decree on Right of Way of National Road Channels and Railroads of the Kingdom of Cambodia	2009
9	Law on the Prevention of Domestic Violence and Protection of the Victims <a href="http://sgdatabse.unwomen.org/uploads/Law%20on%20Prevention%20of%20DV%20and%20Protection%20of%20Victims.pdf">http://sgdatabse.unwomen.org/uploads/Law%20on%20Prevention%20of%20DV%20and%20Protection%20of%20Victims.pdf</a>	2005
10	Letter No. 961 Regarding the Implementation of Right of Way (ROW) Policy on National Roads, Provincial Roads, Communal Roads, and Railways	2000
Transportation and Safety		
1	Law on Civil Aviation <a href="http://www.cambodiainvestment.gov.kh/law-on-civil-aviation_080119.html">http://www.cambodiainvestment.gov.kh/law-on-civil-aviation_080119.html</a>	2008
Cultural and Natural Heritage		
1	Decree on protected cultural areas <a href="http://www.unesco.org/culture/natlaws/media/pdf/cambodia/cambodia_roydec019626_engt no.pdf">http://www.unesco.org/culture/natlaws/media/pdf/cambodia/cambodia_roydec019626_engt no.pdf</a>	1994
2	Decree establishing the Supreme Council on National Culture	1995
3	Royal Decree on 2nd Degree Regarding APSARA <a href="http://www.auditeapsara.org/en/apsara/about_apsara/legal_texts/decree2_text.html">http://www.auditeapsara.org/en/apsara/about_apsara/legal_texts/decree2_text.html</a>	1999
4	Royal Decree on Establishing APSARA <a href="http://www.auditeapsara.org/en/apsara/about_apsara/legal_texts/decree3.html">http://www.auditeapsara.org/en/apsara/about_apsara/legal_texts/decree3.html</a>	1995
5	Royal Decree on Establishing Protected Cultural Zones in the Siem Reap/Angkor Region <a href="http://www.auditeapsara.org/en/apsara/about_apsara/legal_texts/decree3.html">http://www.auditeapsara.org/en/apsara/about_apsara/legal_texts/decree3.html</a>	1994
6	Royal Decree Establishing the Site of Koh Ker	2004
7	Royal Decree on Transferring Koh Ker to APSARA Authority <a href="http://www.auditeapsara.org/en/apsara/about_apsara/legal_texts/degree5_text.html">http://www.auditeapsara.org/en/apsara/about_apsara/legal_texts/degree5_text.html</a>	2004
8	Royal Decree Concerning the Law on the Protection of Cultural Heritage <a href="http://www.unesco.org/culture/natlaws/media/pdf/cambodia/cambodia_roydec019626_engt no.pdf">http://www.unesco.org/culture/natlaws/media/pdf/cambodia/cambodia_roydec019626_engt no.pdf</a>	1998
9	Royal Decree on ASPARA <a href="http://www.pic.org.kh/fileadmin/user_upload/Files/Library_Resources/CLRDA_Legal_Database_PDF/Part_11_-_Environment_Cultural_Heritage_Natural_Resources/RKT-0295-12-95_Est_of_Apsara_Eng.pdf">http://www.pic.org.kh/fileadmin/user_upload/Files/Library_Resources/CLRDA_Legal_Database_PDF/Part_11_-_Environment_Cultural_Heritage_Natural_Resources/RKT-0295-12-95_Est_of_Apsara_Eng.pdf</a>	1998
10	Sub-Decree No. 98 Concerning the Execution of the Protection of Cultural Patrimony	2002
11	Sub-Decree Respecting Implementation of Cultural Heritage Protection	2002
Vulnerable Group		
1	Law on the Protection and the Promotion of the Rights of Persons with Disabilities <a href="http://www.cambodiainvestment.gov.kh/content/uploads/2011/09/Law-on-the-Protection-and-the-Promotion-of-the-Rights-of-Persons-with-Disabilities_090812.pdf">http://www.cambodiainvestment.gov.kh/content/uploads/2011/09/Law-on-the-Protection-and-the-Promotion-of-the-Rights-of-Persons-with-Disabilities_090812.pdf</a>	2009
2	Regulation on the Prohibition of Hazardous Child Labour	2004
3	Regulation on Categories of Occupation and Light Work Permitted for Children Aged from 12 to 15	2004
4	Regulation on Derogation of Prohibition of Children from Performing Night Work	1998
5	Decree on the Creation of a National Council for Women <a href="http://www.skpcambodia.com/Laws%20&amp;%20Regulations%20of%20the%20Kingdom%20">http://www.skpcambodia.com/Laws%20&amp;%20Regulations%20of%20the%20Kingdom%20</a>	2001

No.	Name	Year
	of%20Cambodia/Organic%20Law%20and%20regulations/Creation%20of%20Cambodian%20National%20Council%20for%20Women_Eng.pdf	
6	Law on Creation and Practicing of the Permanent Secretariat General of the Cambodian National Council for Women <a href="http://cncw.gov.kh/images/download/sub_decree_of_cncw_2007_end.pdf">http://cncw.gov.kh/images/download/sub_decree_of_cncw_2007_end.pdf</a>	2007
7	Law on the Protection and the Promotion of the Rights of Persons with Disabilities <a href="http://www.cambodiainvestment.gov.kh/content/uploads/2011/09/Law-on-the-Protection-and-the-Promotion-of-the-Rights-of-Persons-with-Disabilities_090812.pdf">http://www.cambodiainvestment.gov.kh/content/uploads/2011/09/Law-on-the-Protection-and-the-Promotion-of-the-Rights-of-Persons-with-Disabilities_090812.pdf</a>	2009
8	Regulation on the Use of Court Screen and Courtroom TV-Linked Testimony from Child/Vulnerable Victims or Witnesses <a href="http://www.skpcambodia.com/Laws%20&amp;%20Regulations%20of%20the%20Kingdom%20of%20Cambodia/Victims_Friendly%20Procedures/Court%20screen%20&amp;%20TV%20link%20Prakas-Eng%202008.pdf">http://www.skpcambodia.com/Laws%20&amp;%20Regulations%20of%20the%20Kingdom%20of%20Cambodia/Victims_Friendly%20Procedures/Court%20screen%20&amp;%20TV%20link%20Prakas-Eng%202008.pdf</a>	2008
Miscellaneous and Others		
1	Regulation on Management of Goods that Exempt Duties and Taxes <a href="http://www.cambodiainvestment.gov.kh/prakas-105-mef-brk-on-management-of-goods-that-exempt-duties-and-taxes_080215.html">http://www.cambodiainvestment.gov.kh/prakas-105-mef-brk-on-management-of-goods-that-exempt-duties-and-taxes_080215.html</a>	2008
2	Regulation on Refund of Customs Duties and Taxes <a href="http://www.cambodiainvestment.gov.kh/prakas-108-on-refund-of-customs-duties-and-taxes_080215.html">http://www.cambodiainvestment.gov.kh/prakas-108-on-refund-of-customs-duties-and-taxes_080215.html</a>	2008
3	Regulation on the Collection of Rental Real Estate Tax <a href="http://www.cambodiainvestment.gov.kh/prakas-021-on-the-collection-of-rental-real-estate-tax-buildings-and-vacant-land_94.html">http://www.cambodiainvestment.gov.kh/prakas-021-on-the-collection-of-rental-real-estate-tax-buildings-and-vacant-land_94.html</a>	1994
4	Declaration on the SWM of industries, factories and companies (16 January 2003)	2003
5	Declaration on urban and provincial SWM (25 February 2003)	2003
6	Declaration on the Organization of the Provincial and Municipal Environment Department	1999
7	Declaration on the provision of duties to carry out the sub-decree on water pollution control and the sub-decree on SWM for urban and provincial environmental departments	1999
8	Declaration on the enforcement of the sub-decree on SWM	1999

**TABLE A-2****Status of Cambodia with Regard to Major International Conventions, Protocols and Treaties Related to Environmental and Social Considerations**

International agreement	Signature	Ratification	Accession	Succession	Acceptance	Provisional Application
Convention on the Rights of Persons with Disabilities <a href="http://www.un.org/disabilities/convention/conventionfull.shtml">http://www.un.org/disabilities/convention/conventionfull.shtml</a>		20 Dec 2012				
Optional Protocol of Signature concerning the Compulsory Settlement of Disputes <a href="http://legal.un.org/ilc/texts/instruments/english/conventions/8_1_1958_optional_protocol.pdf">http://legal.un.org/ilc/texts/instruments/english/conventions/8_1_1958_optional_protocol.pdf</a>	29 Apr 1958					
Constitution of the United Nations Industrial Development Organization <a href="http://www.unido.org/fileadmin/user_media/UNIDO_Header_Site/About/UNIDO_Constitution.pdf">http://www.unido.org/fileadmin/user_media/UNIDO_Header_Site/About/UNIDO_Constitution.pdf</a>		18 Sep 1995				
International Tropical Timber Agreement, 1994 <a href="http://www.itto.int/direct/topics/topics_pdf_download/topics_id=3363&amp;no=1&amp;disp=inline">http://www.itto.int/direct/topics/topics_pdf_download/topics_id=3363&amp;no=1&amp;disp=inline</a>	3 Feb 1995	3 Feb 1995				
Constitution of the Asia-Pacific Telecommunity <a href="http://treaties.un.org/doc/Publication/UNTS/Volume%201129/volume-1129-I-17583-English.pdf">http://treaties.un.org/doc/Publication/UNTS/Volume%201129/volume-1129-I-17583-English.pdf</a>		5 Apr 2007				
Convention and Statute on Freedom of Transit <a href="http://www.wipo.int/wipolex/en/other_treaties/text.jsp?file_id=201915">http://www.wipo.int/wipolex/en/other_treaties/text.jsp?file_id=201915</a>				12 Apr 1971		
Agreement establishing the International Fund for Agricultural Development <a href="http://www.ifad.org/pub/basic/agree/e/!01agree.pdf">http://www.ifad.org/pub/basic/agree/e/!01agree.pdf</a>			25 Aug 1992			
Convention on the Prevention and Punishment of Crimes against Internationally Protected Persons, including			27 Jul 2006			

International agreement	Signature	Ratification	Accession	Succession	Acceptance	Provisional Application
Diplomatic Agents <a href="http://www.un.org/en/sc/ctc/docs/conventions/Conv4.pdf">http://www.un.org/en/sc/ctc/docs/conventions/Conv4.pdf</a>						
International Convention on the Suppression and Punishment of the Crime of Apartheid <a href="http://www.oas.org/dil/1973%20International%20Convention%20on%20the%20Suppression%20and%20Punishment%20of%20the%20Crime%20of%20Apartheid.pdf">http://www.oas.org/dil/1973%20International%20Convention%20on%20the%20Suppression%20and%20Punishment%20of%20the%20Crime%20of%20Apartheid.pdf</a>			28 Jul 1974			
Vienna Convention on Diplomatic Relations <a href="http://www.mfa.gov.tr/data/Kutuphane/MultilateralConventions/ViennaConventiononDiplomaticRelations.pdf">http://www.mfa.gov.tr/data/Kutuphane/MultilateralConventions/ViennaConventiononDiplomaticRelations.pdf</a>			31 Aug 1965			
Customs Convention on the Temporary Importation of Private Road Vehicles <a href="http://www.unece.org/fileadmin/DAM/trans/conventn/imp prive.pdf">http://www.unece.org/fileadmin/DAM/trans/conventn/imp prive.pdf</a>	4 Jun 1954					
United Nations Convention against Corruption <a href="http://www.unodc.org/documents/treaties/UNCAC/Publications/Convention/08-50026_E.pdf">http://www.unodc.org/documents/treaties/UNCAC/Publications/Convention/08-50026_E.pdf</a>	10 Dec 2003	27 Oct 2006				
Convention concerning Customs Facilities for Touring <a href="http://www.unece.org/fileadmin/DAM/trans/conventn/Touring-1954e.pdf">http://www.unece.org/fileadmin/DAM/trans/conventn/Touring-1954e.pdf</a>	4 Jun 1954	21 Feb 1955				
Convention on the Political Rights of Women <a href="http://treaties.un.org/doc/Treaties/1954/07/19540707%2000-40%20AM/Ch_XVI_1p.pdf">http://treaties.un.org/doc/Treaties/1954/07/19540707%2000-40%20AM/Ch_XVI_1p.pdf</a>	11 Nov 2001					
Constitution of the World Health Organization <a href="http://www.who.int/governance/eb/who_constitution_en.pdf">http://www.who.int/governance/eb/who_constitution_en.pdf</a>					17 May 1950	
Convention for the Suppression of the Traffic in Persons and of the Exploitation of the Prostitution of Others	27 Sep 2004					

International agreement	Signature	Ratification	Accession	Succession	Acceptance	Provisional Application
<a href="http://polis.osce.org/library/f/3655/2833/UN-USA-RPT-3655-EN-2833">http://polis.osce.org/library/f/3655/2833/UN-USA-RPT-3655-EN-2833</a>						
International Covenant on Economic, Social and Cultural Rights <a href="http://www.ohchr.org/EN/ProfessionalInterest/Pages/CESCR.aspx">http://www.ohchr.org/EN/ProfessionalInterest/Pages/CESCR.aspx</a>	17 Oct 1968	21 Sep 1970				
Agreement establishing the Asian Development Bank <a href="http://www.adb.org/sites/default/files/pub/1965/charter.pdf">http://www.adb.org/sites/default/files/pub/1965/charter.pdf</a>	4 Dec 1965	30 Aug 1966				
Convention on Biological Diversity <a href="http://www.cbd.int/doc/legal/cbd-en.pdf">http://www.cbd.int/doc/legal/cbd-en.pdf</a>			9 Feb 1995			
Convention on the Prevention and Punishment of the Crime of Genocide <a href="http://www.oas.org/dil/1948_Convention_on_the_Prevention_and_Punishment_of_the_Crime_of_Genocide.pdf">http://www.oas.org/dil/1948_Convention_on_the_Prevention_and_Punishment_of_the_Crime_of_Genocide.pdf</a>			14 Oct 1950			
Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction <a href="http://treaties.un.org/doc/Publication/MTDSG/Volume%20II/Chapter%20XXVI/XXVI-3.en.pdf">http://treaties.un.org/doc/Publication/MTDSG/Volume%20II/Chapter%20XXVI/XXVI-3.en.pdf</a>	15 Jan 1993	19 Jul 2005				
Agreement establishing the Asia-Pacific Institute for Broadcasting Development <a href="http://www.paclii.org/pits/en/treaty_database/1977/5.rtf">http://www.paclii.org/pits/en/treaty_database/1977/5.rtf</a>			10 Jul 2001			
Kyoto Protocol to the United Nations Framework Convention on Climate Change <a href="http://unfccc.int/resource/docs/convkp/kpeng.pdf">http://unfccc.int/resource/docs/convkp/kpeng.pdf</a>			22 Aug 2002			
Convention on the Rights of the Child <a href="http://www.ohchr.org/en/professionalinterest/pages/crc.as">http://www.ohchr.org/en/professionalinterest/pages/crc.as</a>			15 Oct 1992			

