

**Review**  
**The Existing Sectoral Policies,  
Strategies Related To Wetlands**

**Agriculture, Land Use & Irrigation**

**Centre d'Etude et de Développement Agricole Cambodgien  
(CEDAC)**

**Prepared by: PEL Sokha  
KEAM Makarady  
PEL Setha and  
HAY Leakhena**

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2. The ELC in the studied provinces List of Key persons
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## ACKNOWLEDGEMENT

This is the report of the findings from **Review The Existing Sectoral Policies/Strategies Related to Wetlands**, with the field study on local practices in three provinces: Kampong Thom, Stung Treng and Kandal, conducted between March and August 2006.

The research team (2 senior researchers assisted by 2 junior researchers) of Cambodian Center for Study and Development in Agriculture (CEDAC) conducted this study at the request of and funding of MWBP-IUCN. The study team leader was PEL Sokha, assisted by the team members during the field study, Mr. Sok Vong contributed in monitoring the direction, and commenting on the drafts.

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Authors,  
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## **ABBREVIATION AND ACRONYM**

ADB	:	Asian Development Bank
ADESS		Agricultural Development Support to <i>seila</i>
ADHOC		Cambodian Human Rights and Development Association
ALF		Agricultural Landless Farmer
C/SF		Commune/Sankat Fund
CAAEP	:	Cambodia Australia Agriculture Extension Project
CBRDP	:	Community Based Rural Development Program
CC		Cadastral Commission
CCs		Commune Councils
CDP		Commune Development Plan
CD		Cambodia Daily, New Paper in English
CDRI		Cambodia Development Resource Institute
CEDAC	:	Centre d' Etude et de Développement Agricole Cambodgien
CEPA		Culture and Environment Preservation Association
CMDGs		Cambodia Millennium Development Goals
D&D		Decentralization and Deconcentration
DANIDA		Association for Technical Cooperation Danish
DSR	:	Dry Season Rice
DWR	:	Deep Water Rice
ELC		Economic Land Concession
EU	:	European Union
Ex-Com		Executive Committee
FA		Forestry Administration
FC		Forestry Community
FGD		Focus Group Discussion
FiA		Fishery Administration
FiC		Fishery Community
FWUC	:	Farmer Water User Community
GM	:	Gross Margin
GTZ		Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ)- German Technical Cooperation
H		Household
Ha	:	Hectare
IFAD	:	International Fund for Agriculture Development
IUCN		International Union Conservation Network
KD		Kandal Province
Kg	:	Kilogram
KGT	:	Kampong Thom Province
KSP		Koh Sontepheap, the Khmer New Paper, It means Island of Peace
LAND		Land Action Network for Development
LICAHDO		Cambodian League for the Promotion and Defense of Human Right
LMAP		Land Management Administration Project
MAFF	:	Ministry of Agriculture Forestry and Fisheries
MLMUPC	:	Ministry of Land Management Urban Planning and Construction

MOE	:	Ministry of Environment
MOEF	:	Ministry of Economy and Finance
MOWRAM	:	Ministry of Water Resource and Meteorology
MRC	:	Mekong River Committee
MWBP		Mekong Wetlands Biodiversity Programme
NALDR		National Authority for Land Dispute Resolution
NCC		National Cadastral Commission
NGO	:	Non Government Organization
NIS	:	National Institute of Statistic
No	:	Number
NPRS		National Poverty Reduction Strategy
NR	:	National Road
OLMUPCC	:	Office of Land Management Urban Planning Construction and Cadastre
OXFAM GB		Oxfam Great Britain, an International NGO
PAP		Project Affected People
PDA	:	Provincial Department of Agriculture
PDA	:	Provincial Department of Agriculture
PDP	:	Provincial Development Plan
PIMD		Participatory Irrigation Management and Development
PLG		Partnership for Local Governance
PLMUPC		Provincial Department of Land Management Urban Planning and Construction
PRDC		Provincial Rural Development Committee
RAN		Resettlement Action Network
RDP	:	Rural Development Program
RGC		Royal Government of Cambodia
RGC	:	Royal Government of Cambodia
RK		Khmer newspaper of Rasmey Kampuchea
RR		Receding Rice or Recession Rice
RS		Rectangular Strategy
RSR		Rainy Season Rice
SCIRIP	:	Stung Chinit Irrigation and Rural Infrastructure Project
SEDP II		Second Socio-Economic Development Plan
STF		Seila Task Force
SLC		Social Land Concession
SLR		Systematic Land Registration
SRI		System of Rice Intensification
STR		Stung Treng Province
WB		World Bank
WCS		Wildlife Conservation Society
WFP		World Food Program

### **Non-English words:**

Chamka	Land which is used for growing crops other than rice
Krom Samaki	“Solidarity group” formed during the 1980s as a form of collective farming

## I. Introduction

### 1.1. Wetland issue background

1. **Importance of wetlands in Cambodia:** Wetlands are important for national economy as they are for local livelihood. In regards to productivity, Cambodia's inland waters contain one of the world's most productive inland fisheries. Approximately 4 million people depend on inland fishing for their livelihoods as either their primary or secondary source of income and employment. Wetlands provide water for cropping and animal production including fishing. Rice paddies, aquaculture ponds, including reservoirs and irrigation systems, are some of the man-made wetland types occurring in Cambodia.
2. **Threats to wetlands in Cambodia:** Human activities place pressure on wetlands through activities such as wetland conversion for other uses. In Cambodia, wetland conversion is increasingly a threat, and wetlands are have been reclaimed and are lost to urban development, as the case in Phnom Penh municipality. A significant amount of Cambodia's wetlands have been lost to rice production, particularly recession rice fields; it had increased 27 percent between 2001 and 2006 (see, diagram in 29).G In Kampong Thom province, the acacia plantation is gradually increasing in the Tonle Sap floodplain through granting the economic land concession (ELC).
3. **Wetland management in Cambodia:** Management in Cambodia's wetland falls under a number of sectoral agencies with policies and laws specific to their mandates and coordination amongst them remains poor. At least three sectoral agencies have major authority and legal framework for wetland management including the Ministry of Agriculture, Forestry and Fisheries (MAFF), Ministry of Environment (MOE) and Ministry of Water Resources and Meteorology (MOWRAM). The Cambodia Mekong River Committee (CMRC) has the role of coordinating, planning and management of wetland resource use.

Regarding to Tonle Sap Biosphere Reserve and coastal zone environment, the MOE has made concerted efforts on biodiversity conservation in the three core areas by constructing environmental stations for research and monitoring biodiversity, organization of management groups, conducting environmental awareness and educational activities as well as capacity building for park rangers. A mechanism for cooperation between relevant ministries for sustainable management the Tonle Sap Biophere Reserve has been created, which facilitates effective reforms of land use, forestry, and fisheries and creation of the co-management of forestry and fishery communities.

*“Bio-diversity” means the diversity of plants, animals, and other living organisms in all their forms and organizations, including genes, species, ecosystems, and the evolutionary and functional processes that link them.*

## 1.2. Project background

4. The Cambodia Wetlands Policy Project aims to form and facilitate multi-stakeholder groups to undertake 'water and wetlands relevant' sectoral policy and context reviews; advocate for biodiversity conservation and sustainable use; and undertake an economic assessment of the policy review changes recommended. The project is a component of the Mekong Wetlands Biodiversity Programme (MWBP) which is a joint program of the four governments of the Lower Mekong Basin – Cambodia, Lao, Thailand, and Viet Nam – managed by IUCN of UNDP (International Union Conservation Network) and the MRC.
5. A sectoral policy review of integrated water resources management (IWRM) which incorporates a critical policy review of the wetlands approach employed in Cambodia forms a core component of the overall Cambodia Water and Wetlands Policy Project. It is envisaged that the policy reviews will be carried out by numerous partners who are experts in the fields of fisheries, irrigation and agriculture, forestry, IWRM, dams, wetlands, multi-lateral environmental agreements and international protocols. The reviews will utilize as an entry point the recognition that there has been a shift away from traditional wetlands or water management towards IWRM and will address overall water issues within the Cambodia context. Policies of water management and conservation/sustainable use of wetlands will be identified and recommended for change.