International agreement	Signature	Ratification	Accession	Succession	Acceptance	Provisional Application
px						
Montreal Protocol on Substances that Deplete the Ozone Layer <a href="http://ozone.unep.org/pdfs/Montreal-Protocol2000.pdf">http://ozone.unep.org/pdfs/Montreal-Protocol2000.pdf</a>			27 Jun 2001			
Vienna Convention for the Protection of the Ozone Layer <a href="http://ozone.unep.org/pdfs/viennaconvention2002.pdf">http://ozone.unep.org/pdfs/viennaconvention2002.pdf</a>			27 Jun 2001			
Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment <a href="http://www.ohchr.org/EN/ProfessionalInterest/Pages/CAT.aspx">http://www.ohchr.org/EN/ProfessionalInterest/Pages/CAT.aspx</a>			15 Oct 1992			
United Nations Framework Convention on Climate Change <a href="http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf">http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf</a>			18 Dec 1995			
United Nations Convention on the Law of the Sea <a href="http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf">http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf</a>	1 Jul 1983					
International Convention for the Suppression of the Financing of Terrorism <a href="http://www.unodc.org/documents/treaties/Special/1999%20International%20Convention%20for%20the%20Suppression%20of%20the%20Financing%20of%20Terrorism.pdf">http://www.unodc.org/documents/treaties/Special/1999%20International%20Convention%20for%20the%20Suppression%20of%20the%20Financing%20of%20Terrorism.pdf</a>	11 Nov 2001	10 May 2002				
Vienna Convention on Consular Relations <a href="http://treaties.un.org/doc/Publication/MTDSG/Volume%20I/Chapter%20III/III-6.en.pdf">http://treaties.un.org/doc/Publication/MTDSG/Volume%20I/Chapter%20III/III-6.en.pdf</a>			10 Mar 2006			
Convention on the Privileges and Immunities of the Specialized Agencies <a href="http://www2.kobe-u.ac.jp/~nmika/linked_files/Special_Le">http://www2.kobe-u.ac.jp/~nmika/linked_files/Special_Le</a>			15 Oct 1953			

International agreement	Signature	Ratification	Accession	Succession	Acceptance	Provisional Application
cture2010/Treaties/Convention_Priviledges_Immunities_Specialized_Agencies.pdf						
Convention on the Privileges and Immunities of the United Nations <a href="http://www.un.org/en/ethics/pdf/convention.pdf">http://www.un.org/en/ethics/pdf/convention.pdf</a>			6 Nov 1963			
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade <a href="http://ec.europa.eu/world/agreements/downloadFile.do?fullText=yes&amp;treatyTransId=1442">http://ec.europa.eu/world/agreements/downloadFile.do?fullText=yes&amp;treatyTransId=1442</a>			1 Mar 2013			
Convention on the International Maritime Organization <a href="http://treaties.un.org/doc/Publication/MTDSG/Volume%20II/Chapter%20XII/XII-1.en.pdf">http://treaties.un.org/doc/Publication/MTDSG/Volume%20II/Chapter%20XII/XII-1.en.pdf</a>					3 Jan 1961	
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal <a href="http://www.basel.int/Portals/4/Basel%20Convention/docs/text/BaselConventionText-e.pdf">http://www.basel.int/Portals/4/Basel%20Convention/docs/text/BaselConventionText-e.pdf</a>			2 Mar 2001			
International Convention on the Elimination of All Forms of Racial Discrimination <a href="http://eudo-citizenship.eu/InternationalDB/docs/International%20Convention%20on%20the%20Elimination%20of%20all%20Forms%20of%20Racial%20Discrimination%20Art%201%20and%205%20FULL%20TEXT.pdf">http://eudo-citizenship.eu/InternationalDB/docs/International%20Convention%20on%20the%20Elimination%20of%20all%20Forms%20of%20Racial%20Discrimination%20Art%201%20and%205%20FULL%20TEXT.pdf</a>	12 Apr 1966	8 Aug 1966				
United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances <a href="http://www.unodc.org/pdf/convention_1988_en.pdf">http://www.unodc.org/pdf/convention_1988_en.pdf</a>			7 Jul 2005			
Convention on psychotropic substances <a href="http://www.unodc.org/pdf/convention_1971_en.pdf">http://www.unodc.org/pdf/convention_1971_en.pdf</a>			7 Jul 2005			

International agreement	Signature	Ratification	Accession	Succession	Acceptance	Provisional Application
International Covenant on Civil and Political Rights <a href="http://treaties.un.org/doc/Publication/UNTS/Volume%2099/volume-999-I-14668-English.pdf">http://treaties.un.org/doc/Publication/UNTS/Volume%2099/volume-999-I-14668-English.pdf</a>	17 Oct 1980	26 May 1992				
Convention on the Elimination of All Forms of Discrimination against Women <a href="http://www.ohchr.org/Documents/ProfessionalInterest/cedaw.pdf">http://www.ohchr.org/Documents/ProfessionalInterest/cedaw.pdf</a>	17 Oct 1980	15 Oct 1992				
Stockholm Convention on Persistent Organic Pollutants <a href="http://www.pops.int/documents/convtext/convtext_en.pdf">http://www.pops.int/documents/convtext/convtext_en.pdf</a>	23 May 2001	31 Dec 2004				
United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa <a href="http://treaties.un.org/doc/Publication/MTDSG/Volume%20II/Chapter%20XXVII/XXVII-10.en.pdf">http://treaties.un.org/doc/Publication/MTDSG/Volume%20II/Chapter%20XXVII/XXVII-10.en.pdf</a>	14 Oct 1994	18 Aug 1997				
WHO Framework Convention on Tobacco Control <a href="http://whqlibdoc.who.int/publications/2003/9241591013.pdf">http://whqlibdoc.who.int/publications/2003/9241591013.pdf</a>	25 May 2004	15 Nov 2005				
Intergovernmental Agreement on the Asian Highway Network <a href="http://treaties.un.org/doc/source/RecentTexts/XI_B_34_E.pdf">http://treaties.un.org/doc/source/RecentTexts/XI_B_34_E.pdf</a>	26 Apr 2004					5 Apr 2005 (Approval)
International Convention Against the Taking of Hostages <a href="http://www.un.org/en/sc/ctc/docs/conventions/Conv5.pdf">http://www.un.org/en/sc/ctc/docs/conventions/Conv5.pdf</a>			27 Jul 2006			
Intergovernmental Agreement on the Trans-Asian Railway Network <a href="http://www.unescap.org/ttdw/common/TIS/TAR/text/tar_agreement_e.pdf">http://www.unescap.org/ttdw/common/TIS/TAR/text/tar_agreement_e.pdf</a>	10 Nov 2006					27 Aug 2010
Convention on the Rights of Persons with Disabilities	1 Oct 2007	20 Dec 2012				



International agreement	Signature	Ratification	Accession	Succession	Acceptance	Provisional Application
<a href="http://www.un.org/disabilities/convention/conventionfull.shtml">http://www.un.org/disabilities/convention/conventionfull.shtml</a>						
Convention on the International Trade in Endangered Species of Wild Fauna and Flora <a href="http://www.cites.org/eng/disc/E-Text.pdf">http://www.cites.org/eng/disc/E-Text.pdf</a>			23 Oct 1999			
Single Convention on Narcotic Drugs, 1961, as amended by the Protocol amending the Single Convention on Narcotic Drugs, 1961 <a href="http://www.unodc.org/pdf/convention_1961_en.pdf">http://www.unodc.org/pdf/convention_1961_en.pdf</a>			7 Jul 2005			
Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity <a href="http://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf">http://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf</a>	1 Feb 2012					
Cartagena Protocol on Biosafety to the Convention on Biological Diversity <a href="http://www.cbd.int/doc/legal/cartagena-protocol-en.pdf">http://www.cbd.int/doc/legal/cartagena-protocol-en.pdf</a>			17 Sep 2003			
Convention on Biological Diversity <a href="http://www.cbd.int/doc/legal/cbd-en.pdf">http://www.cbd.int/doc/legal/cbd-en.pdf</a>			9 Feb 1995			
Protocol for Limiting and Regulating the Cultivation of the Poppy Plant, the Production of, International and Wholesale Trade in, and use of Opium <a href="http://treaties.un.org/doc/Publication/MTDSG/Volume%20I/Chapter%20VI/VI-14.en.pdf">http://treaties.un.org/doc/Publication/MTDSG/Volume%20I/Chapter%20VI/VI-14.en.pdf</a>	29 Dec 1953	22 Mar 1957				
Convention on Fishing and Conservation of the Living Resources of the High Seas <a href="http://www.gc.noaa.gov/documents/8_1_1958_fishing.pdf">http://www.gc.noaa.gov/documents/8_1_1958_fishing.pdf</a>			18 Mar 1960			
Convention on the Nationality of Married Women	11 Nov 2001					

International agreement	Signature	Ratification	Accession	Succession	Acceptance	Provisional Application
<a href="http://treaties.un.org/doc/Treaties/1958/08/19580811%2001-34%20AM/Ch_XVI_2p.pdf">http://treaties.un.org/doc/Treaties/1958/08/19580811%2001-34%20AM/Ch_XVI_2p.pdf</a>						
International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families <a href="http://www.refworld.org/docid/3ae6b3980.html">http://www.refworld.org/docid/3ae6b3980.html</a>	27 Sep 2004					

Note: \* Definitive signature

Source: UN (2013)

**TABLE A-3**

**Endemic Animals and Plants in Cambodia**

No.	Kingdom	Phylum	Class	Order	Family	Species	IUCN Category
Comprehensively-Assessed Group							
1	ANIMALIA	CHORDATA	MAMMALIA	CHIROPTERA	VESPERTILIONIDAE	<i>Murina harrisoni</i>	DD
2	ANIMALIA	CHORDATA	AVES	PASSERIFORMES	TIMALIIDAE	<i>Garrulax ferrarius</i>	NT
3	ANIMALIA	CHORDATA	AMPHIBIA	ANURA	MEGOPHRYIDAE	<i>Xenophrys auralensis</i>	DD
4	ANIMALIA	CHORDATA	AMPHIBIA	ANURA	RHACOPHORIDAE	<i>Philautus cardamonus</i>	DD
5	ANIMALIA	CHORDATA	AMPHIBIA	ANURA	RHACOPHORIDAE	<i>Chiromantis samkosensis</i>	DD
6	ANIMALIA	CHORDATA	CRUSTACEA	DECAPODA	GECARCINUCIDAE	<i>Somanniathelphusa lacuvita</i>	DD
7	ANIMALIA	ARTHROPODA	CRUSTACEA	DECAPODA	PALAEEMONIDAE	<i>Macrobrachium hungi</i>	DD
Not-Comprehensively-Assessed Group							
1	ANIMALIA	CHORDATA	REPTILIA	SQUAMATA	HOMALOPSIDAE	<i>Enhydris longicauda</i>	VU
2	ANIMALIA	CHORDATA	ACTINOPTERYGII	CYPRINIFORMES	BALITORIDAE	<i>Tuberoschistura cambodgiensis</i>	LC
3	ANIMALIA	CHORDATA	ACTINOPTERYGII	PERCIFORMES	CALLIONYMIDAE	<i>Tonlesapia tsukawakii</i>	DD
4	ANIMALIA	CHORDATA	ACTINOPTERYGII	SILURIFORMES	AKYSIDAE	<i>Akysis clinatus</i>	DD
5	ANIMALIA	CHORDATA	ACTINOPTERYGII	SILURIFORMES	AKYSIDAE	<i>Akysis fuliginatus</i>	DD
6	ANIMALIA	CHORDATA	ACTINOPTERYGII	SILURIFORMES	SISORIDAE	<i>Glyptothorax coracinus</i>	DD
7	ANIMALIA	CHORDATA	ACTINOPTERYGII	SILURIFORMES	SILURIDAE	<i>Pterocryptis bokorensis</i>	DD
8	ANIMALIA	MOLLUSCA	GASTROPODA	LITTORINIMORPHA	POMATIOPSIDAE	<i>Hydrorissoia cambodiensis</i>	DD
9	ANIMALIA	MOLLUSCA	GASTROPODA	LITTORINIMORPHA	POMATIOPSIDAE	<i>Jullienia acuta</i>	DD
10	ANIMALIA	MOLLUSCA	GASTROPODA	LITTORINIMORPHA	POMATIOPSIDAE	<i>Lacunopsis monodonta</i>	DD

11	ANIMALIA	MOLLUSCA	GASTROPODA	LITTORINIMORPHA	POMATIOPSIDAE	<i>Pachydrobia fischeriana</i>	DD
12	ANIMALIA	MOLLUSCA	GASTROPODA	LITTORINIMORPHA	POMATIOPSIDAE	<i>Pachydrobia scalaroides</i>	DD
13	ANIMALIA	MOLLUSCA	GASTROPODA	NEOGASTROPODA	BUCCINIDAE	<i>Clea jullieni</i>	DD
14	PLANTAE	TRACHEOPHYTA	LILIOPSIDA	ARECALES	PALMAE	<i>Areca riparia</i>	DD

Notes: EX: Extinct; EW: Extinct in the wild; CR: Critically Endangered; EN: Endangered; VU: Vulnerable; NT: Near Threatened; LC: Least Concern; DD: Data deficient; NE: Not evaluated; PE: Probably extinct (informal).

Source: IUCN (2013b)

TABLE A-4

## IUCN Red List of Cambodia (Animal)

No.	Scientific Name	English Name
Critically Endangered (CR)		
1	<i>Aptosyax grypus</i>	Mekong Giant Salmon Carp
2	<i>Batagur baska</i>	Batagur
3	<i>Bos sauveli</i>	Kouprey
4	<i>Catlocarpio siamensis</i>	Giant Carp
5	<i>Crocodylus siamensis</i>	Siamese Crocodile
6	<i>Datnioides pulcher</i>	Siamese Tiger Perch
7	<i>Dicerorhinus sumatrensis</i>	Sumatran Rhinoceros
8	<i>Eretmochelys imbricata</i>	Hawksbill Turtle
9	<i>Fregata andrewsi</i>	Christmas Island Frigatebird
10	<i>Gyps bengalensis</i>	White-rumped Vulture
11	<i>Gyps tenuirostris</i>	Slender-billed Vulture
12	<i>Houbaropsis bengalensis</i>	Bengal Florican
13	<i>Pangasianodon gigas</i>	Mekong Giant Catfish
14	<i>Pangasius sanitwongsei</i>	Giant Pangasius
15	<i>Pristis pristis</i>	Largetooth Sawfish
16	<i>Pseudibis davisoni</i>	White-shouldered Ibis
17	<i>Rhinoceros sondaicus</i>	Javan Rhinoceros
18	<i>Sarcogyps calvus</i>	Red-headed Vulture
19	<i>Thaumatibis gigantea</i>	Giant Ibis
Endangered (EN)		
1	<i>Alveopora excelsa</i>	
2	<i>Anacropora spinosa</i>	
3	<i>Axis porcinus</i>	Hog Deer
4	<i>Bos javanicus</i>	Banteng
5	<i>Bubalus arnee</i>	Asian Buffalo
6	<i>Cairina scutulata</i>	White-winged Duck
7	<i>Cheilinus undulatus</i>	Giant Wrasse
8	<i>Cuon alpinus</i>	Dhole
9	<i>Elephas maximus</i>	Asian Elephant
10	<i>Heliopais personatus</i>	Masked Finfoot
11	<i>Heosemys annandalii</i>	Yellow-headed Temple Turtle
12	<i>Himantura oxyrhyncha</i>	Longnose Marbled Whipray
13	<i>Holothuria lessoni</i>	Golden Sandfish
14	<i>Holothuria scabra</i>	Golden Sandfish
15	<i>Holothuria whitmaei</i>	Black Teatfish
16	<i>Hylobates pileatus</i>	Pileated Gibbon
17	<i>Indotestudo elongata</i>	Elongated Tortoise
18	<i>Laubuca caeruleostigmata</i>	Flying Minnow
19	<i>Leptoptilos dubius</i>	Greater Adjutant
20	<i>Lutra sumatrana</i>	Hairy-nosed Otter
21	<i>Manis javanica</i>	Sunda Pangolin

No.	Scientific Name	English Name
22	<i>Muntiacus vuquangensis</i>	Large-antlered Muntjac
23	<i>Nomascus gabriellae</i>	Red-cheeked Gibbon
24	<i>Pangasianodon hypophthalmus</i>	Striped Catfish
25	<i>Panthera tigris</i>	Tiger
26	<i>Pavo muticus</i>	Green Peafowl
27	<i>Pelochelys cantorii</i>	Cantor's Giant Softshell
28	<i>Platalea minor</i>	Black-faced Spoonbill
29	<i>Porites eridani</i>	
30	<i>Prionailurus viverrinus</i>	Fishing Cat
31	<i>Probarbus jullieni</i>	Jullien's Golden Carp
32	<i>Probarbus labeamajor</i>	Thicklipped Barb
33	<i>Pygathrix nemaus</i>	Red-shanked Douc Langur
34	<i>Pygathrix nigripes</i>	Black-shanked Douc Langur
35	<i>Rucervus eldii</i>	Eld's Deer
36	<i>Schistura bairdi</i>	
37	<i>Scleropages formosus</i>	Asian Arowana
38	<i>Sphyrna mokarran</i>	Great Hammerhead
39	<i>Sterna acuticauda</i>	Black-bellied Tern
40	<i>Thelenota ananas</i>	Prickly Redfish
41	<i>Trachypithecus germaini</i>	Indochinese Lutung
42	<i>Tringa guttifer</i>	Spotted Greenshank
Vulnerable (VU)		
1	<i>Acanthastrea bowerbanki</i>	
2	<i>Acrocephalus tangorum</i>	Manchurian Reed-warbler
3	<i>Acropora aculeus</i>	
4	<i>Acropora acuminata</i>	
5	<i>Acropora anthocercis</i>	
6	<i>Acropora aspera</i>	
7	<i>Acropora dendrum</i>	
8	<i>Acropora donei</i>	
9	<i>Acropora palmerae</i>	
10	<i>Acropora listeri</i>	
11	<i>Acropora horrida</i>	
12	<i>Acropora microclados</i>	
13	<i>Acropora paniculata</i>	
14	<i>Acropora papillare</i>	
15	<i>Acropora polystoma</i>	
16	<i>Acropora vauhani</i>	
17	<i>Acropora verweyi</i>	
18	<i>Actinopyga echinites</i>	Brownfish
19	<i>Acropora willisae</i>	
20	<i>Actinopyga mauritiana</i>	Surf Redfish
21	<i>Actinopyga miliaris</i>	Blackfish
22	<i>Aetomylaeus nichofii</i>	Banded Eagle Ray
23	<i>Alveopora allingi</i>	

No.	Scientific Name	English Name
24	<i>Alveopora marionensis</i>	
25	<i>Alveopora verrilliana</i>	
26	<i>Amyda cartilaginea</i>	
27	<i>Asiatic Softshell Turtle</i>	
28	<i>Aonyx cinerea</i>	Asian Small-clawed Otter
29	<i>Aquila clanga</i>	Greater Spotted Eagle
30	<i>Aquila hastata</i>	Indian Spotted Eagle
31	<i>Aquila heliaca</i>	Eastern Imperial Eagle
32	<i>Arctictis binturong</i>	Binturong
33	<i>Astreopora cucullata</i>	
34	<i>Australogyra zelli</i>	
35	<i>Bangana behri</i>	
36	<i>Bos gaurus</i>	Gaur
37	<i>Bronchocela smaragdina</i>	Gunther's Bloodsucker
38	<i>Carcharhinus longimanus</i>	Oceanic Whitetip Shark
39	<i>Catalaphyllia jardinei</i>	Caulastrea echinulata
40	<i>Cirrhinus microlepis</i>	Small Scaled Mud Carp
41	<i>Columba punicea</i>	Pale-capped Pigeon
42	<i>Cromileptes altivelis</i>	Humpback Grouper
43	<i>Cryptelytrops rubeus</i>	Ruby-eyed Green Pitviper
44	<i>Cuora amboinensis</i>	South Asian Box Turtle
45	<i>Cyphastrea agassizi</i>	
46	<i>Datnioides undecimradiatus</i>	
47	<i>Dugong dugon</i>	Dugong
48	<i>Emberiza aureola</i>	Yellow-breasted Bunting
49	<i>Enhydryis longicauda</i>	Longhead Water Snake
50	<i>Epalzeorhynchus munense</i>	Red Fin Shark
51	<i>Epinephelus lanceolatus</i>	Brindle Bass
52	<i>Euphyllia ancora</i>	
53	<i>Euphyllia cristata</i>	
54	<i>Galaxea astreata</i>	
55	<i>Goniopora planulata</i>	
56	<i>Goniopora polyformis</i>	
57	<i>Grus antigone</i>	Sarus Crane
58	<i>Helarctos malayanus</i>	Sun Bear
59	<i>Heliopora coerulea</i>	Blue Coral
60	<i>Heosemys grandis</i>	Giant Asian Pond Turtle
61	<i>Himantura leoparda</i>	Leopard Whipray
62	<i>Himantura undulata</i>	Bleeker's Variegated Whipray
63	<i>Hippocampus spinosissimus</i>	Hedgehog Seahorse
64	<i>Holothuria fuscogilva</i>	
65	<i>Hypsibarbus lagleri</i>	
66	<i>Isopora brueggemanni</i>	
67	<i>Isopora cuneata</i>	
68	<i>Isurus oxyrinchus</i>	Shortfin Mako

No.	Scientific Name	English Name
69	<i>Jullienia flava</i>	
70	<i>Labeo pierrei</i>	
71	<i>Lepidochelys olivacea</i>	Olive Ridley
72	<i>Leptoptilos javanicus</i>	Lesser Adjutant
73	<i>Leptoseris yabei</i>	
74	<i>Limnonectes toumanoffi</i>	
75	<i>Lobophyllia diminuta</i>	
76	<i>Lutrogale perspicillata</i>	Smooth-coated Otter
77	<i>Macaca arctoides</i>	Stump-tailed Macaque
78	<i>Macaca leonina</i>	Northern Pig-tailed Macaque
79	<i>Malayemys subtrijuga</i>	
80	<i>Millepora latifolia</i>	
81	<i>Montastrea multipunctata</i>	
82	<i>Montipora angulata</i>	
83	<i>Montipora caliculata</i>	
84	<i>Montipora cebuensis</i>	
85	<i>Montipora crassituberculata</i>	
86	<i>Montipora friabilis</i>	
87	<i>Montipora turtlensis</i>	
88	<i>Montipora vietnamensis</i>	
89	<i>Moseleya latistellata</i>	
90	<i>Mulleripicus pulverulentus</i>	Great Slaty Woodpecker
91	<i>Mycteria cinerea</i>	Milky Stork
92	<i>Mystus bocourti</i>	
93	<i>Naja siamensis</i>	Black And White Spitting Cobra
94	<i>Neofelis nebulosa</i>	Clouded Leopard
95	<i>Neophocaena phocaenoides</i>	Indo-Pacific Finless Porpoise
96	<i>Nycticebus bengalensis</i>	Bengal Slow Loris
97	<i>Nycticebus pygmaeus</i>	Pygmy Slow Loris
98	<i>Ophiophagus hannah</i>	King Cobra
99	<i>Orcaella brevirostris</i>	Irrawaddy Dolphin
100	<i>Oriolus mellianus</i>	Silver Oriole
101	<i>Osphronemus exodon</i>	Elephant Ear Gourami
102	<i>Oxygaster pointoni</i>	
103	<i>Pachyseris rugosa</i>	
104	<i>Pangasius krempfi</i>	
105	<i>Pardofelis marmorata</i>	Marbled Cat
106	<i>Pavona bipartita</i>	
107	<i>Pavona cactus</i>	
108	<i>Pavona danai</i>	
109	<i>Pavona decussata</i>	Cactus Coral
110	<i>Pavona venosa</i>	
111	<i>Pectinia lactuca</i>	Lettuce Coral
112	<i>Platygyra yaeyamaensis</i>	
113	<i>Porites aranetai</i>	



No.	Scientific Name	English Name
114	<i>Porites cumulatus</i>	
115	<i>Porites napopora</i>	
116	<i>Porites nigrescens</i>	
117	<i>Porites sillimani</i>	
118	<i>Pteropus lylei</i>	Lyle's Flying Fox
119	<i>Python bivittatus</i>	Burmese Python
120	<i>Quasipaa fasciculispina</i>	
121	<i>Rhacophorus annamensis</i>	
122	<i>Rhincodon typus</i>	Whale Shark
123	<i>Rusa unicolor</i>	Sambar
124	<i>Rynchops albicollis</i>	Indian Skimmer
125	<i>Scaphognathops bandanensis</i>	
126	<i>Siebenrockiella crassicollis</i>	
127	<i>Stegostoma fasciatum</i>	Leopard Shark
128	<i>Stichopus herrmanni</i>	Curryfish
129	<i>Taeniurops meyeri</i>	Black-blotched Stingray
130	<i>Tenualosa thibaudeaui</i>	Mekong herring
131	<i>Thunnus obesus</i>	Bigeye Tuna
132	<i>Turbinaria bifrons</i>	
133	<i>Turbinaria mesenterina</i>	
134	<i>Turbinaria patula</i>	
135	<i>Turbinaria peltata</i>	
136	<i>Turbinaria reniformis</i>	
137	<i>Turbinaria stellulata</i>	
138	<i>Ursus thibetanus</i>	Asiatic Black Bear
139	<i>Viverra megaspila</i>	Large-spotted Civet

Source: IUCN (2013a)

**TABLE A-5**  
**IUCN Red List of Cambodia (Plant)**

No.	Scientific Name	English Name
Critically Endangered (CR)		
1	<i>Aquilaria crassna</i>	Agar Wood
2	<i>Dipterocarpus baudii</i>	
3	<i>Dipterocarpus dyeri</i>	
4	<i>Dipterocarpus turbinatus</i>	
5	<i>Hopea helferi</i>	
6	<i>Hopea latifolia</i>	
7	<i>Hopea siamensis</i>	
8	<i>Shorea hypochra</i>	White Meranti
9	<i>Shorea thorelii</i>	
Endangered (EN)		
1	<i>Azelia xylocarpa</i>	
2	<i>Anisoptera costata</i>	
3	<i>Dalbergia bariensis</i>	Burmese Rosewood
4	<i>Dalbergia cambodiana</i>	
5	<i>Dipterocarpus alatus</i>	
6	<i>Dipterocarpus costatus</i>	
7	<i>Hopea ferrea</i>	
8	<i>Hopea pedicellata</i>	
9	<i>Hopea pierrei</i>	
10	<i>Hopea recopei</i>	
11	<i>Shorea henryana</i>	White Meranti
12	<i>Shorea roxburghii</i>	White Meranti
13	<i>Typhonium circinnatum</i>	
14	<i>Vatica cinerea</i>	
Vulnerable (VU)		
1	<i>Curcuma rhabdota</i>	Candy Cane
2	<i>Cycas pectinata</i>	
3	<i>Dalbergia cochinchinensis</i>	Rose Wood
4	<i>Hopea odorata</i>	
5	<i>Intsia bijuga</i>	Borneo Teak,
6	<i>Mangifera flava</i>	
7	<i>Pterocarpus indicus</i>	Amboyna Wood
8	<i>Wrightia lecomtei</i>	
9	<i>Xylopiia pierrei</i>	
10	<i>Zingiber collinsii</i>	

Source: IUCN (2013a)

**TABLE A-6**  
**CMS-Listed Animals in Cambodia**

No.	Phylum	Class	Order	Family	Scientific Name
Animals (Appendix I)					
1	CHORDATA	MAMMALIA	CETACEA	BALAENOPTERIDAE	<i>Balaenoptera musculus</i> (Linnaeus, 1758)
2	CHORDATA	MAMMALIA	CETACEA	BALAENOPTERIDAE	<i>Megaptera novaeangliae</i> (Borowski, 1781)
3	CHORDATA	MAMMALIA	ARTIODACTYLA	BOVIDAE	<i>Bos sauveli</i> (Urbain, 1937)
4	CHORDATA	AVES	CICONIIFORMES	ARDEIDAE	<i>Egretta eulophotes</i> (Swinhoe, 1860)
5	CHORDATA	PISCES	SILURIFORMES	PANGASIIDAE	<i>Pangasianodon gigas</i> (Chevey, 1931)
Animals (Appendix I/II)					
1	CHORDATA	MAMMALIA	CETACEA	DELPHINIDAE	<i>Orcaella brevirostris</i> (Owen in Gray, 1866)
2	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Aquila clanga</i> (Pallas, 1811)
3	CHORDATA	AVES	CHARADRIIFORMES	SCOLOPACIDAE	<i>Tringa guttifer</i> (Nordmann, 1835)
4	CHORDATA	AVES	PASSERIFORMES	EMBERIZIDAE	<i>Emberiza aureola</i> (Pallas, 1773)
5	CHORDATA	REPTILIA	TESTUDINATA	CHELONIIDAE	<i>Chelonia mydas</i> (Linnaeus, 1758)
6	CHORDATA	REPTILIA	TESTUDINATA	CHELONIIDAE	<i>Caretta caretta</i> (Linnaeus, 1758)
7	CHORDATA	REPTILIA	TESTUDINATA	CHELONIIDAE	<i>Eretmochelys imbricate</i> (Linnaeus, 1766)
8	CHORDATA	REPTILIA	TESTUDINATA	CHELONIIDAE	<i>Lepidochelys olivacea</i> (Eschscholtz, 1829)
9	CHORDATA	REPTILIA	TESTUDINATA	DERMOCHELIDAE	<i>Dermochelys coriacea</i> (Dumont, 1820)
Animals (Appendix II)					
1	CHORDATA	MAMMALIA	CETACEA	PHOCOENIDAE	<i>Neophocaena phocaenoides</i> (G. Cuvier, 1829)
2	CHORDATA	MAMMALIA	CETACEA	DELPHINIDAE	<i>Sousa chinensis</i> (Osbeck, 1765)
3	CHORDATA	MAMMALIA	CETACEA	DELPHINIDAE	<i>Stenella attenuate</i> (Gray, 1866)
4	CHORDATA	MAMMALIA	CETACEA	DELPHINIDAE	<i>Stenella longirostris</i> (Gray, 1828)
5	CHORDATA	MAMMALIA	CETACEA	DELPHINIDAE	<i>Orcaella brevirostris</i> (Owen in Gray, 1866)
6	CHORDATA	MAMMALIA	SIRENIA	DUGONGIDAE	<i>Dugong dugon</i> (P. L. S. Müller, 1776)
7	CHORDATA	AVES	CICONIIFORMES	THRESKIORNITHIDAE	<i>Plegadis falcinellus</i> (Linnaeus, 1766)
8	CHORDATA	AVES	FALCONIFORMES	PANDIONIDAE	<i>Pandion haliaetus</i> (Linnaeus, 1758)
9	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Aviceda jerdoni</i> (Blyth, 1842)
10	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Aviceda leuphotes</i> (Dumont, 1820)