## 1.3. Research objectives

6. The study conducted by CEDAC, at the request of MWBP-IUCN, with the three following objectives:
  1. Review the existing policies and strategies for the agriculture, land use and irrigation in the wetland areas (both positive and negative impact);
  2. Explore the local practices/experiences in agriculture, land use and irrigation;
  3. Provide recommendations for improving the wetlands and water resources management. Also, The field study is needed to explore the local practices and will be conducted in three sites/provinces: Stung Treng as the upland of the Mekong, Kampong Thom as representative of the provinces closed to Tonle Sap Lake and Kandal as the down stream province of the Mekong. The study scheduled from March to August 2006.
7. **Research questions:** To meet the above objectives, the key questions for the research are designed as below:

For objective 1:

  - What are the existing policies and strategies of government on agriculture, land use, irrigation?
  - Are these policies take wetland and water resources into consideration?
  - Who/which institutions are the stakeholders involved in the wetland areas?



- What are the investment and land concession in the wetland areas?
- Are these investments and land concessions an affect in wetland areas?
- Do the existing policies and strategies of government on the change of land right?
- Does land security through providing title an effect on wetland and water resources?

For objective 2:

- What are the people's practices in the wetlands?
- Are there development projects in the wetland areas?
- What are the existing issues in the wetland areas?
- Who are the stakeholders involved in these issues?
- Who are the owners of land in the wetland areas?
- Who are the owners of irrigation structures?
- What are the land transfer modalities in the wetland areas?
- Do farmers encroach in the wetland areas for cultivation?
- Does the crop production change (dynamics) have an impact on wetland and water resource?
- Are there existing local action/rules to protect the wetland and water resource?
- Farmers do want to increase the agro-chemical use in the wetland areas?
- Farmers know the impact of agro-chemicals in the wetland areas?

For objective 3:

- What are the existing issues in the wetland areas?
- What are the existing local actions/rules to protect wetlands?
- Are there different between national policies/strategies and intervention of local authorities related to agriculture, land and water resources?

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

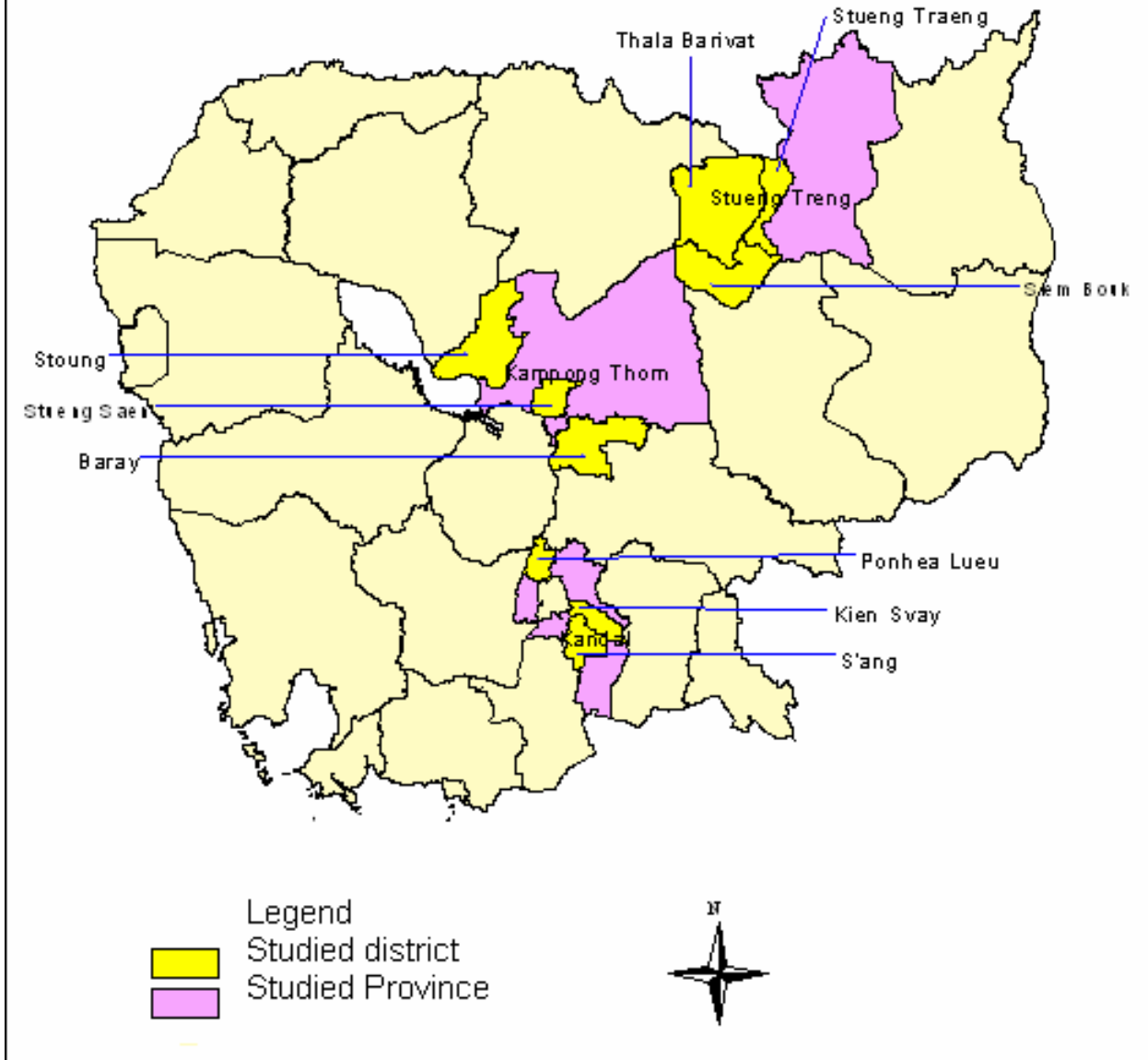
This report consists of seven chapters. Following this introductory chapter, the report is organized in other six main chapters. The second chapter addresses the process and methodology of the study. The third d chapter considers the wetland definition. The fourth chapter reviewed the government policies and strategies on agriculture, land use and water/irrigation. The fifth chapter provided the data of field finding of the local practices, and the sixth chapter focuses on the discussion and analysis on gaps between policies/strategies and local practices. And, concluding remarks and a recommendation are made for the development institutions or agencies, presented in chapter VII.

## **II. Process and Methodology**

### **2.1. Scope and schedule**

- 8.** After introduction meeting and having communicated between CEDAC and MWBP on the proposed study project, three preparation meetings were conducted between Cambodia Water and Wetlands Policy Project director and manager and CEDAC's senior researchers. These three preparation meetings aiming at discussing and clarifying on the study project: background, objectives, process, and scope of work in order to design a proper methodology and formulate a proper study team. After the first two preparation meetings between MWBP and CEDAC, a one-day internal CEDAC researcher team meeting was organized to design the study methodology, estimate the budget and formulate a study team. This study pre-design has later on been finalized in consultation with Mr. Sok Vong, National Program Coordinator of MWBP on 03 February 2006.
- 9.** The sectoral policies review covers the three important sectors of Agriculture, Land Use and Irrigation that would affect to wetlands and water resources. The specific covering sectors were the following:
  - Agricultural policies and practices that would effect to wetlands and water resources;
  - Land use policies and practices that would effect to wetlands and water resources;
  - Irrigation policies and practices that would effect to wetlands and water resources;
  - Details of linkage between agriculture, land use, and irrigation policies and practices;
  - Propose institutional arrangements for improved water and wetland management.
- 10.** The areas covered by the study are the freshwater wetlands in the 3 provinces of Kampong Thom (closed to the Great Lake of Tonle Sap), Stung Treng and Kandal (a long upper and lower Cambodian Mekong river). The study time frame is 6 months starting from March to August 2006. After working more precisely on the objectives, process, scope of work and time frame, we decided to formulate a study team of 4 researchers (2 seniors assisted by 2 junior researchers) for conducting the study. Below is the map of three provinces and districts selected for the field study. The field study was also conducted in other neighboring district, on some cases related with land use and dispute.

# STUDIED PROVINCES





## 2.2. Methodology

- 11. Desk research:** Based on know ledges and experiences, the study team consulted with different concerned resource persons, and identified and collected many documents relating to the study as listed in the reference. These papers/documents were reviewed and analyses with focusing on inter relation and interaction between 3 sectors in term of policies and practices and its possible impact s on wetland and water resources. This step and method of the study will allow the study team to identify more concerned resource persons and stakeholders and to pre-determine the study areas to be studied in-depth at field level for primary data.
- 12. The primary datas:** The datas were collected through three main methods: (i) Consultation with concerned resource persons and stakeholders (see list in annex), (ii) Participation in many meetings and workshops (see list in annex), (iii) Field exploration, (iv) Field In-depth study. The concerned resource persons and stakeholders were identified during the desk research step, and through different working group such as National Water Group, Irrigation Sector Review team, National Agricultural Research Working Group, RAN (Resettlement Action Network) and LAND (Land Action Network for Development) of NGO-forum, workshop on land issues organized by the Advocacy Committee of NGOs, and CICP and Public forums between the Parliamentarians and People organized by Comfrel and ADHOC.

Through meetings/workshops, the study team had better overview on the issues, did comparative analysis with information/data gathered from desk research; and identified more relevant resource persons and stakeholders; and selected the sites/field to be studied in-depth.

**Field exploration:** The initial study was designed 5 provinces. But, after discussion many times, between MWBP and CEDAC, the number of the provinces to be selected reduced to 3 provinces: Stung Treng, as the upstream province of the Mekong, Kandal, as the downstream province, and Kampong Thom, as the province representative of the provinces influenced by the Tonle Sap flood that have an interaction with the Mekong flood. A field exploration mission was conducted in order to have an overview on the current local practices, linkage between national policy and local practices, problems faced and possible impacts on wetland and water resources. The information gathered during the initial field assessment will be analysis in comparison with information obtained from secondary data review, and the consultation with resource persons and stakeholders. An initial report on the study finding was drafted/prepared after the field exploration mission. It contains of information and initial analysis on the information gathered the first 3 methods used: secondary data review, interview and consultation meeting and initial field exploration mission. This finding report was presented in the internal workshop before starting the next study process of in-depth study.

**In-depth study:** This study was conducted 1.5 months or 6 weeks between May and June, 2006. Three villages of three communes of each province were selected for the in-depth study, particularly the villages/communes in which their wetlands had hot issues of land disputes, encroachment, cropping system dynamics and irrigation. Regarding the data collection methods, the study team conducted the interview with

individual key persons at the provincial level and local level and with the villager group. RRA was also used to create information flow. The concessionaire of ELC or reservoir owner, farmer as sharecropper, farmer, fisher, temporary workers in cultivation of recession rice (RR) and reservoir keeper were interviewed to gather both data: qualitative and quantitative to answer the hypothesis. 34 farmers or big farmers/reservoir owners were randomized selected, aimed to analyze the cropping system and production cost of RR, rate of agro-chemicals used and hazards, their perception for the use of chemical fertilizer and pesticide in the flooded area of Tonle Sap basin, and farm-household economics.

In KPT, particularly in Stoung district, the study team conducted the field in-depth study in collaboration with the study team of the PDA, composed 30 members who were classified in 3 study sub-groups. The first group determined the location and size of reservoir by GPS use, the second for the study on cropping system/production of RR, and the third for the study on farm-household economics. The second internal workshop held in June in Phnom Penh to review the progress and sum up with the findings gathered from the in-depth study.

**Seminar-workshop:** The most relevant 10 to 15 resource person identified during the previous step of the study will be invited to group dialogue organized by the study team. In the seminar, the study team will present the initial finding report as a tool for launching the debate. One or two participants will also be invited to present their experiences/knowledge related to the study focus. The debate will be stimulated after each presentation and the outputs of dialogue will be fine-tuning and used as an input of the study. It is planned to organize a seminar-workshop in each province, and one will be organized in Phnom Penh.

### III. Wetland definition

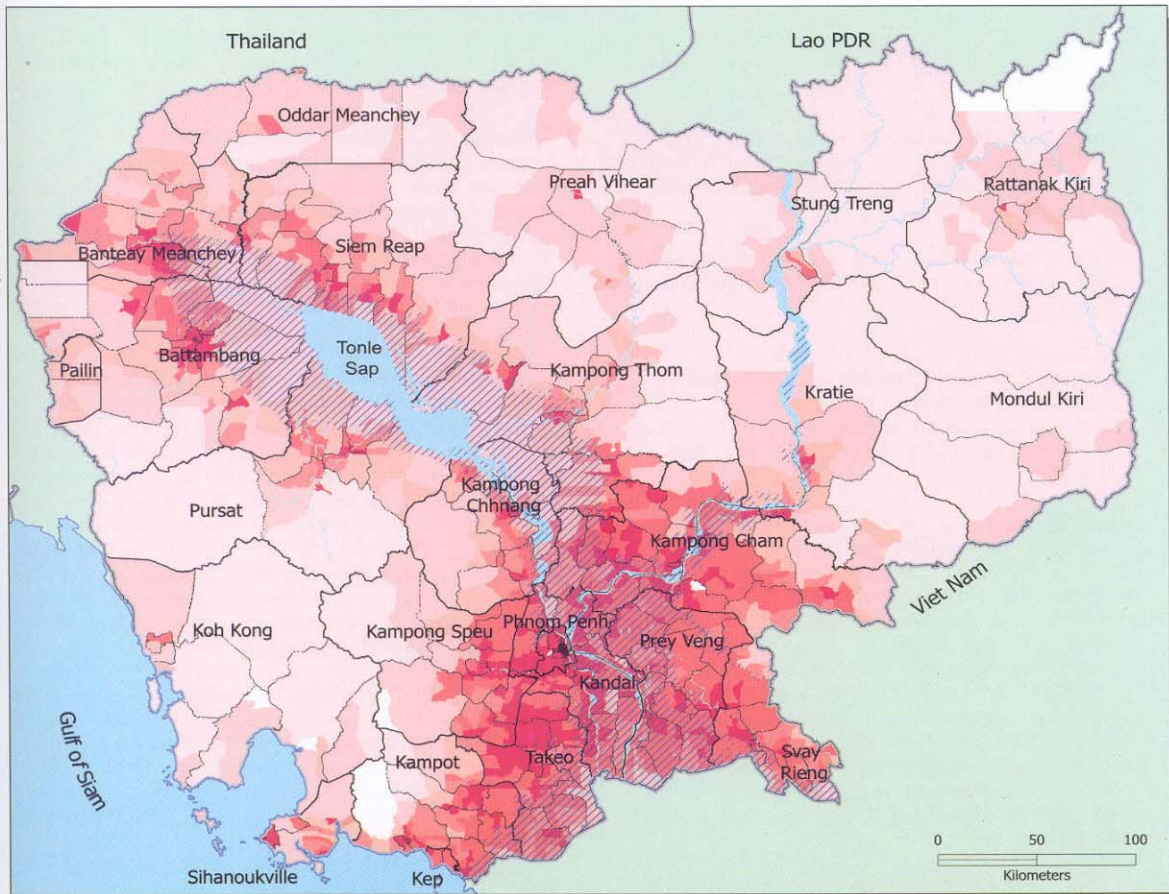
**13. Wetlands:** Attempts have been made to define wetlands in the Cambodian context as areas where soils are hydric and inundated on annual or semi-annual basis and where plants are able to tolerate inundation for over six weeks (SCW, 2006). However, according to Ramsar Convention, Wetlands are "...areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish/salt, including areas of marine water, the depth of which at low tide does not exceed six meters". Also, the wetland area of Cambodia covers 30 percent (54,000ha in wet season) of the territory in which over 20 percent, equivalent to 36,500 km<sup>2</sup>, could be considered as international significance area. Currently, the Cambodian wetland is seriously encroached.