No.	Phylum	Class	Order	Family	Scientific Name
11	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Pernis ptilorhyncus</i> (Temminck, 1821)
12	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Milvus migrans</i> (Boddaert, 1783)
13	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Circaetus gallicus</i> (Gmelin, 1788)
14	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Circus spilonotus</i> (Kaup, 1847)
15	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Circus cyaneus</i> (Linnaeus, 1766)
16	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Circus melanoleucos</i> (Pennant, 1769)
17	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Accipiter badius</i> (Gmelin, 1788)
18	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Accipiter soloensis</i> (Horsfield, 1821)
19	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Accipiter gularis</i> (Temminck & Schlegel, 1844)
20	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Accipiter virgatus</i> (Temminck, 1822)
21	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Butastur indicus</i> (Gmelin, 1788)
22	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Buteo buteo</i> (Linnaeus, 1758)
23	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Spizaetus nipalensis</i> (Hodgson, 1836)
24	CHORDATA	AVES	FALCONIFORMES	FALCONIDAE	<i>Falco tinnunculus</i> (Linnaeus, 1758)
25	CHORDATA	AVES	FALCONIFORMES	FALCONIDAE	<i>Falco severus</i> (Horsfield, 1821)
26	CHORDATA	AVES	FALCONIFORMES	FALCONIDAE	<i>Falco peregrinus</i> (Tunstall, 1771)
27	CHORDATA	AVES	STRIGIFORMES	STRIGIDAE	<i>Ninox scutulata</i> (Raffles, 1822)
28	CHORDATA	AVES	CHARADRIIFORMES	BURHINIDAE	<i>Burhinus oedicephalus</i> (Linnaeus, 1758)
29	CHORDATA	AVES	CHARADRIIFORMES	LARIDAE	<i>Sterna albifrons</i> (Pallas, 1764)
30	CHORDATA	REPTILIA	CROCODYLIA	CROCODYLIDAE	<i>Crocodylus porosus</i> (Schneider, 1801)
31	CHORDATA	PISCES	ORECTOLOBIFORMES	RHINCOFONTIDAE	<i>Rhincodon typus</i> (Smith, 1828)
32	CHORDATA	PISCES	LAMNIFORMES	LAMNIDAE	<i>Isurus oxyrinchus</i> (Rafinesque, 1809)

Source: UNEP (2013b)

**TABLE A-7**

**CITES-Listed Animals in Cambodia**

No.	Phylum	Class	Order	Family	Scientific Name
Appendix I					
1	CHORDATA	MAMMALIA	PRIMATES	LORISIDAE	<i>Nycticebus bengalensis</i> (Lacépède, 1800)
2	CHORDATA	MAMMALIA	PRIMATES	LORISIDAE	<i>Nycticebus pygmaeus</i> (Bonhote, 1907)
3	CHORDATA	MAMMALIA	PRIMATES	CERCOPITHECIDAE	<i>Pygathrix nigripes</i> (Milne-Edwards, 1871)
4	CHORDATA	MAMMALIA	PRIMATES	HYLOBATIDAE	<i>Hylobates pileatus</i> (Gray, 1861)
5	CHORDATA	MAMMALIA	PRIMATES	HYLOBATIDAE	<i>Nomascus annamensis</i> (Van Ngoc Thinh, Mootnick, Vu Ngoc Thanh, Nadler & Roos, 2010)
6	CHORDATA	MAMMALIA	PRIMATES	HYLOBATIDAE	<i>Nomascus gabriellae</i> (Thomas, 1909)
7	CHORDATA	MAMMALIA	CETACEA	DELPHINIDAE	<i>Orcaella brevirostris</i> (Owen in Gray, 1866)
8	CHORDATA	MAMMALIA	CETACEA	DELPHINIDAE	<i>Sousa chinensis</i> (Osbeck, 1765)
9	CHORDATA	MAMMALIA	CARNIVORA	URSIDAE	<i>Helarctos malayanus</i> (Raffles, 1821)
10	CHORDATA	MAMMALIA	CARNIVORA	URSIDAE	<i>Ursus thibetanus</i> (G. Cuvier, 1823)
11	CHORDATA	MAMMALIA	CARNIVORA	VIVERRIDAE	<i>Prionodon pardicolor</i> (Hodgson, 1842)
12	CHORDATA	MAMMALIA	CARNIVORA	FELIDAE	<i>Catopuma temminckii</i> (Vigors & Horsfield, 1827)
13	CHORDATA	MAMMALIA	CARNIVORA	FELIDAE	<i>Neofelis nebulosa</i> (Griffith, 1821)
14	CHORDATA	MAMMALIA	CARNIVORA	FELIDAE	<i>Panthera pardus</i> (Linnaeus, 1758)
15	CHORDATA	MAMMALIA	CARNIVORA	FELIDAE	<i>Panthera tigris</i> (Linnaeus, 1758)
16	CHORDATA	MAMMALIA	CARNIVORA	FELIDAE	<i>Pardofelis marmorata</i> (Martin, 1837)
17	CHORDATA	MAMMALIA	CARNIVORA	FELIDAE	<i>Prionailurus bengalensis</i> (Kerr, 1792)
18	CHORDATA	MAMMALIA	CARNIVORA	FELIDAE	<i>Prionailurus bengalensis</i> (Kerr, 1792) <i>ssp. Bengalensis</i> (Kerr, 1792)
19	CHORDATA	MAMMALIA	PERISSODACTYLA	RHINOCEROTIDAE	<i>Dicerorhinus sumatrensis</i> (G. Fischer, 1814)
20	CHORDATA	MAMMALIA	PERISSODACTYLA	RHINOCEROTIDAE	<i>Rhinoceros sondaicus</i> (Desmarest, 1822)
21	CHORDATA	MAMMALIA	ARTIODACTYLA	CERVIDAE	<i>Axis porcinus</i> (Zimmermann, 1780)
22	CHORDATA	MAMMALIA	ARTIODACTYLA	CERVIDAE	<i>Axis porcinus</i> (Zimmermann, 1780) <i>ssp. Annamiticus</i> (Heude, 1888)

No.	Phylum	Class	Order	Family	Scientific Name
23	CHORDATA	MAMMALIA	ARTIODACTYLA	CERVIDAE	<i>Muntiacus vuquanghensis</i> (Tuoc, Dung, Dawson, Arctander & MacKinnon, 1994)
24	CHORDATA	MAMMALIA	ARTIODACTYLA	CERVIDAE	<i>Rucervus eldii</i> (McClelland, 1842)
25	CHORDATA	MAMMALIA	ARTIODACTYLA	BOVIDAE	<i>Bos gaurus</i> (C. H. Smith, 1827)
26	CHORDATA	MAMMALIA	ARTIODACTYLA	BOVIDAE	<i>Bos sauveli</i> (Urbain, 1937)
27	CHORDATA	MAMMALIA	ARTIODACTYLA	BOVIDAE	<i>Capricornis milneedwardsii</i> (David, 1869)
28	CHORDATA	AVES	CICONIIFORMES	CICONIIDAE	<i>Mycteria cinerea</i> (Raffles, 1822)
29	CHORDATA	AVES	ANSERIFORMES	ANATIDAE	<i>Asarcornis scutulata</i> (S. Müller, 1842)
30	CHORDATA	AVES	GRUIFORMES	OTIDIDAE	<i>Houbaropsis bengalensis</i> (Gmelin, 1789)
31	CHORDATA	AVES	CHARADRIIFORMES	SCOLOPACIDAE	<i>Tringa guttifer</i> (Nordmann, 1835)
32	CHORDATA	AVES	CORACIIFORMES	BUCEROTIDAE	<i>Buceros bicornis</i> (Linnaeus, 1758)
33	CHORDATA	AVES	PICIFORMES	PICIDAE	<i>Dryocopus javensis</i> (Horsfield, 1821)
34	CHORDATA	REPTILIA	TESTUDINES	GEOEMYDIDAE	<i>Batagur affinis</i> (Cantor, 1847)
35	CHORDATA	REPTILIA	TESTUDINES	PLATYSTERNIDAE	<i>Platysternon megacephalum</i> (Gray, 1831)
36	CHORDATA	REPTILIA	SAURIA	VARANIDAE	<i>Varanus nebulosus</i> (Gray, 1831)
37	CHORDATA	REPTILIA	SERPENTES	PYTHONIDAE	<i>Python molurus</i> (Linnaeus, 1758)
38	CHORDATA	ELASMOBRANCHII	PRISTIFORMES	PRISTIDAE	<i>Pristis microdon</i> (Latham, 1794)
39	CHORDATA	ELASMOBRANCHII	PRISTIFORMES	PRISTIDAE	<i>Pristis zijsron</i> (Bleeker, 1851)
40	CHORDATA	ACTINOPTERYGII	OSTEOGLOSSIFORMES	OSTEOGLOSSIDAE	<i>Scleropages formosus</i> (Müller & Schlegel, 1844)
41	CHORDATA	ACTINOPTERYGII	CYPRINIFORMES	CYPRINIDAE	<i>Probarbus jullieni</i> (Sauvage, 1880)
42	CHORDATA	ACTINOPTERYGII	SILURIFORMES	PANGASIIDAE	<i>Pangasianodon gigas</i> (Chevey, 1931)

Appendix I/r

1	CHORDATA	MAMMALIA	CETACEA	DELPHINIDAE	<i>Orcaella brevirostris</i> (Owen in Gray, 1866)
2	CHORDATA	MAMMALIA	SIRENIA	DUGONGIDAE	<i>Dugong dugon</i> (P. L. S. Müller, 1776)
3	CHORDATA	AVES	FALCONIFORMES	FALCONIDAE	<i>Falco peregrinus</i> (Tunstall, 1771)
4	CHORDATA	AVES	COLUMBIFORMES	COLUMBIDAE	<i>Caloenas nicobarica</i> (Linnaeus, 1758)
5	CHORDATA	REPTILIA	TESTUDINES	CHELONIIDAE	<i>Chelonia mydas</i> (Linnaeus, 1758)
6	CHORDATA	REPTILIA	TESTUDINES	CHELONIIDAE	<i>Eretmochelys imbricata</i> (Linnaeus, 1766)
7	CHORDATA	REPTILIA	CROCODYLIA	CROCODYLIDAE	<i>Crocodylus porosus</i> (Schneider, 1801)

Appendix I/w

No.	Phylum	Class	Order	Family	Scientific Name
1	CHORDATA	MAMMALIA	CETACEA	PHOCOENIDAE	<i>Neophocaena phocaenoides</i> (G. Cuvier, 1829)
2	CHORDATA	MAMMALIA	CARNIVORA	MUSTELIDAE	<i>Lutra lutra</i> (Linnaeus, 1758)
3	CHORDATA	MAMMALIA	PROBOSCIDEA	ELEPHANTIDAE	<i>Elephas maximus</i> (Linnaeus, 1758)
4	CHORDATA	REPTILIA	TESTUDINES	GEOEMYDIDAE	<i>Batagur baska</i> (Gray, 1831)
5	CHORDATA	REPTILIA	CROCODYLIA	CROCODYLIDAE	<i>Crocodylus siamensis</i> (Schneider, 1801)
Appendix II					
1	CHORDATA	MAMMALIA	SCANDENTIA	TUPAIIDAE	<i>Dendrogale murina</i> (Schlegel & Müller, 1843)
2	CHORDATA	MAMMALIA	SCANDENTIA	TUPAIIDAE	<i>Tupaia belangeri</i> (Wagner, 1841)
3	CHORDATA	MAMMALIA	CHIROPTERA	PTEROPODIDAE	<i>Pteropus hypomelanus</i> (Temminck, 1853)
4	CHORDATA	MAMMALIA	CHIROPTERA	PTEROPODIDAE	<i>Pteropus lylei</i> (K. Andersen, 1908)
5	CHORDATA	MAMMALIA	PRIMATES	CERCOPITHECIDAE	<i>Macaca arctoides</i> (I. Geoffroy, 1831)
6	CHORDATA	MAMMALIA	PRIMATES	CERCOPITHECIDAE	<i>Macaca leonina</i> (Blyth, 1863)
7	CHORDATA	MAMMALIA	PRIMATES	CERCOPITHECIDAE	<i>Trachypithecus germaini</i> (Milne-Edwards, 1876)
8	CHORDATA	MAMMALIA	PRIMATES	CERCOPITHECIDAE	<i>Trachypithecus phayrei</i> (Blyth, 1847)
9	CHORDATA	MAMMALIA	PHOLIDOTA	MANIDAE	<i>Manis javanica</i> (Desmarest, 1822)
10	CHORDATA	MAMMALIA	PHOLIDOTA	MANIDAE	<i>Manis pentadactyla</i> (Linnaeus, 1758)
11	CHORDATA	MAMMALIA	RODENTIA	SCIURIDAE	<i>Ratufa bicolor</i> (Sparrman, 1778)
12	CHORDATA	MAMMALIA	CETACEA	DELPHINIDAE	<i>Delphinus capensis</i> (Gray, 1828)
13	CHORDATA	MAMMALIA	CETACEA	DELPHINIDAE	<i>Globicephala macrorhynchus</i> (Gray, 1846)
14	CHORDATA	MAMMALIA	CETACEA	DELPHINIDAE	<i>Pseudorca crassidens</i> (Owen, 1846)
15	CHORDATA	MAMMALIA	CETACEA	DELPHINIDAE	<i>Stenella attenuata</i> (Gray, 1846)
16	CHORDATA	MAMMALIA	CETACEA	DELPHINIDAE	<i>Stenella longirostris</i> (Gray, 1828)
17	CHORDATA	MAMMALIA	CETACEA	DELPHINIDAE	<i>Tursiops aduncus</i> (Ehrenberg, 1833)
18	CHORDATA	MAMMALIA	CARNIVORA	CANIDAE	<i>Cuon alpinus</i> (Pallas, 1811)
19	CHORDATA	MAMMALIA	CARNIVORA	MUSTELIDAE	<i>Aonyx cinerea</i> (Illiger, 1815)
20	CHORDATA	MAMMALIA	CARNIVORA	MUSTELIDAE	<i>Lutra sumatrana</i> (Gray, 1865)
21	CHORDATA	MAMMALIA	CARNIVORA	MUSTELIDAE	<i>Lutrogale perspicillata</i> (I. Geoffroy Saint-Hilaire, 1826)
22	CHORDATA	MAMMALIA	CARNIVORA	FELIDAE	<i>Felis chaus</i> (Schreber, 1777)
23	CHORDATA	MAMMALIA	CARNIVORA	FELIDAE	<i>Prionailurus bengalensis</i> (Kerr, 1792) <i>ssp. bengalensis</i> (Kerr, 1792)

No.	Phylum	Class	Order	Family	Scientific Name
24	CHORDATA	MAMMALIA	CARNIVORA	FELIDAE	<i>Prionailurus viverrinus</i> (Bennett, 1833)
25	CHORDATA	AVES	CICONIIFORMES	PHOENICOPTERIDAE	<i>Phoenicopterus ruber</i> (Linnaeus, 1758)
26	CHORDATA	AVES	ANSERIFORMES	ANATIDAE	<i>Sarkidiornis melanotos</i> (Pennant, 1769)
27	CHORDATA	AVES	FALCONIFORMES	PANDIONIDAE	<i>Pandion haliaetus</i> (Linnaeus, 1758)
28	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Accipiter badius</i> (Gmelin, 1788)
29	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Accipiter gularis</i> (Temminck & Schlegel, 1844)
30	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Accipiter soloensis</i> (Horsfield, 1821)
31	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Accipiter trivirgatus</i> (Temminck, 1824)
32	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Accipiter virgatus</i> (Temminck, 1822)
33	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Aegyptius monachus</i> (Linnaeus, 1766)
34	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Aquila clanga</i> (Pallas, 1811)
35	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Aviceda jerdoni</i> (Blyth, 1842)
36	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Aviceda leuphotes</i> (Dumont, 1820)
37	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Butastur indicus</i> (Gmelin, 1788)
38	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Butastur liventer</i> (Temminck, 1827)
39	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Buteo buteo</i> (Linnaeus, 1758)
40	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Circaetus gallicus</i> (Gmelin, 1788)
41	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Circus cyaneus</i> (Linnaeus, 1766)
42	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Circus melanoleucos</i> (Pennant, 1769)
43	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Circus spilonotus</i> (Kaup, 1847)
44	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Elanus caeruleus</i> (Desfontaines, 1789)
45	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Gyps bengalensis</i> (Gmelin, 1788)
46	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Gyps tenuirostris</i> (G. R. Gray, 1844)
47	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Haliaeetus leucogaster</i> (Gmelin, 1788)
48	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Haliaeetus leucoryphus</i> (Pallas, 1771)
49	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Haliastur indus</i> (Boddaert, 1783)
50	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Hieraaetus kienerii</i> (Geoffroy Saint-Hilaire, 1835)
51	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Ichthyophaga humilis</i> (Müller & Schlegel, 1841)
52	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Ichthyophaga ichthyaetus</i> (Horsfield, 1821)
53	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Ictinaetus malayensis</i> (Temminck, 1822)



No.	Phylum	Class	Order	Family	Scientific Name
54	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Milvus migrans</i> (Boddaert, 1783)
55	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Pernis ptilorhynchus</i> (Temminck, 1821)
56	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Sarcogyps calvus</i> (Scopoli, 1786)
57	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Spilornis cheela</i> (Latham, 1790)
58	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Spizaetus cirrhatus</i> (Gmelin, 1788)
59	CHORDATA	AVES	FALCONIFORMES	ACCIPITRIDAE	<i>Spizaetus nipalensis</i> (Hodgson, 1836)
60	CHORDATA	AVES	FALCONIFORMES	FALCONIDAE	<i>Falco severus</i> (Horsfield, 1821)
61	CHORDATA	AVES	FALCONIFORMES	FALCONIDAE	<i>Falco tinnunculus</i> (Linnaeus, 1758)
62	CHORDATA	AVES	FALCONIFORMES	FALCONIDAE	<i>Microhierax caerulescens</i> (Linnaeus, 1758)
63	CHORDATA	AVES	FALCONIFORMES	FALCONIDAE	<i>Polihierax insignis</i> (Walden, 1872)
64	CHORDATA	AVES	GALLIFORMES	PHASIANIDAE	<i>Pavo muticus</i> (Linnaeus, 1766)
65	CHORDATA	AVES	GALLIFORMES	PHASIANIDAE	<i>Polyplectron bicalcaratum</i> (Linnaeus, 1758)
66	CHORDATA	AVES	GRUIFORMES	GRUIDAE	<i>Grus antigone</i> (Linnaeus, 1758)
67	CHORDATA	AVES	STRIGIFORMES	TYTONIDAE	<i>Phodilus badius</i> (Horsfield, 1821)
68	CHORDATA	AVES	STRIGIFORMES	TYTONIDAE	<i>Tyto alba</i> (Scopoli, 1769)
69	CHORDATA	AVES	STRIGIFORMES	STRIGIDAE	<i>Athene brama</i> (Temminck, 1821)
70	CHORDATA	AVES	STRIGIFORMES	STRIGIDAE	<i>Bubo nipalensis</i> (Hodgson, 1836)
71	CHORDATA	AVES	STRIGIFORMES	STRIGIDAE	<i>Glaucidium brodiei</i> (Burton, 1836)
72	CHORDATA	AVES	STRIGIFORMES	STRIGIDAE	<i>Glaucidium cuculoides</i> (Vigors, 1831)
73	CHORDATA	AVES	STRIGIFORMES	STRIGIDAE	<i>Ketupa ketupu</i> (Horsfield, 1821)
74	CHORDATA	AVES	STRIGIFORMES	STRIGIDAE	<i>Ketupa zeylonensis</i> (Gmelin, 1788)
75	CHORDATA	AVES	STRIGIFORMES	STRIGIDAE	<i>Ninox scutulata</i> (Raffles, 1822)
76	CHORDATA	AVES	STRIGIFORMES	STRIGIDAE	<i>Otus bakkamoena</i> (Pennant, 1769)
77	CHORDATA	AVES	STRIGIFORMES	STRIGIDAE	<i>Otus spilocephalus</i> (Blyth, 1846)
78	CHORDATA	AVES	STRIGIFORMES	STRIGIDAE	<i>Otus sunia</i> (Hodgson, 1836)
79	CHORDATA	AVES	STRIGIFORMES	STRIGIDAE	<i>Strix leptogrammica</i> (Temminck, 1831)
80	CHORDATA	AVES	STRIGIFORMES	STRIGIDAE	<i>Strix seloputo</i> (Horsfield, 1871)
81	CHORDATA	AVES	CORACIIFORMES	BUCEROTIDAE	<i>Anorrhinus tickelli</i> (Blyth, 1855)
82	CHORDATA	AVES	CORACIIFORMES	BUCEROTIDAE	<i>Anthracoceros albirostris</i> (Shaw & Nodder, 1807)
83	CHORDATA	AVES	CORACIIFORMES	BUCEROTIDAE	<i>Rhyticeros undulatus</i> (Shaw, 1811)

No.	Phylum	Class	Order	Family	Scientific Name
84	CHORDATA	AVES	PASSERIFORMES	MUSCICAPIDAE	<i>Leiothrix argentauris</i> (Hodgson, 1837)
85	CHORDATA	AVES	PASSERIFORMES	STURNIDAE	<i>Gracula religiosa</i> (Linnaeus, 1758)
86	CHORDATA	REPTILIA	TESTUDINES	GEOEMYDIDAE	<i>Cuora amboinensis</i> (Daudin, 1801)
87	CHORDATA	REPTILIA	TESTUDINES	GEOEMYDIDAE	<i>Cuora galbinifrons</i> (Bourret, 1939)
88	CHORDATA	REPTILIA	TESTUDINES	GEOEMYDIDAE	<i>Cyclemys atripons</i> (Iverson & McCord, 1997)
89	CHORDATA	REPTILIA	TESTUDINES	GEOEMYDIDAE	<i>Heosemys annandalii</i> (Boulenger, 1903)
90	CHORDATA	REPTILIA	TESTUDINES	GEOEMYDIDAE	<i>Heosemys grandis</i> (Gray, 1860)
91	CHORDATA	REPTILIA	TESTUDINES	GEOEMYDIDAE	<i>Malayemys macrocephala</i> (Gray, 1859)
92	CHORDATA	REPTILIA	TESTUDINES	GEOEMYDIDAE	<i>Malayemys subtrijuga</i> (Schlegel & S. Müller, 1844)
93	CHORDATA	REPTILIA	TESTUDINES	GEOEMYDIDAE	<i>Siebenrockiella crassicollis</i> (Gray, 1831)
94	CHORDATA	REPTILIA	TESTUDINES	TESTUDINIDAE	<i>Indotestudo elongata</i> (Blyth, 1853)
95	CHORDATA	REPTILIA	TESTUDINES	TESTUDINIDAE	<i>Manouria emys</i> (Schlegel & S. Müller, 1844)
96	CHORDATA	REPTILIA	TESTUDINES	TESTUDINIDAE	<i>Manouria impressa</i> (Günther, 1882)
97	CHORDATA	REPTILIA	TESTUDINES	TRIONYCHIDAE	<i>Amyda cartilaginea</i> (Boddaert, 1770)
98	CHORDATA	REPTILIA	TESTUDINES	TRIONYCHIDAE	<i>Pelochelys cantorii</i> (Gray, 1864)
99	CHORDATA	REPTILIA	SERPENTES	PYTHONIDAE	<i>Python molurus</i> (Linnaeus, 1758)
100	CHORDATA	REPTILIA	SERPENTES	COLUBRIDAE	<i>Ptyas mucosus</i> (Linnaeus, 1758)
101	CHORDATA	REPTILIA	SERPENTES	ELAPIDAE	<i>Naja atra</i> (Cantor, 1842)
102	CHORDATA	REPTILIA	SERPENTES	ELAPIDAE	<i>Naja kaouthia</i> (Lesson, 1831)
103	CHORDATA	REPTILIA	SERPENTES	ELAPIDAE	<i>Naja siamensis</i> (Laurenti, 1768)
104	CHORDATA	REPTILIA	SERPENTES	ELAPIDAE	<i>Ophiophagus hannah</i> (Cantor, 1836)
105	CHORDATA	ELASMOBRANCHII	CARCHARINIFORMES	CARCHARHINIDAE	<i>Carcharhinus longimanus</i> (Poey, 1861)
106	CHORDATA	ELASMOBRANCHII	CARCHARINIFORMES	SPHYRNIDAE	<i>Sphyrna lewini</i> (Griffith & Smith, 1834)
107	CHORDATA	ELASMOBRANCHII	CARCHARINIFORMES	SPHYRNIDAE	<i>Sphyrna mokarran</i> (Rüppell, 1837)
108	CHORDATA	ACTINOPTERYGII	SYNGNATHIFORMES	SYNGNATHIDAE	<i>Hippocampus kelloggi</i> (Jordan & Snyder, 1901)
109	CHORDATA	ACTINOPTERYGII	SYNGNATHIFORMES	SYNGNATHIDAE	<i>Hippocampus spinosissimus</i> (Weber, 1913)
110	CHORDATA	ACTINOPTERYGII	SYNGNATHIFORMES	SYNGNATHIDAE	<i>Hippocampus trimaculatus</i> (Leach, 1814)
111	ARTHROPODA	INSECTA	LEPIDOPTERA	PAPILIONIDAE	<i>Troides aeacus</i> (C. & R. Felder, 1860)
112	ARTHROPODA	INSECTA	LEPIDOPTERA	PAPILIONIDAE	<i>Troides helena</i> (Linnaeus, 1758)

Appendix II/r

No.	Phylum	Class	Order	Family	Scientific Name
1	CHORDATA	MAMMALIA	PRIMATES	CERCOPITHECIDAE	<i>Macaca fascicularis</i> (Raffles, 1821)
2	CHORDATA	ELASMOBRANCHII	ORECTOLOBIFORMES	RHINCODONTIDAE	<i>Rhincodon typus</i> (Smith, 1828)
3	CHORDATA	ACTINOPTERYGII	SYNGNATHIFORMES	SYNGNATHIDAE	<i>Hippocampus kelloggi</i> (Jordan & Snyder, 1901)
4	CHORDATA	ACTINOPTERYGII	SYNGNATHIFORMES	SYNGNATHIDAE	<i>Hippocampus kuda</i> (Bleeker, 1852)
5	CHORDATA	ACTINOPTERYGII	SYNGNATHIFORMES	SYNGNATHIDAE	<i>Hippocampus spinosissimus</i> (Weber, 1913)
6	CHORDATA	ACTINOPTERYGII	SYNGNATHIFORMES	SYNGNATHIDAE	<i>Hippocampus trimaculatus</i> (Leach, 1814)
Appendix II/w					
1	CHORDATA	AVES	PSITTACIFORMES	PSITTACIDAE	<i>Loriculus vernalis</i> (Sparrman, 1787)
2	CHORDATA	AVES	PSITTACIFORMES	PSITTACIDAE	<i>Psittacula alexandri</i> (Linnaeus, 1758)
3	CHORDATA	AVES	PSITTACIFORMES	PSITTACIDAE	<i>Psittacula eupatria</i> (Linnaeus, 1766)
4	CHORDATA	AVES	PSITTACIFORMES	PSITTACIDAE	<i>Psittacula finschii</i> (Hume, 1874)
5	CHORDATA	AVES	PSITTACIFORMES	PSITTACIDAE	<i>Psittacula roseata</i> (Biswas, 1951)
6	CHORDATA	REPTILIA	SAURIA	VARANIDAE	<i>Varanus salvator</i> (Laurenti, 1768)
7	CHORDATA	REPTILIA	SERPENTES	PYTHONIDAE	<i>Python bivittatus</i> (Kuhl, 1820)
8	CHORDATA	REPTILIA	SERPENTES	PYTHONIDAE	<i>Python reticulatus</i> (Schneider, 1801)
Appendix III					
1	CHORDATA	MAMMALIA	CARNIVORA	HERPESTIDAE	<i>Herpestes javanicus</i> (É. Geoffroy Saint-Hilaire, 1818)
2	CHORDATA	REPTILIA	SERPENTES	COLUBRIDAE	<i>Cerberus rynchops</i> (Schneider, 1799)
3	CHORDATA	REPTILIA	SERPENTES	COLUBRIDAE	<i>Xenochrophis piscator</i> (Schneider, 1799)
4	CHORDATA	REPTILIA	SERPENTES	VIPERIDAE	<i>Daboia russelii</i> (Shaw & Nodder, 1797)
Appendix III/w					
1	CHORDATA	MAMMALIA	CARNIVORA	CANIDAE	<i>Canis aureus</i> (Linnaeus, 1758)
2	CHORDATA	MAMMALIA	CARNIVORA	VIVERRIDAE	<i>Arctictis binturong</i> (Raffles, 1821)
3	CHORDATA	MAMMALIA	CARNIVORA	VIVERRIDAE	<i>Paguma larvata</i> (C. E. H. Smith, 1827)
4	CHORDATA	MAMMALIA	CARNIVORA	VIVERRIDAE	<i>Paradoxurus hermaphroditus</i> (Pallas, 1777)
5	CHORDATA	MAMMALIA	CARNIVORA	VIVERRIDAE	<i>Viverra zibetha</i> (Linnaeus, 1758)
6	CHORDATA	MAMMALIA	CARNIVORA	VIVERRIDAE	<i>Viverricula indica</i> (É. Geoffroy Saint-Hilaire, 1803)
7	CHORDATA	MAMMALIA	ARTIODACTYLA	BOVIDAE	<i>Bubalus arnee</i> (Kerr, 1792)