According to this definition, 30% of Cambodia is covered by wetlands (MoE, 1999). These can be categorized into four main wetland regions:

- The Mekong River-468 km in length,
- The Tonle Sap Lake-between 2,500 km<sup>2</sup> and 13,000 km<sup>2</sup> depending on the season,
- The Stung Sen-3,000 km<sup>2</sup>,
- The Southwest coastal wetlands of Koh Pao and Stung Kep.

- 14. Ramsar Sites:** Wetland that is considered as an area of ecological or biological importance of international nature. In 1971, the Ramsar convention was established and aims to prevent the wet land areas regarding the conservation of natural ecosystem and biodiversity. In 2005, the international Ramsar wetland has 1462 sites and covers 125 millions ha in 146 countries. Cambodian joining Ramsar Convention in 1999 determined to delineate 3 Ramsar zones with a total areas of 54,600 ha. Those zones are Boeung Tonle Chhmar in Kampong Thom (28,000 ha), Up stream of the Mekong 6 km north of the provincial capital of Stung Treng extending to 3 km from Cambodia Lao border with the total length of 37 km (14,600 ha) and Islands of Kape as the coastal areas in Koh Kong province (12,000 ha).
- 15.** The area of Cambodia is 181 035 km<sup>2</sup> and apart from the Cardamom Mountain in the south, which divide Cambodia's interior from its short southern coastline, a large part of the country consists of a shallow basin centre on the Tonle Sap Lake. The Mekong River crosses Cambodia from north to south. The climate is tropical monsoon characterized by pronounced wet and dry seasons. The wet seasons lasts from May to October. Rainfall range from 3000 mm in the uplands to 1200- 1500 mm around the Tonle Sap and in the lower Mekong valley. Temperatures are high (mean 25-29 Celsius).
- 16.** According to Ministry of Planning the population in 2004 was 13.09 million, growing at a rate for 1.81% p.a. (1998-2004) and living in 2.56 million households. Almost 43% of the populations are under 15 years of age. Nearly 85% of the populations live in rural area and the average population density is 72 persons/ km<sup>2</sup>. Cambodia is ethnically homogeneous and over 90% of the populations are of Khmer origin. Over 60% depend on agriculture, forestry and fishery (NSDP, 2005) and the proportion of labor force having a primary occupation in agriculture remained at 71 % compare to 21 % for services and 8% for industry (WB, 2005). However, the Atlas of Cambodia published by SCW (2006) shows that the population density in the wetlands is very high, up to 3,000 population per km<sup>2</sup> (see map below).

## Population Density of Wetland Areas



### Legend

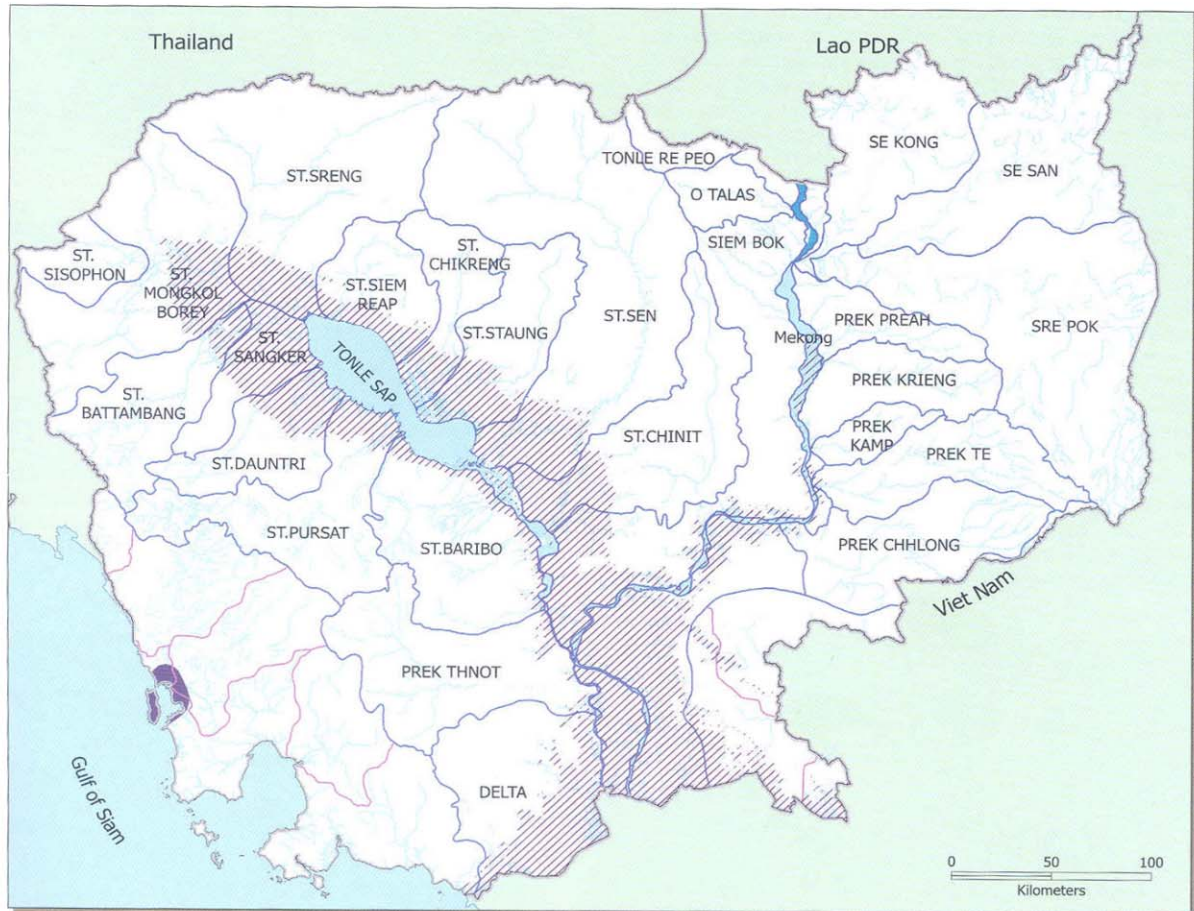
Population Density Person/Km<sup>2</sup>

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<span style="display: inline-block; width: 15px; height: 10px; background-color: #d8c8c8; border: 1px solid black;"></span> 51 - 100	<span style="display: inline-block; width: 15px; height: 10px; background-color: #add8e6; border: 1px solid black;"></span> Water Body
<span style="display: inline-block; width: 15px; height: 10px; background-color: #c8b8b8; border: 1px solid black;"></span> 101 - 150	<span style="display: inline-block; border-bottom: 1px dashed black; width: 15px;"></span> District Boundary
<span style="display: inline-block; width: 15px; height: 10px; background-color: #b8a8a8; border: 1px solid black;"></span> 151 - 300	<span style="display: inline-block; border-bottom: 1px solid black; width: 15px;"></span> Provincial Boundary
<span style="display: inline-block; width: 15px; height: 10px; background-color: #a89898; border: 1px solid black;"></span> 301 - 3,000	<span style="display: inline-block; border-bottom: 1px solid black; width: 15px;"></span> International Boundary
<span style="display: inline-block; width: 15px; height: 10px; background-color: #988888; border: 1px solid black;"></span> 3,001 - 8,000	
<span style="display: inline-block; width: 15px; height: 10px; background-color: #887878; border: 1px solid black;"></span> 8,001 - 164,437	

Source: SCW (2006)



## Wetlands and Catchment Areas



### Legend

Mekong (over 2,000,000ha of floodplains) and Tonle Sap Wetlands (total inundation 1,500,000 ha)

Stung Kaoh Pao and Stung Kep Estuaries: 30,000 ha

Ramsar

Water Body

Mekong Watershed

Other Watershed

River

International Boundary

Note:

ST.= Steung

Watershed created by GIS Method (Catchment Area) using contour lines from GIS dataset 2002.