**TABLE A-8**  
**CITES-Listed Plants in Cambodia**

No.	Order	Family	Scientific Name
Appendix I			
1	ORCHIDALES	ORCHIDACEAE	<i>Paphiopedilum appletonianum</i> (Gower) (Rolfe)
2	ORCHIDALES	ORCHIDACEAE	<i>Paphiopedilum callosum</i> (Reichb.f.) (Stein)
3	ORCHIDALES	ORCHIDACEAE	<i>Paphiopedilum concolor</i> (Lindl.) (Pfitzer)
Appendix II			
1	ORCHIDALES	ORCHIDACEAE	<i>Aerides multiflora</i> (Roxb.)
2	ORCHIDALES	ORCHIDACEAE	<i>Aerides odorata</i> (Lour.)
3	MYRTALES	THYMELAEACEAE	<i>Aquilaria baillonii</i> (Pierre ex Lecomte)
4	MYRTALES	THYMELAEACEAE	<i>Aquilaria crassna</i> (Pierre ex Lecomte)
5	ORCHIDALES	ORCHIDACEAE	<i>Ascocentrum garayi</i> (Christenso)
6	ORCHIDALES	ORCHIDACEAE	<i>Bulbophyllum lobbii</i> (Lindley)
7	ORCHIDALES	ORCHIDACEAE	<i>Bulbophyllum rufinum</i> (Reichb. F.)
8	ORCHIDALES	ORCHIDACEAE	<i>Bulbophyllum siamense</i> (Reichb.F.)
9	ORCHIDALES	ORCHIDACEAE	<i>Calanthe angusta</i> (Lindl.)
10	ORCHIDALES	ORCHIDACEAE	<i>Calanthe lyroglossa</i> (Rchb.f.)
11	ORCHIDALES	ORCHIDACEAE	<i>Calanthe odora</i> (Griff.)
12	ORCHIDALES	ORCHIDACEAE	<i>Calanthe poilanei</i> (Gagnep)
13	ORCHIDALES	ORCHIDACEAE	<i>Calanthe succedanea</i> (Gagnep)
14	ORCHIDALES	ORCHIDACEAE	<i>Calanthe triplicata</i> (Willeme.) (Ames)
15	ORCHIDALES	ORCHIDACEAE	<i>Cleisostoma discolor</i> (Lindley)
16	ORCHIDALES	ORCHIDACEAE	<i>Coelogyne fimbriata</i> (Lindl.)
17	ORCHIDALES	ORCHIDACEAE	<i>Coelogyne trinervis</i> (Lindley)
18	ORCHIDALES	CYCADACEAE	<i>Cycas pectinata</i> (Buch.-Ham.)
19	ORCHIDALES	CYCADACEAE	<i>Cycas rumphii</i> (Miq.)
20	ORCHIDALES	ORCHIDACEAE	<i>Cymbidium aloifolium</i> (L.) (Sw.)
21	ORCHIDALES	ORCHIDACEAE	<i>Cymbidium bicolor</i> (Lindl.)
22	ORCHIDALES	ORCHIDACEAE	<i>Cymbidium bicolor</i> (Lindl.) <i>ssp. obtusum</i> (Du Puy & P.J.Cribb)

No.	Order	Family	Scientific Name
23	ORCHIDALES	ORCHIDACEAE	<i>Cymbidium cyperifolium</i> (Wall. ex Lindl.)
24	ORCHIDALES	ORCHIDACEAE	<i>Cymbidium cyperifolium</i> (Wall. ex Lindl.) <i>ssp. arrogans</i> (Du Puy & P.J.Cribb)
25	ORCHIDALES	ORCHIDACEAE	<i>Cymbidium cyperifolium</i> (Wall. ex Lindley) <i>ssp. indochinense</i> (Du Puy & Cribb)
26	ORCHIDALES	ORCHIDACEAE	<i>Cymbidium dayanum</i> (Rchb.f.)
27	ORCHIDALES	ORCHIDACEAE	<i>Cymbidium ensifolium</i> (L.) (Sw.)
28	ORCHIDALES	ORCHIDACEAE	<i>Cymbidium finlaysonianum</i> (Lindl.)
29	ORCHIDALES	ORCHIDACEAE	<i>Cymbidium lancifolium</i> (Hook.)
30	FABALES	LEGUMINOSAE	<i>Dalbergia cochinchinensis</i> (Pierre)
31	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium acinaciforme</i> (Roxb.)
32	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium aduncum</i> (Wall.ex Lindl.)
33	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium aggregatum</i> (Roxb.)
34	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium aloifolium</i> (Blume) (Rchb.f.)
35	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium aphyllum</i> (Roxb.) (C. Fischer)
36	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium bellatulum</i> (Rolfe)
37	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium chrysotoxum</i> (Lindley)
38	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium crepidatum</i> (Lindley & Paxton)
39	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium crumenatum</i> (Sw).
40	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium crystallinum</i> (Rchb.f.)
41	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium cumulatum</i> (Lindley)
42	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium delacourii</i> (Guill.)
43	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium draconis</i> (Rchb.f.)
44	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium hercoglossum</i> (Rchb.f.)
45	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium incurvum</i> (Lindl.)
46	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium intricatum</i> (Gagnep.)
47	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium leonis</i> (Lindl.) (Rchb.f.)
48	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium loddigesii</i> (Rolfe)
49	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium lomatochilum</i> (Seidenf.)
50	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium microbolbon</i> (A. Rich.)
51	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium nathanielis</i> (Rchb.f.)
52	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium parishii</i> (Rchb.f.)

No.	Order	Family	Scientific Name
53	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium pulchellum</i> (Roxb. ex Lindley)
54	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium secundum</i> (Blume) (Lindley ex Wall.)
55	ORCHIDALES	ORCHIDACEAE	<i>Dendrobium venustum</i> (Teijsm. & Binn)
56	LILIALES	DIOSCOREACEAE	<i>Dioscorea deltoidea</i> (Wallich ex Kunth)
57	EBENALES	EBENACEAE	<i>Diospyros curranii</i> (Merr.)
58	EBENALES	EBENACEAE	<i>Diospyros ferrea</i> (Willd.) (Bakh.)
59	EBENALES	EBENACEAE	<i>Diospyros filipendula</i> (Pierre ex Lecomte)
60	EBENALES	EBENACEAE	<i>Diospyros hermaphroditica</i> (Zoll.) (Bakh.)
61	EBENALES	EBENACEAE	<i>Diospyros montana</i> (Roxb.)
62	EBENALES	EBENACEAE	<i>Diospyros vera</i> (A.Chev.)
63	EUPHORBIALES	EUPHORBIACEAE	<i>Euphorbia atoto</i> (Forster)
64	ORCHIDALES	ORCHIDACEAE	<i>Habenaria rhodocheila</i> (Hance)
65	ORCHIDALES	ORCHIDACEAE	<i>Liparis distans</i> (C.B. Clarke)
66	ORCHIDALES	ORCHIDACEAE	<i>Luisia teretifolia</i> (Gaudich.)
67	NEPENTHALES	NEPENTHACEAE	<i>Nepenthes anamensis</i> (Macfarl)
68	NEPENTHALES	NEPENTHACEAE	<i>Nepenthes mirabilis</i> (Lour) (Druce)
69	ORCHIDALES	ORCHIDACEAE	<i>Papilionanthe masperoae</i> (Kerr) (Garay)
70	ORCHIDALES	ORCHIDACEAE	<i>Phalaenopsis amabilis</i> (L.) (Blume)
71	ORCHIDALES	ORCHIDACEAE	<i>Phalaenopsis cornucervi</i> (Breda) (Blume & Reichb.f.)
72	ORCHIDALES	ORCHIDACEAE	<i>Phalaenopsis mannii</i> (Rchb.f.)
73	ORCHIDALES	ORCHIDACEAE	<i>Phalaenopsis parishii</i> (Rchb.f.)
74	ORCHIDALES	ORCHIDACEAE	<i>Rhynchostylis coelestis</i> (Reichb.f.)
75	ORCHIDALES	ORCHIDACEAE	<i>Rhynchostylis gigantea</i> (Lindl.) (Ridl.)
76	ORCHIDALES	ORCHIDACEAE	<i>Rhynchostylis retusa</i> (Blume)
77	ORCHIDALES	ORCHIDACEAE	<i>Schoenorchis gemmata</i> (Lindl.) (J.J.Sm.)
78	ORCHIDALES	ORCHIDACEAE	<i>Spathoglottis plicata</i> (Blume)
79	ORCHIDALES	ORCHIDACEAE	<i>Sunipia racemosa</i> (Smit) (Tang & Wang)
80	ORCHIDALES	ORCHIDACEAE	<i>Tropidia curculigoides</i> (Blume)
81	ORCHIDALES	ORCHIDACEAE	<i>Vanda lilacina</i> (Teijsm. & Binn.)
82	ORCHIDALES	ORCHIDACEAE	<i>Vanda liouvillei</i> (Finet)

Source: UNEP (2013a)

**TABLE A-9**  
**IUCN Management Categories**

Category	Description
Ia: Strict Nature Reserve	<p>Strict Nature Reserves are protected from all but light human use in order to preserve all geological and geomorphical features of the region and their biodiversity, which is often dense and restricted to exclusively to scientific monitoring, study or education. Being such preserved environments, Strict Nature Reserves can be used as an indicator of external human influence, which can be increasingly difficult to guard against as climate and air pollution are potentially able to penetrate protected area boundaries.</p> <p>Occasionally Strict Nature Reserves are of spiritual significance to surrounding communities in which case the people are generally allowed to continue the practice of their faith and may be directly involved in the area's conservation and management objectives, though perpetual human intervention would more suitably be allocated to categories IV or V.</p>
Ib: Wilderness Area	<p>Generally larger than Strict Nature Reserves, the main objectives of these areas is to provide an environment in which biodiversity and ecosystem processes (including evolution) are allowed to flourish or experience restoration if previously disturbed by human activity. Human use is limited, often allowing only those who are willing to travel of their own accord rather than via established touristic activities. Wilderness areas can be classified as such only if they are devoid of modern infrastructure, although they allow human activity to the level of sustaining indigenous groups living wilderness-based lifestyles.</p>
II: National Park	<p>Similar to the objectives of Wilderness Areas, National Parks provide protection for functioning ecosystems, but tend to be more lenient with human visitation and the supporting infrastructure. National Parks are managed in a way that may contribute to local economies through promoting educational and recreational tourism on a scale that will not reduce the effectiveness of conservation efforts. The surrounding areas of a National Park may be for consumptive or non-consumptive use, but should nevertheless act as a barrier for the defence of the protected area's native species and communities to enable them to remain sustainable in the long term.</p>
III: Natural Monument or Feature	<p>These are comparatively smaller areas that are specifically allocated to protect a natural monument and its surrounding habitats. Natural Monuments or Features can be natural in the wholest sense, or include elements that have been influenced or introduced by humans. The latter should hold biodiversity associations or could otherwise be classified as a historical or spiritual site, though this distinction can be quite difficult to ascertain. As such, the classification then falls into two subcategories, those in which the biodiversity is uniquely related to the conditions of the natural feature, and those in which the current levels of biodiversity are dependent on the presence of the sacred sites that have created an essentially modified ecosystem. Natural Monuments or Features have a high cultural or spiritual value which can be utilised to gain support for conservation challenges.</p>
IV: Habitat/Species Management Area	<p>Habitat/Species Management Areas focus on more specific areas of conservation in correlation to an identifiable species or habitat that requires continuous protection. These protected areas will be sufficiently controlled to ensure the maintenance, conservation and restoration of particular species and habitats - possibly through traditional means - and public education of such areas is widely encouraged as part of the management objectives. Habitat or Species Management Areas may exist as a</p>



	fraction of a wider ecosystem or protected area and may require varying levels of active intervention including - but not limited to - the prevention of poaching, creation of artificial habitats, halting natural succession and supplementary feeding practices.
V: Protected Landscape/Seascape	Protected Landscapes and Seascapes cover entire bodies of land or ocean which engages a range of for-profit activities within the management plan. The main objective is to safeguard regions that have built up a 'distinct character' in regards to their ecological, biological, cultural or scenic value. Protected Landscapes and Seascapes allow a higher level of sustainable interaction with surrounding communities (such as traditional agricultural and forestry systems) and should represent an integral balance between people and nature. Protected Landscapes and Seascapes are one of the more flexible categories and may be able to accommodate contemporary developments such as ecotourism whilst maintaining historical agrobiodiversity and aquatic biodiversity management practices.
VI: Protected area with sustainable use of natural resources	Category VI is a more encompassing classification that is based on a mutually beneficial relationship between nature conservation and the sustainable management of natural resources in correspondence the livelihoods of surrounding communities. A wide range of socio-economic factors are taken into consideration in creating local, regional and national approaches to the use of natural resources. Though human involvement is a large factor in the management of these protected areas, developments are not intended to allow for widescale industrial production. These areas would be particularly suitable to vast areas that already have a low level of human occupation that has had little or no negative impact on the environmental health of the region, as a proportion of the land mass is expected to remain in its natural condition - a regulation to be enforced on a national level, and usually with specificity to each protected area. Governance has to be developed to adapt to the diverse and possibly growing range of interests that arise from the production of sustainable natural resources.

Source: UNEP (2013b)

**TABLE A-10**  
**Protected Areas in Cambodia**

No.	Site Name	IUCN Management Category	Year Established	Province	Area (km <sup>2</sup> )
National Parks					
1	Kirirom	II	1993	Kampong Speu and Koh Kong	350
2	Preah Monivong	II	1993	Kampot	1,400
3	Kep	II	1993	Kampot	50
4	Ream	II	1993	Sihanoukville	210
5	Phnom Kulen	II	1993	Siem Reap	375
6	Virachey	II	1995	Ratanakiri and Stung Treng	3,325
7	Botum Sakor	Not Reported	1993	Kampot and Sihanoukville	1,712
Subtotal					7,422
Protected Forest					
1	Ang Trapeang Thmor	III	1999	Banteay Meanchey	102
2	Central Cardamom Mountains	IV	1999	Koh Kong, Pursat, Kampot Speu	4,010
3	Preah Vihear	IV	1999	Preah Vihear	1,900
4	Mondulkiri	IV	1999	Mondulkiri	3,720
5	Kbal Chhay	Not Reported	1997	Sihanoukville	63
6	Ta Moa	Not Reported	1997	Takéo	23
7	Seima	Not Reported	2004	Mondulkiri, Kratié	2,981
8	Southwest Elephant Corridor	Not Reported	2004	Koh Kong, Pursat, Kampot Speu	1,442
9	Trapeang Lpeou	Not Reported	2007	Kampot	83
10	Nsok	Not Reported	2009	Ratanakiri	1,012
Subtotal					15,336
Wildlife Sanctuaries					
1	Beng Per	IV	1993	Mostly Kampong Thom and Preah Vihear	2,425
2	Peam Krasop	IV	1993	Koh Kong	237
3	Kulen-Promtep	IV	1993	Siem Reap and Preah Vihear	4,025
4	Lumphat	IV	1993	Ratanakiri, Mondulkiri, and Kratié	2,514

5	Phnom Aural	IV	1993	Kampong Chhnang, Kampong Speu and Pursat	2,537
6	Phnom Prich	IV	1993	Mondulkiri	2,225
7	Pnom Nam Lear	IV	1993	Mondulkiri	475
8	Snoul	IV	1993	Snuol District, Kratié	750
9	Phnom Samkos	IV	1994	Primarily Pursat	3,337
10	Roniem Daun Sam I, II, III	Not Reported	1993	Battambang	398
Subtotal					17,798
Protected Landscapes					
1	Angkor Wat	V	1993	Siem Reap	135
2	Banteay Chhmar	V	1993	Banteay Meanchey	812
3	Preah Vihear Temple	V	1993	Preah Vihear	50
4	Lour Kola Peach Borant Angkor	Not Reported	N/A	Siem Reap	0.34
Subtotal					997
Multiple Use Areas					
1	Boeung Tonle Chhmar	IV	1993	Kampong Thom	145
2	Stung Sen	IV	1993	Kampong Thom	63
3	Prek Toal	IV	1993	Battambang	213
4	Dong Peng	VI	1993	Koh Kong	277
5	Samlaut	VI	1993	Battambang	600
6	Tonle Sap Biosphere	VI	1993	Kampong Chhnang, KampongThom, Siem Reap, Battambang and Pursat	3,162
Subtotal					4,460
Total					46,013
Total % of Cambodia's territory					25.42%
Ramsar Site					
1	Koh Kapik and Associated Islets	N/A	1999	Koh Kong	120
2	Boeung Chhmar and Associated River System and Floodplain	N/A	1999	Kampong Thom	280
3	Middle Stretches of the Mekong River north of Stung Treng	N/A	1999	Stung Treng	146