Source: SCW (2006)

## IV. Government policies and strategies

### 4.1. Government policies

17. The government's development strategy, as reflected in the Rectangular Strategy (RS), draws on the Triangular Strategy (TS) (1998-2003), Second Socio-economic Development Plan (SEDP II) (2001-2005) and the National Poverty Reduction Strategy (NPRS) (2003-2005) and is a synthesis of priorities of these documents. The SEDP II is a comprehensive development program focusing on promoting growth, regional integration, and reducing poverty. It serves as the government's principal planning document. NPRS is based on SEDP II and elaborates the poverty reduction agenda, providing a framework for support by international development partners and a comprehensive set of monitoring indicators towards achieving the CMDGs in which sustainable development is based with the overall objective to halve poverty by 2015. The NPRS identifies 8 priority poverty reduction outcomes: (1) maintaining macroeconomic stability; (2) improving rural livelihoods; (3) expanding job opportunities; (4) improving capabilities; (5) strengthening institutions and improving governance; (6) reducing vulnerability and strengthening social inclusion; (7) promoting gender equality; and (8) focusing on population through maternal health, increased access to education, and rural opportunities.

#### Box 1: Cambodia's Triangle Strategy (TS) 1998-2003

The TS was designed in a structure of interaction rectangles of:

- (i) Strengthening stability, peace, security and social order,
- (ii) Integrating Cambodia into the international and regional communities, and
- (iii) Socio-economic development and poverty reduction.

#### Box 2: Cambodia's Rectangular Strategy (RS) 2004-2008

The RS 2004-08 aims to enhance economic growth, employment equity and social justice through the implementation of the SEDP II and the NPRS. The RS is visualized as a structure of interlocking rectangles, as follows:

First, the core of the RS is good governance, focusing on four areas: (i) Anti-corruptions; (ii) Legal and judicial reform; (iii) Public administration reform; and (iv) Armed forces reform and demobilization.

Second, the environment for the implementation of RS consists of 4 elements: (i) Peace, stability and social order; (ii) Partnership in development with stakeholders, including the private sector, development partners, and civil society; (iii) Favorable macroeconomic environment; and (iv) Regional and international integration.

Third, the four strategic "Growth rectangles": (i) Enhancement of agricultural sector; (ii) Further rehabilitation and construction of physical infrastructure; (iii) Private sector development and employment generation; (iv) Capacity building and human resource development.

Fourth, each strategic "Growth rectangle" has four sides;

- **Rectangle 1:** (i) Improving productivity and diversifying agricultural sector; (ii) Land reform and mines clearance; (iii) Fisheries reform; and (iv) Forestry reform.

- **Rectangle 2:** (i) Further construction of transport infrastructure; (ii) Management of water resource management and irrigation; (iii) Development of energy sector and electricity network; and (iv) Development of information and communication technology.
- **Rectangle 3:** (i) Strengthening private sector and attracting investment; (ii) Creating jobs and ensuring improved work conditions; (iii) Promoting SMEs, and (iv) Ensuring social safety nets.
- **Rectangle 4:** (i) Enhancing quality of education; (ii) Improving health services; (iii) Fostering gender equity; and (iv) Implementing population policy.

**Box 3: The CMDGs: Charting progress toward a better with the key commitments**

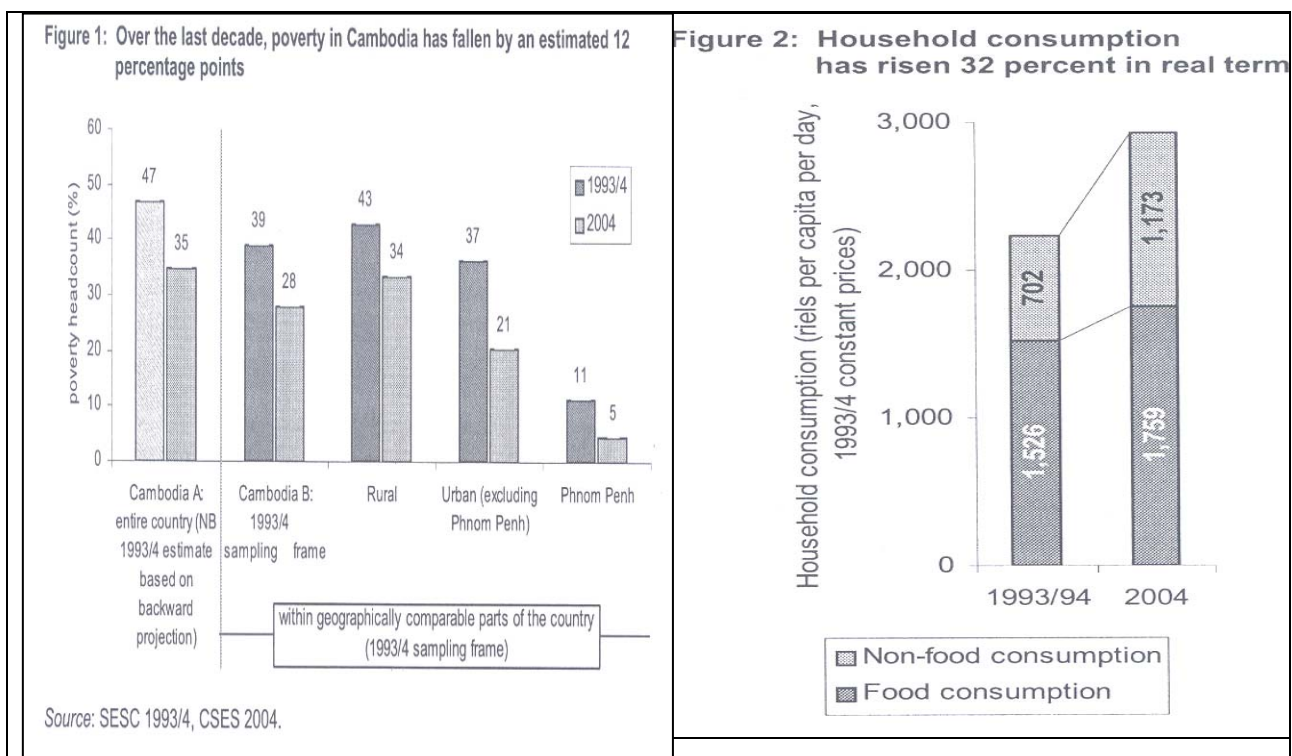
1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender quality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development.
9. De-mining

**18.** The CMDGs set up monitoring indicators towards to ensure environmental sustainability with the focus on people's participation in the management of natural resources (see Table below).

indicators	Targets		
	2005	2010	2015
1. Forest coverage as a percentage of total area (%)	60	60	60
2. Surface of 23 protected areas (million ha)	3.3	3.3	3.3
3. Surface of 6 new forest-protected areas (million ha)	1.35	1.35	1.35
4. Number of rangers in protected areas	772	987	1,200
5. Number of rangers in forest protected areas	500	500	500
6. Proportion of fishing lots allocated to local communities (%)	58	60	60
7. Number of community-based fisheries	364	464	589
8. Surface of fish sanctuary (thousand ha)	581	581	581
9. Fuel wood dependency (% of household)	70	61	52
10. Proportion of rural population with access to safe water source (%)	30	40	50
11. Proportion of urban population with access to safe water source (%)	68	74	80
12. Proportion of rural population with access to improved sanitation (%)	12	20	30
13. Proportion of urban population with access to improved sanitation (%)	59	67	74
14. Percentage of land parcels having titles in both urban & rural areas (%)	16	32	65

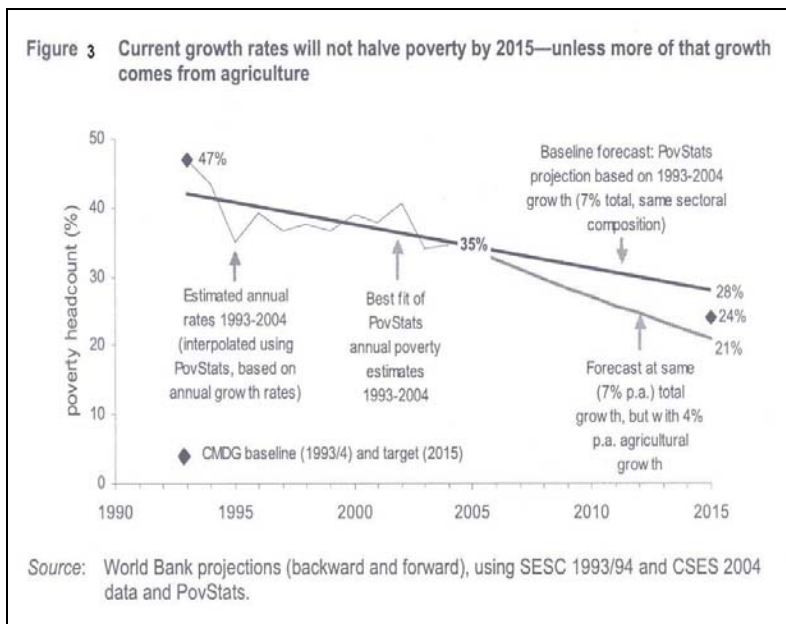
**19.** Current priorities for reduction poverty under the ongoing NPRS for 2002-05: (i) promoting income earning and employment opportunities, (ii) improving capabilities, institutional strengthening and improved governance; (iii) reduction vulnerability; and (iv) promoting gender equity. The NPRS Action Plans have an estimated cost of USD 500 million p.a. Details of actual expenditures and their impact remain to be assessed but the results from the Cambodia Socio-economic Survey in 2004 conducted by the National Institute of Statistics (NIS) finds that 35 percent of Cambodians live below the national poverty line, down from an estimated 47 percent

in 1994, a decade earlier. Over these ten years (1994-2004), Cambodia has consolidated peace and achieved economic growth of about 7 percent per annum. Non-income indicators such as ownership of consumer durables, housing quality and schooling indicate that the living standards of the population including the poor, have improved between 1994 and 2004. These gains reflect the economic and social development that has been made since the early 1990s. Fishing and forestry remain an important source (25-29% of the total income) for the rural poorest quintile, but only marginally important for the richest quintile. However, the access to these common property resources is declining. According to WB's projection, forecast at same (7% p.a.) total growth, but with 4% p.a. agricultural growth the number of Cambodians live below the national poverty line will decline up to 21% at 2015 (see diagram below) (WB, 2006).



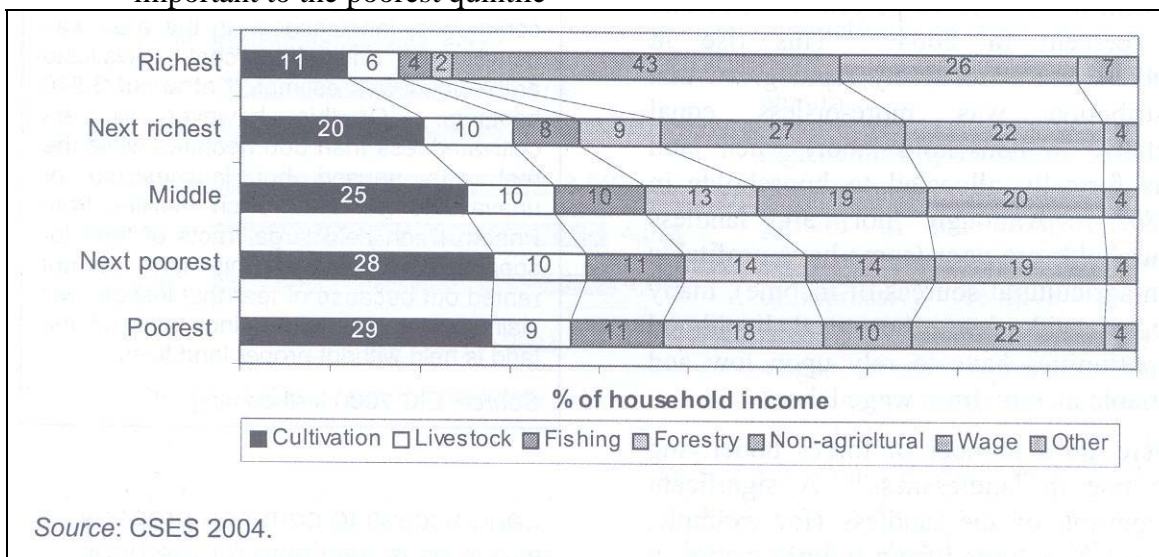
Source: WB (2006)





Source: WB (2006)

**Figure 4:** Common property resources—particularly fishing and forestry—are very important to the poorest quintile



Source: WB (2006)

**20.** The National Strategic Development Plan 2006-2010 (NSDP) was prepared by combining the SEDP II and NPRS processes and integrating it with the CMDGs. The NSDP (2006-2010) is rooted in the RS, and recognizes the need to address rural development and makes improving the lives and livelihoods of the rural poor a top priority, and that accelerating poverty reduction in Cambodia is largely about helping to raise agricultural productivity and income. According to WB (2006), to accelerate poverty reduction by improving productivity and profitability in the rural economy will require: (i) secure property rights to private land, particular for smallholders; (ii) equitable access to common property resources; (iii) increased investment in

productivity-enhancing infrastructure; and (iv) improved human development and human capital.

Box 4: The National Strategies Development Plan (NSDP) 2006-2010: key commitments

**1. Good governance**

Anti-corruption measures, legal and judicial reforms; administrative reform, decentralization and deconcentration and military reform.

**2. Environment for the implementation of RS**

Ensure peace, political stability and social order through elections; strengthen development partnerships, sustain a favorable macroeconomic and financial environment; further promote economic integration into the region and the world; address poverty, ensuring that all strategies focus on poverty reduction.

**3. Enhancement of Agriculture Sector**

Formulate and implement a comprehensive agriculture and water resources strategy; improve agriculture productivity and diversification, reform land administration and management, fisheries and forestry reform; invest in environmental conservation and rural infrastructure development.

**4. Continue rehabilitation and construction of physical infrastructure**

Restore and construct transport infrastructure; improve management of water resources and irrigation; develop energy and power grids; manage future oil and gas resources and revenues; develop information and communication technology.

**5. Private sector growth and employment**

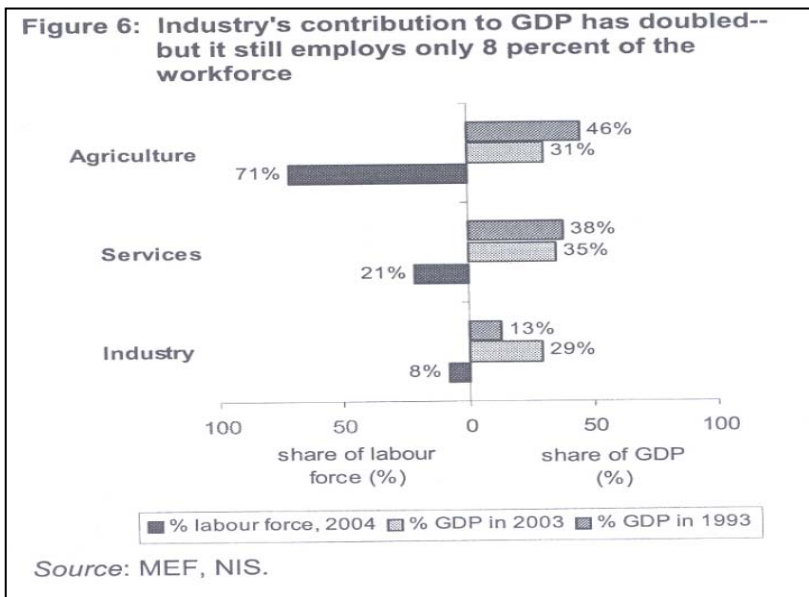
Carry out the RGC's twelve Point Plan and the recommendations in the investment climate survey; promote SMEs, trade and tourism, rural credit; create jobs and ensure improved working condition; establish social safety net for the disadvantaged.