ASEAN Heritage Park					
1	Preah Monivong National Park (Bokor)	N/A	2003	Kampot	1,400
2	Virachey National Park	N/A	2003	Ratanakiri, Stung Treng	3,200
Biosphere Reserve					
1	Tonle Sap	N/A	1997	Siem Reap, Battambang, Pursat, Kampong Thom and Kampong Chhnang	14,812
Subtotal					19,958

**TABLE A-11**  
**Important Bird Areas in Cambodia**

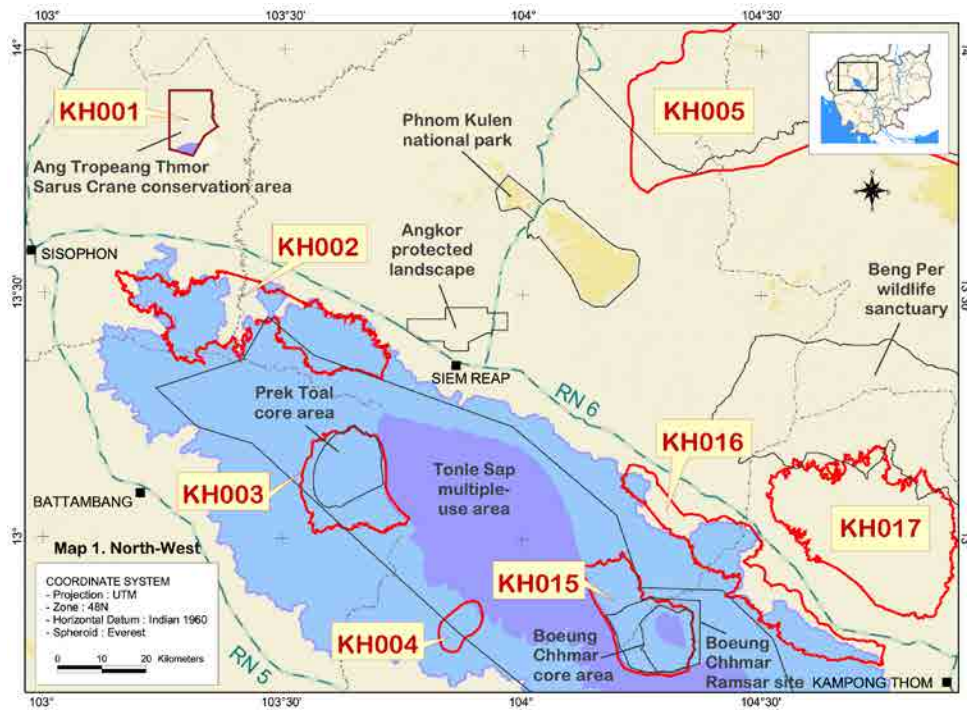
ID	Site name	Zone	Area (ha)	Coordinates	Status
KH001	Ang Trapeang Thmor	Banteay Meanchay	12,659	13°51' N 103°19' E	Protected (Protected Forest)
KH002	Preah Netr Preah / Kralanh / Pourk	Banteay Meanchay, Siem Reap	69,570	13°26' N 103°26' E	Unprotected
KH003	Prek Toal	Battambang	39,873	13°07' N 103°39' E	Unprotected
KH004	Dei Roneat	Pursat	7,251	12°49' N 103°52' E	Unprotected
KH005	Upper Stung Sen Catchment	Oddar Meanchey, Preah Vihear, Siem Reap	533,748	14°00' N 104°44' E	Partially protected (Wildlife Sanctuaries)
KH006	O Skach	Preah Vihear	80,426	13°58' N 105°08' E	Unprotected
KH007	Chhep	Preah Vihear, Stung Treng	243,661	14°04' N 105°30' E	Partially protected (Protected Forest)
KH008	Western Siem Pang	Stung Treng	138,137	14°07' N 106°14' E	Unprotected
KH009	Sekong River	Sesan, Stung Treng	14,116	13°59' N 106°18' E	Unprotected
KH010	Virachey	Ratanakiri, Stung Treng	432,415	14°20' N 107°11' E	Partially protected (National Parks)
KH011	Sesan River	Ratanakiri, Stung Treng	20,504	13°50' N 107°23' E	Unprotected
KH012	Phnom Samkos	Battambang, Koh Kong	207,783	12°10' N 102°59' E	Partially protected (Wildlife Sanctuaries)
KH013	Central Cardamoms	Kampong Speu, Koh Kong, Pursat	385,362	11°53' N 103°32' E	Partially protected (Protected Forest)
KH014	Phnom Aoral	Kampong Chhnang, Kampong Speu, Pursat	50,085	12°03' N 104°09' E	Protected (Wildlife Sanctuaries)

ID	Site name	Zone	Area (ha)	Coordinates	Status
KH015	Boeung Chhmar/ Moat Khla	Kampong Thom, Siem Reap	39,405	12°51' N 104°14' E	Unprotected
KH016	Stung/Chi Kreng/ Kampong Svay	Kampong Thom, Siem Reap	53,543	12°57' N 104°25' E	Unprotected
KH017	Stung/Prasat Balang	Kampong Thom	100,675	13°01' N 104°43' E	Unprotected
KH018	Chhnuk Tru	Kampong Chhnang, Pursat	2,357	12°32' N 104°25' E	Unprotected
KH019	Lower Stung Sen	Kampong Thom	12,390	12°36' N 104°31' E	Unprotected
KH020	Veal Srongae	Kampong Chhnang, Kampong Thom	5,873	12°36' N 104°39' E	Unprotected
KH021	Stung Sen/Santuk/ Baray	Kampong Cham, Kampong Chhnang, Kampong Thom	109,081	12°25' N 104°53' E	Unprotected
KH022	Northern Santuk	Kampong Thom	24,312	12°41' N 105°07' E	Unprotected
KH023	Mekong River from Kratiéto Laos	Kratié, Stung Treng	83,501	13°17' N 105°58' E	Unprotected
KH024	Lomphat	Kratié, Mondulkiri, Ratanakiri, Stung Treng	306,397	13°23' N 106°38' E	Partially protected (Wildlife Sanctuaries)
KH025	Upper Srepok Catchment	Mondulkiri, Ratanakiri	507,711	12°58' N 107°16' E	Partially protected (Protected Landscapes)
KH026	Mondulkiri/Kratié Lowlands	Mondulkiri, Ratanakiri	383,233	12°28' N 106°38' E	Partially protected (Wildlife Sanctuaries)
KH027	Snoul/Keo Sema/O Reang	Kratié, Mondulkiri	257,843	12°15' N 107°02' E	Partially protected (Wildlife Sanctuaries)
KH028	Koh Kapik	Koh Kong	27,289	11°30' N 103°02' E	Partially protected (National Parks)
KH029	Sre Ambel	Koh Kong	8,068	11°06' N 103°41' E	Unprotected

ID	Site name	Zone	Area (ha)	Coordinates	Status
KH030	Kirirom	Kampong Speu, Koh Kong, Sihanoukville	52,783	11°18' N 103°57' E	Partially protected (National Parks)
KH031	Phnom Bokor	Kampot, Koh Kong, Sihanoukville	101,587	10°51' N 104°02' E	Protected (National Parks)
KH032	Stung Kampong Smach	Sihanoukville	13,790	10°37' N 103°51' E	Unprotected
KH033	Prek Taek Sap	Sihanoukville	3,579	10°34' N 103°41' E	Unprotected
KH034	Koh Rong Archipelago	Sihanoukville	10,561	10°43' N 103°15' E	Unprotected
KH035	Koh Tang Archipelago	Sihanoukville	667	10°18' N 103°08' E	Unprotected
KH036	Bassac Marsh	Kandal, Phnom Penh	2,770	11°39' N 104°50' E	Unprotected
KH037	Boeung Veal Samnap	Kandal	11,286	11°37' N 105°02' E	Unprotected
KH038	Bassac Marsh	Kandal	52,316	11°17' N 105°09' E	Unprotected
KH039	Boeung Prek Lapouv	Takeo	9,276	10°43' N 105°02' E	Unprotected
KH040	Kampong Trach	Kampot	1,108	10°26' N 104°31' E	Unprotected

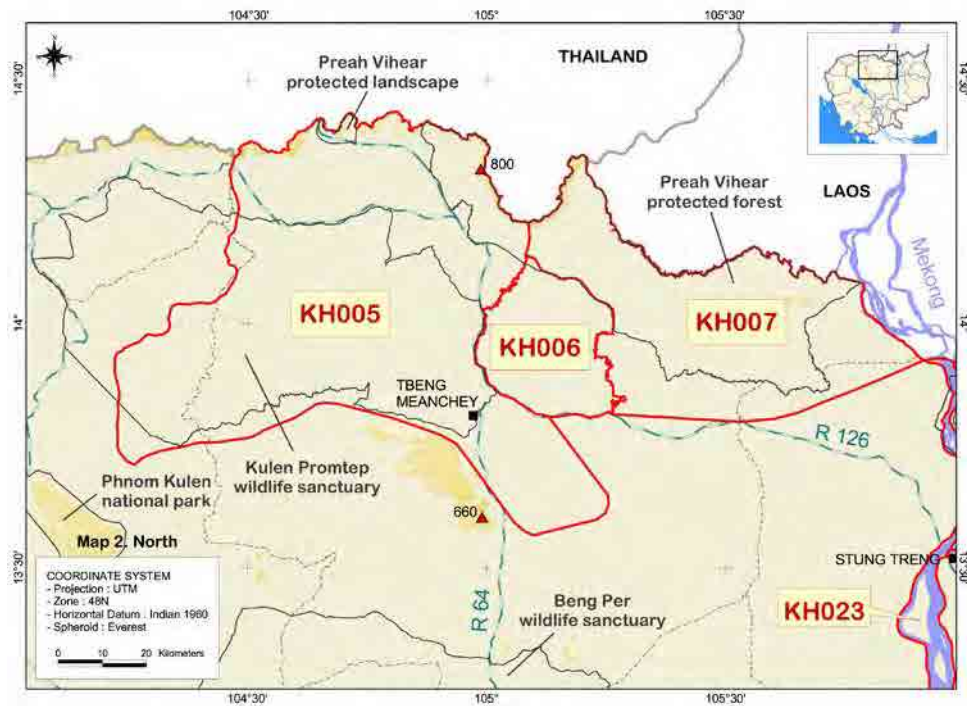
Source: BirdLife International (2004) [modified]

**FIGURE A-12**  
**Detailed Maps of Important Bird Areas (1)**



Source: BirdLife International in Indochina (2013)

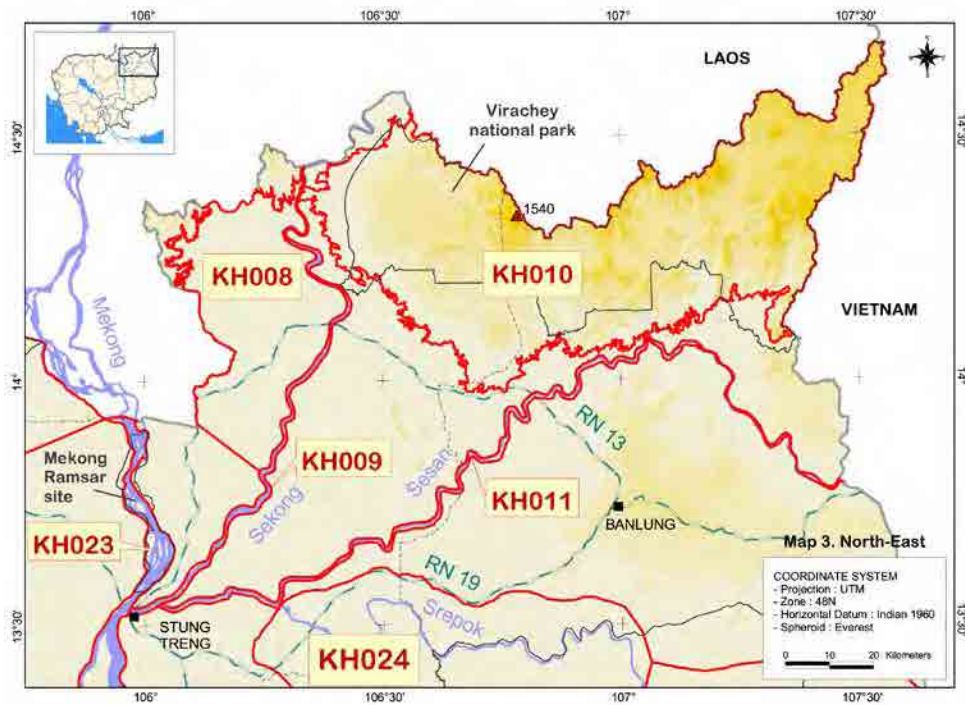
**FIGURE A-13**  
**Detailed Maps of Important Bird Areas (2)**



Source: BirdLife International in Indochina (2013)