**6. Capacity building and human resource development**

Enhance the quality of education, improve health outcome through the health action plan; foster gender equity, implement population policy to decrease fertility and promote birth spacing.

**21. Economic growth:** The Government has set long-term real GDP growth target of 6-7% p.a. If this target achieved, implying real GDP growth comes from increased agriculture productivity, expansion of service provision, particularly by small and medium-scale enterprises. The Government's long-term growth target requires an increase in public investment and improved efficiency in the use of resources. With poverty largely in the rural area, high rate of growth from the agricultural and rural sector are the key to poverty reduction. The economic result for 2005 is favorable with a high growth rate of 13.4 percent<sup>3</sup>, very significantly to reduce poverty, in which agriculture increased 17%, the garment export 10.6% and foreign tourist 35%.

<sup>3</sup> Speech of H.E Chan Sarun, the Minister of Agriculture during consultation workshop on information system related to food security, nutrition, risk, held in July 05, 2006.



Source: WB (2006)

**22. Good governance:** The Good Government is rightly at the core of the RS. All existing (peace, political stability, social order,...) in a dynamic equilibrium are vital for preserving past achievement and sustainable growth. Decentralization started in 1996, with the start of the Seila program, based on bottom-up, integrated, participatory, decentralized rural development. The process has received with the completion of commune election in 2002 in order to promote the participation of the grass root level in decision making and implementing development project. The RGC strategic framework for decentralization and deconcentration (D&D) was approved in June 2005. The framework will assist to gradually devolve responsibilities and resources for development to provincial, district and commune levels. An Organic Law is drafting to clearly define roles of provinces and districts.

**23. Seila Program:** The Seila Program is a RGC development program supported by various donor agencies, and implemented in collaboration with several partners. In the last five years, The United Nations Development Program (UNDP) and others donors supported the Seila Program aimed to reduce poverty through improving local governance. This program led by the Inter-ministerial Committee. For the first phase (1996-2000), Seila provided technical assistance and finance for the preparation and implementation local development projects in 220 communes of 6 provinces and 1 municipality. For the second phase (2001-2005) Seila expanded its activities in 17 provinces and 1216 communes, and needed a budget of about \$US 95 millions. 75 percent of the total budget was allocated for public service and infrastructure development. The commune authority has the right to make investment plan and cost themselves at 2/3 of the provided total budget. The Seila Program, through the Partnership for Local Governance Project (PLG), is a donor to the Commune/Sangkat Fund (C/SF). The C/SF provides each Commune Council (CC) with funding for commune administration (1/3 of the available resources) as well as resources for local infrastructure and service delivery investments (2/3 of the

available resources). Seila provides the minimum financial resource of \$US 75,000 per annum to each selected province, and about \$US 10,000 per annum and other \$US 1,000 for the rehabilitation of building and administrative cost to each selected commune (UNDP,PLG-CBM/01/007). The involvement of the donors and partners in the Seila Program is: Royal Government of Cambodia (contribution), Partnership for Local Governance [DFID, SIDA, UNDP], International Fund for Agricultural Development [IFAD], World Bank, Government of Germany / GTZ, Government of Denmark/Danida, Government of Australia / AusAID, UNICEF and World Food Program (WFP).

**24. The Provincial Rural Development Committee (PRDC):** The PRDC is the key policy guidance, planning, monitoring and co-ordinations body at the provincial level for rural development. All directors of provincial departments and district chief are members of this committee with the Governor as the chair. Representatives of NGOs and donor programs may attend committee meetings as observers. The PRDC reviews and approves the Provincial Development Plan (PDP) and the Provincial Development Investment Plan, the allocation of provincial investment funds received from the national level, reviews and endorses the Government's Seila annual work plan and budget prior to submission to the Seila Task Force (STF) for final approval and monitors the implementation of the rural development projects and programs in the province. The daily work of PRDC is managed by the Executive Committee (Ex-Com) for the implementation of the annual Seila Province Investment Plan.

**25. The Executive Committee (Ex-Com):** The Ex-Com is responsible for: (i) preparing the Government's Seila annual work plan and budget for endorsement by the PRDC and approval by the STF; (ii) executing the work plan and budget in accordance with national policies and guidelines through development projects; (iii) report and overall accountability for the use of all funds allocated to the PRDC through annual contracts with the appropriate provincial agency. Ex-Com has four management units, which appropriates provincial department supervise: (i) Local Administration Unit; (ii) Contract Administration Unit; (iii) Technical Support Unit; and (iv) Finance Unit. The supervising departments are: Provincial Office of Local Administration, Department of planning, Department of Rural Department and Department of Economy and Finance.

**26. Seila Task Force (STF):** Currently, the co-coordinating and policy making body for the Government's Seila program for D&D is the STF supported by its Secretariat, which consists of senior representatives from the seven main ministries: Economy and Finance, Agriculture, Planning, Rural Development, Water Resource and Meteorology, Interior and Women's Affairs, as well as the Council for Development of Cambodia (CDC). In addition, there is a Seila Working Group in each of the member ministries.

**27. Commune Councils (CCs):** The CCs were firstly elected 2002 by proportional representation from party lists and have a five-year mandate. Each CC has 5-11 members depending upon the population and size of the commune. Each council has one staff member, the council clerk, who is an employee of the Ministry of Interior. CCs receive an allocation for administration costs including allowances for



the councilors from the C/SF. With the election of the CCs, the commune development plan (CDP) and the establishment of Commune/Sangkat fund (C/SF), new pilots will be needed to determine how best the technical agencies can support the CCs in implementing their development plans. Two members of the Village Development Committee (VDC) will represent the village on the Commune Development Committee (CDC).

In the future, it will take the needs of local communities into greater consideration. Mr. Wolfowitz Lauds, the World Bank president, said in a statement that “Improving the management of forests, land and other natural resources is essential for the wellbeing of the Cambodian people and its economy”(CD, July 3,2006).