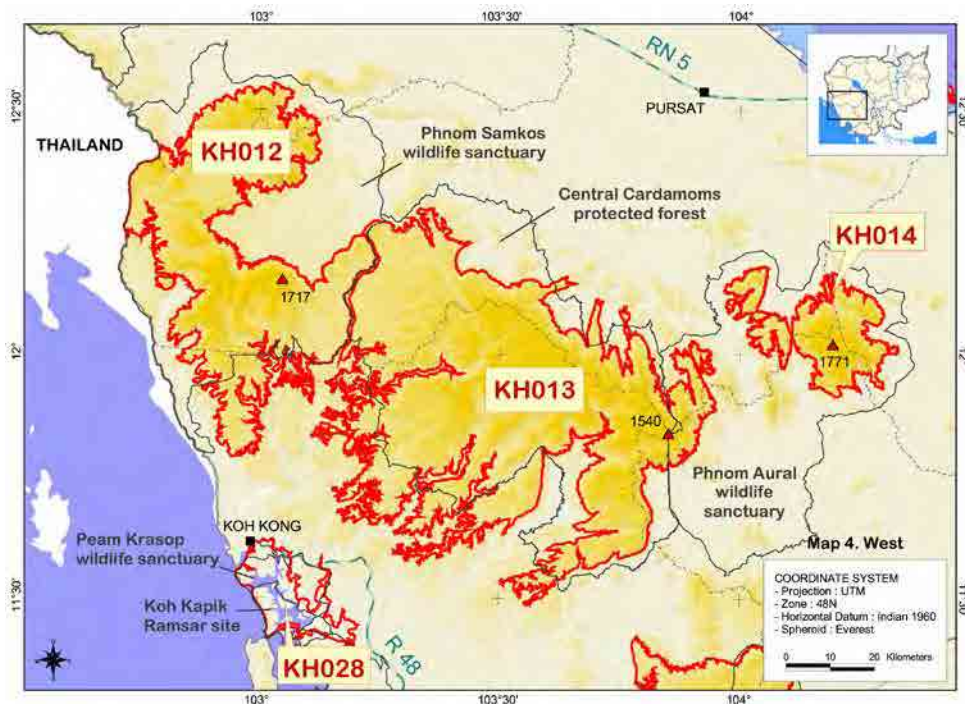


**FIGURE A-14**  
**Detailed Maps of Important Bird Areas (3)**



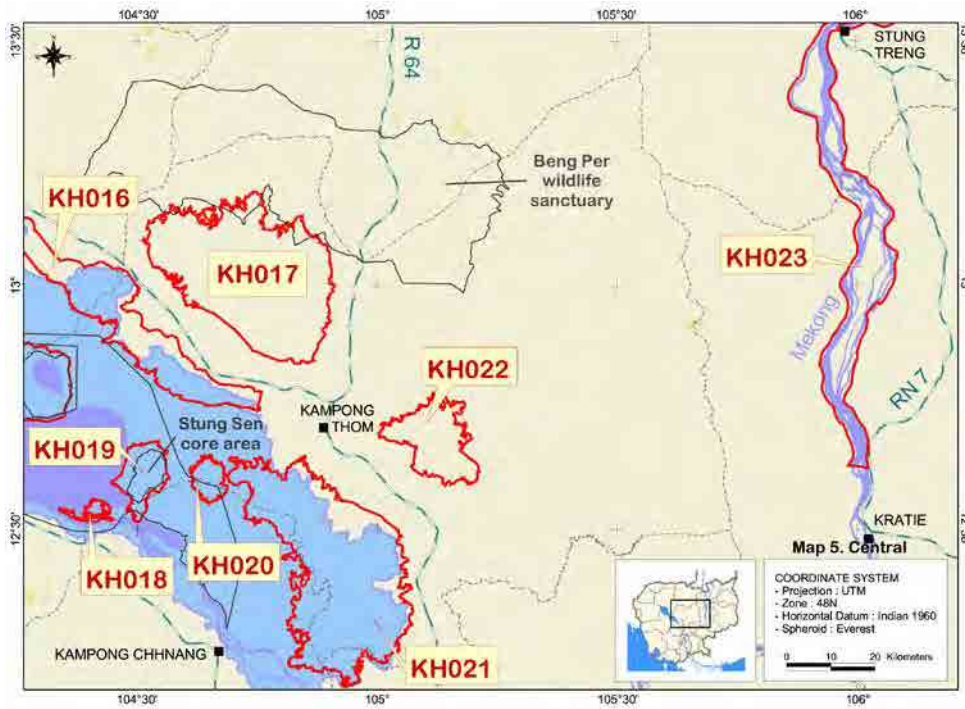
Source: BirdLife International in Indochina (2013)

**FIGURE A-15**  
**Detailed Maps of Important Bird Areas (4)**



Source: BirdLife International in Indochina (2013)

**FIGURE A-16**  
**Detailed Maps of Important Bird Areas (5)**



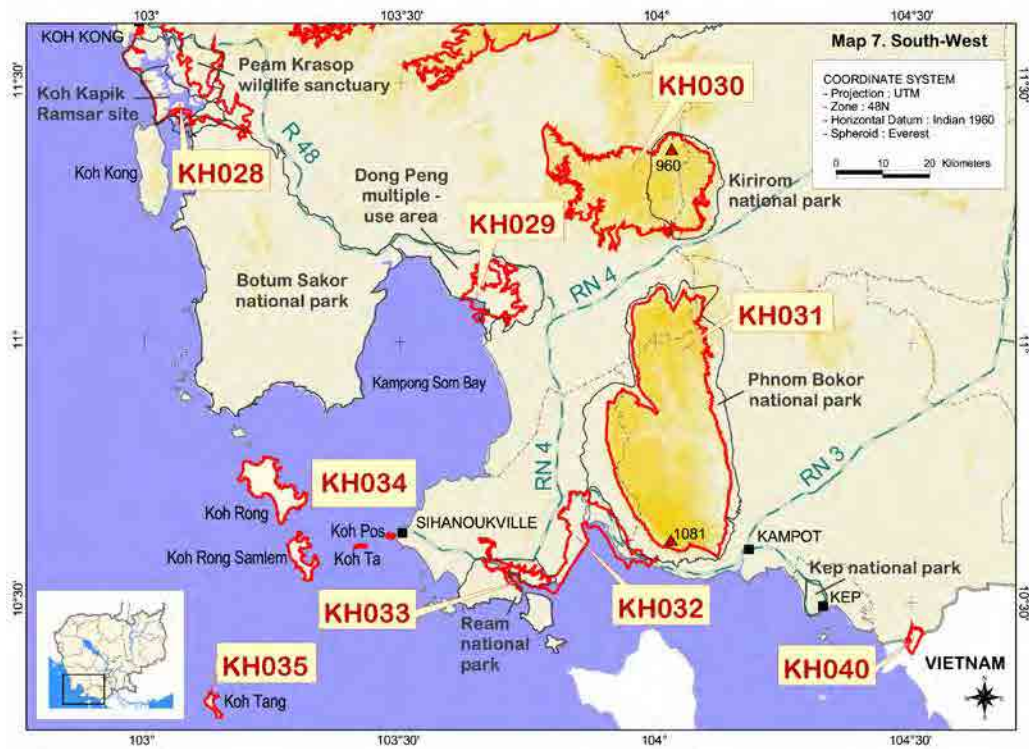
Source: BirdLife International in Indochina (2013)

**FIGURE A-17**  
**Detailed Maps of Important Bird Areas (6)**



Source: BirdLife International in Indochina (2013)

**FIGURE A-18**  
**Detailed Maps of Important Bird Areas (7)**



Source: BirdLife International in Indochina (2013)

**TABLE A-19****Effluent Standards for Pollution Sources Discharging Wastewater to Public Water Areas or Sewer Access**

No.	Parameters	Unit	Allowable limits for pollutant substance discharging to	
			Protected public water area	Public water area and sewer
1	Temperature	°C	< 45	< 45
2	pH		6 – 9	5 - 9
3	BOD5 (5 days at 20°C)	mg/l	< 30	< 80
4	COD	mg/l	< 50	< 100
5	Total Suspended Solids	mg/l	< 50	< 80
6	Total Dissolved Solids	mg/l	< 1000	< 2000
7	Grease and Oil	mg/l	< 5.0	< 15
8	Detergents	mg/l	< 5.0	< 15
9	Phenols	mg/l	< 0.1	< 1.2
10	Nitrate (NO <sub>3</sub> )	mg/l	< 10	< 20
11	Chlorine (free)	mg/l	< 1.0	< 2.0
12	Chloride (ion)	mg/l	< 500	< 700
13	Sulphate (as SO <sub>4</sub> )	mg/l	< 300	< 500
14	Sulphide (as Sulphur)	mg/l	< 0.2	< 1.0
15	Phosphate (PO <sub>4</sub> )	mg/l	< 3.0	< 6.0
16	Cyanide (CN)	mg/l	< 0.2	< 1.5
17	Barium (Ba)	mg/l	< 4.0	< 7.0
18	Arsenic (As)	mg/l	< 0.10	< 1.0
19	Tin (Sn)	mg/l	< 2.0	< 8.0
20	Iron (Fe)	mg/l	< 1.0	< 20
21	Boron (B)	mg/l	< 1.0	< 5.0
22	Manganese (Mn)	mg/l	< 1.0	< 5.0
23	Cadmium (Cd)	mg/l	< 0.1	< 0.5
24	Chromium (Cr <sup>3+</sup> )	mg/l	< 0.2	< 1.0
25	Chromium (Cr <sup>6+</sup> )	mg/l	< 0.05	< 0.5
26	Copper (Cu)	mg/l	< 0.2	< 1.0
27	Lead (Pb)	mg/l	< 0.1	< 1.0
28	Mercury (Hg)	mg/l	< 0.002	< 0.05
29	Nickel (Ni)	mg/l	< 0.2	< 1.0
30	Selenium (Se)	mg/l	< 0.05	< 0.5
31	Silver (Ag)	mg/l	< 0.1	< 0.5
32	Zinc (Zn)	mg/l	< 1.0	< 3.0
33	Molybdenum (Mo)	mg/l	< 0.1	< 1.0
34	Ammonia (NH <sub>3</sub> )	mg/l	< 5.0	< 7.0
35	Dissolved Oxygen	mg/l	> 2.0	> 1.0
36	Polychlorinated Biphenyl	mg/l	< 0.003	< 0.003
37	Calcium	mg/l	< 150	< 200
38	Magnesium	mg/l	< 150	< 200
39	Carbon tetrachloride	mg/l	< 3	< 3
40	Hexachloro benzene	mg/l	< 2	< 2
41	DDT	mg/l	< 1.3	< 1.3
42	Endrin	mg/l	< 0.01	< 0.01

No.	Parameters	Unit	Allowable limits for pollutant substance discharging to	
			Protected public water area	Public water area and sewer
43	Dieldrin	mg/l	< 0.01	< 0.01
44	Aldrin	mg/l	< 0.01	< 0.01
45	Isodrin	mg/l	< 0.01	< 0.01
46	Perchloro ethylene	mg/l	< 2.5	< 2.5
47	Hexachloro butadiene	mg/l	< 3	< 3
48	Chloroform	mg/l	< 1	< 1
49	1,2 Dichloro ethylene	mg/l	< 2.5	< 2.5
50	Trichloro ethylene	mg/l	< 1	< 1
51	Trichloro benzene	mg/l	< 2	< 2
52	Hexachloro cyclohexene	mg/l	< 2	< 2

Source: WEPA (2012)

**TABLE A-20****Water Quality Standard in Public Water Areas for Biodiversity Conservation**

	No.	Parameter	Unit	Standard Value
River	1	pH	mg/l	6.5 – 8.5
	2	BOD <sub>5</sub>	mg/l	1 – 10
	3	Suspended Solid	mg/l	25 – 100
	4	Dissolved Oxygen	mg/l	2.0 - 7.5
	5	Coliform	MPN/100ml	< 5000
Lakes and Reservoirs	1	pH	mg/l	6.5 – 8.5
	2	COD	mg/l	1 – 8
	3	Suspended Solid	mg/l	1 – 15
	4	Dissolved Oxygen	mg/l	2.0 - 7.5
	5	Coliform	MPN/100ml	< 1000
	6	Total Nitrogen	mg/l	– 0.6
	7	Total Phosphorus	mg/l	0.005 – 0.05
Coastal Water	1	pH	mg/l	7.0 – 8.3
	2	COD	mg/l	2 – 8
	3	Dissolved Oxygen	mg/l	2 - 7.5
	4	Coliform	MPN/100ml	< 1000
	5	Oil content	mg/l	0
	6	Total Nitrogen	mg/l	– 1.0
	7	Total Phosphorus	mg/l	0.02 – 0.09

Source: WEPA (2012)

**TABLE A-21****Water Quality Standard in Public Water Areas for Public Health Protection**

No.	Parameter	Unit	Standard Value
1	Carbon tetrachloride	µg/l	< 12
2	Hexachloro-benzene	µg/l	< 0.03
3	DDT	µg/l	< 10
4	Endrin	µg/l	< 0.01
5	Dieldrin	µg/l	< 0.01
6	Aldrin	µg/l	< 0.005
7	Isodrin	µg/l	< 0.005
8	Perchloroethylene	µg/l	< 10
9	Hexachlorobutadiene	µg/l	< 0.1
10	Chloroform	µg/l	< 12
11	1,2 Trichloroethylene	µg/l	< 10
12	Trichloroethylene	µg/l	< 10
13	Trichlorobenzene	µg/l	< 0.4
14	Hexachloroethylene	µg/l	< 0.05
15	Benzene	µg/l	< 10
16	Tetrachloroethylene	µg/l	< 10
17	Cadmium	µg/l	< 1
18	Total mercury	µg/l	< 0.5
19	Organic mercury	µg/l	0
20	Lead	µg/l	< 10
21	Chromium, valent 6	µg/l	< 50
22	Arsenic	µg/l	< 10
23	Selenium	µg/l	< 10
24	Polychlorobiohenyl	µg/l	0
25	Cyanide	µg/l	< 0.005

Source: WEPA (2012)

**TABLE A-22**

**National Drinking Water Standards vs. WHO Guideline Values**

Category	Parameter	Unit	Cambodia	WHO
Bacteriological quality	Thermotolerant (Fecal) Coliforms or E. coli	/100 ml	0	NA
	Total coliforms	/100 ml	0	NA
Inorganic constituents <sup>a</sup>	Arsenic	mg/L	0.05	0.01
	Barium	mg/L	0.7	0.7
	Cadmium	mg/L	0.003	0.003
	Chromium	mg/L	0.05	0.05
	Cyanide	mg/L	0.07	0.0006
	Fluoride	mg/L	1.5	1.5
	Lead	mg/L	0.01	0.01
	Mercury	mg/L	0.001	0.006
	Nickel	mg/L	0.02	0.07
	Nitrate as NO <sup>3-</sup>	mg/L	50	50
	Nitrite as NO <sup>2-</sup>	mg/L	3	3
Selenium	mg/L	0.01	0.04	
Organic constituents <sup>a,b</sup>	Polychlorinated biphenyls (PCBs)	µg/L	0.5	NA
	Benzene	µg/L	10	10a
	Trihalomethanes	µg/L	250	NA <sup>e</sup>
	2,4 D	µg/L	30	30
	Aldrin and Dieldrin	µg/L	0.3	0.03
	Carbofuran	µg/L	10	7
	Chlordane	µg/L	0.2	0.2
	DDT	µg/L	20	1
	Dichlorvos	µg/L	1	NA
	Dimethoate	µg/L	6	6
	Endosulfan	µg/L	30	NA
	Endrin	µg/L	0.6	0.6
	Glyphosate	µg/L	10	NA
	Heptachlor	µg/L	0.3	NA
	Hexachlorobenzene	µg/L	1	NA
	Methyl parathion	µg/L	0.3	NA
	Mevinphos	µg/L	5	NA
	Monocrotophos	µg/L	1	NA
	Paraquat	µg/L	30	NA
	Parathion	µg/L	10	NA
Permethrin	µg/L	20	NA	
Physical and chemical quality (aesthetic quality)	Taste		Acceptable	NA
	Odor		Acceptable	NA
	Color	TCU	5	15
	Turbidity	NTU	5	10
	Residual chlorine	mg/L	0.2-0.5	NA
	pH		6.5 - 8.5	6.5 - 8.6



	Aluminum	mg/L	0.2	0.2
	Ammonia	mg/L	1.5	0.06
	Chloride	mg/L	250	NA
	Copper	mg/L	1	2
	Hardness <sup>c</sup>	mg/L	300	300
	Hydrogen Sulfide	mg/L	0.05	NA
	Iron	mg/L	0.3	0.3
	Manganese	mg/L	0.1	0.4
	Sodium	mg/L	200	NA
	Sulfate	mg/L	250	500
	Total dissolved solids <sup>d</sup>	mg/L	800	600
	Zinc	mg/L	3	4

Notes:

NA: Not available

<sup>a</sup> For very low concentrations, laboratory results are reported in (tg/L or ppb)

<sup>b</sup> Routine monitoring for organic constituents is not required unless there is a potential for contamination of water supplies.

<sup>c</sup> Hardness is expressed as mg/L CaCO<sub>3</sub>

<sup>d</sup> Conductivity (uS/cm) can also be measured and it is roughly equivalent to twice the TDS value.

<sup>e</sup> The sum of the ratio of the concentration of each to its respective guideline value should not exceed 1.

Source: MIME (2004); WHO (2011)

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### Chapter 1: Country Overview

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