- 28.** The role and responsibilities of the CCs are: (i) promotion and facilitation of the commune development by invoking assistance and mobilizing capacities; (ii) promotion and coordination of the process of democracy, (iii) approval of the CDP, (iv) approval of subsequent amendments of the CDP; (v) approval of the three years rolling investment program; (vi) monitoring and evaluation of the results and impact of the implementation of the CDP; and (vii) approval of the draft annual budget that is submitted to the provincial governor for approval. Council has duties to maintain security and public order; manage public services; promote welfare, economic and social development; protect and conserve the environment; and promote tolerance and mutual understanding. But, the councils are not responsible for the police, education, health etc. and are excluded from involvement in forestry matters (*Art. 45 of the Law on The Administration and management of Commune/Sangkat*). But, often in practice, the commune chief and village chief were selected as advisor to the communities, e.g. Fishery Community or Forestry Community. The Commune Chief is responsible for overseeing implementation of C/SF supported projects. The council involvement in service delivery to date is in planning, allocating and implementing the development portion of funding from the C/SF under the Seila Program. Councils have the power to take on agency roles delegated by the state. Methods of increasing councils' own local revenue are under discussion, but for the medium term, funds transferred from the national government will remain the most significant source of income.
- 29.** The International Fund for Agricultural Development (IFAD) has been assisting Decentralization and Deconcentration (D&D) under the current Project Support Unit (PSU) in MAFF, established under Agricultural Development Support to *Seila* (ADESS), now has considerable experience supporting deconcentration for participatory agricultural development for poverty alleviation by: (i) improving quality and efficiency of service delivery to the Commune Councils and villages; (ii) facilitating the provision of specific technical expertise and support required by PDA from MAFF and other institutions; (iii) assisting PDA to set up and operate the financial, reporting and monitoring systems required and providing the necessary staff training; and (iv) documenting innovations and experience and expertise to start to consider policy options for D &D service in the agriculture sector. IFAD has been supporting the decentralization by channeling development funds to CCs under Community-Based Rural Development Project (CBRDP) and Rural Poverty Reduction Project (RPRP). From 2007, in five years, DFID and DANIDA will provide

fund for the Seila program in natural resource management. MAFF is responsible for the policy and regulatory framework for agricultural development. The PDA and their counterpart at national level, MAFF, make up the first group. The second group comprises the other provincial organizations related the present structure for D&D namely the PRDCs, their Executive Committees (Ex-Com) which are subject to changes between PRDC and the PDA and other line agencies.

## **4.2. Sector policies**

### **4.2.1. Agricultural Sector**

- 30.** The development of the agriculture sector has been an important element of the RGC's strategy to reduce poverty in rural communities, achieve food security and foster equitable and sustainable economic growth. From a poverty reduction perspective, the most important policy related objective regarding agriculture development is improvement of household food security. Contribution to the objective, improved living standards more generally, market-based farming will be enhanced, because 85% of the population lives in rural communities and 75% of the poor are farmer-headed household.
- 31.** The fourth side of the RS of RGC has as its first strategic "growth rectangle" the enhancement of the agriculture sector as the backbone of the NPRS and goal to achieve sustained economic development. The agriculture sector development strategy is based on four key pillars: (i) improved productivities and diversification of agriculture production, (ii) land reforms and de-mining, (iii) fisheries reforms, and (iv) forest sector reforms (RGC, 2004).
- 32.** In order to contribute to poverty reduction of the rural households, the strategic objectives (2003-2005) for agricultural sector are to promote:
1. An adequate legal framework and institutional environment,
  2. Capacity/improve knowledge system within government and stakeholders,
  3. Intensification, diversification and security of production,
  4. Sustainable natural resources management and conservation,
  5. Agricultural products and private agro-industry to marketing system and market ability (MAFF, 2003).

Also, the strategic objectives will focus on: (i) Capacity building, (ii) Reduce dependency on natural condition, and (iii) Sustainable natural resources management and conservation. Regarding to capacity building, the RGC is concerned with the widespread use of agrochemicals and has promoted methodologies such as the System of Rice Intensification (SRI), which allows increased production with reduced use of agrochemicals. The RGC is also concern that dangerous pesticides/banned pesticides are still used (e.g. DDT). This could be achieved by the enforcement of the sub-decree No 69 on management of agricultural materials (Oct., 1998).

- 33.** In term of actions (2003-2005) the MAFF had focused on:
1. Strengthening water control and management systems to reduce dependency of rural condition.

2. Support for intensification and diversification: Establish the Special Program Food Security (SPFS) as a national and provincial program for intensification, farm diversification and food security.
3. Encourage small scale aquaculture development activities.
4. Establish and strengthening communities forestry through: to increase awareness and understanding of forest, building capacity for community forestry management and planning at Department of Forestry and Wildlife and Provincial Fisheries Office, and to assist forest user group in implement community forestry management plans.
5. Sustainable community-base fisheries resources management realized in the lower Mekong basin and costal provinces of Cambodia through PRA, workshops, consultations, meetings, elections, trainings, facilitation, base line survey, monitoring and evaluation report
6. Fresh and marine protected areas in the lower Mekong basin and costal provinces of Cambodia. The activities includes: PRA, workshops, consultations, meetings, demarcations, poles, trainings, facilitation, base line survey and M/E report

And, for Agricultural products and private agro-industry to marketing system), MAFF had done to improve agricultural products for marketing ability and marketing system, which benefit the small farmers, focusing on strengthening existing farmer organization, establish and support model agricultural cooperatives.(Annex of MAFF, 2003).

**34.** In the third mandate of the RGC, the national development framework is to “achieve and ensure food security and conserve the natural resources”. In order to achieve these development objectives with regard to the wetland/natural resource management, the RGC proposed some agriculture policies/strategies as follows (MAFF, 2005a, p:15):

- 1) To create a favorable environment conducive to private sector participation in the agriculture sector by accelerating the land distribution and the issuance of security land titles within social land concession framework, particularly in the rural areas.
- 2) The Government improves irrigation facilities and water resources management by improving the existing irrigation systems and establishing and strengthening of farmer water communities in order to reduce the affect of natural disaster;
- 3) To promote distribution of input supply including seeds, fertilizers and rural credits in order to increase the agricultural productivity. Base on the decentralization policy, the government has delegate roles and responsibilities to CCs to strengthen the capacity become as development authority as knowledge transferring and information sharing to farmers.

**35.** The government policy platform and Rectangular Strategy are fundamental for the formulation of Agricultural Sector Strategic Development Plan, 2006-2010. The main goals of MAFF in this plan is “ To ensure food security, increase incomes, create employment and improve nutrition status for all people by improving the productivity”

and diversification, for commercialization of agriculture with environmental sound protection and food safety". Also, in order to support the National Strategic Development Plan (NSDP), 2006-2010 as well as to achieve MAFF's goals, and regard to wetland/natural resources management the specific goals/strategies of agriculture are to (MAFF, 2005a, p: 17-18):

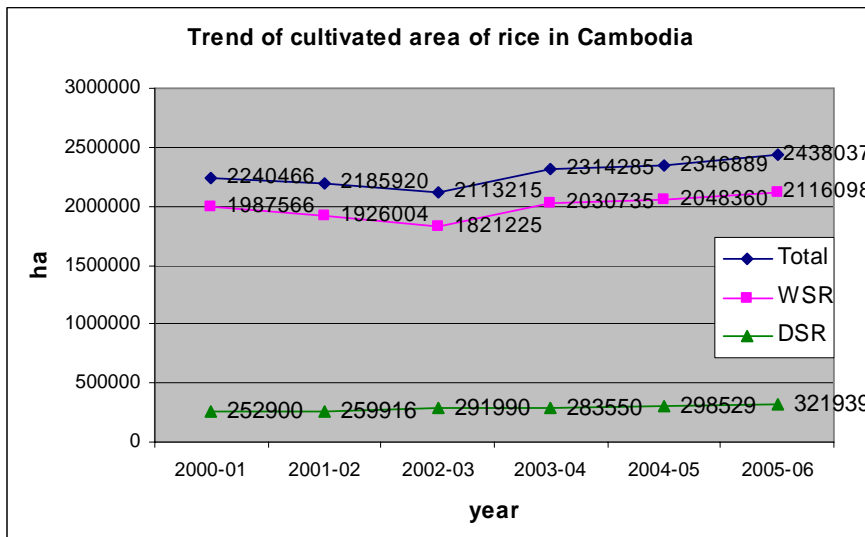
1. Ensure food security; increase income and improve livelihood for rural poor population by improving productivity and diversification of agriculture;
  2. Ensure the protection and sustainable use of land resources and to ensure the access to land for the rural poor farmers by promoting land reforms (e.g. improving state land management, land tenure security, land market, and reduce land disputes);
  3. Ensure the sustainable of economic growth and market access by improving market opportunities and access for agricultural products, and improving agricultural safety standards;
  4. Ensure work performances of MAFF in production, provision of services and in natural resources management and conservation by improving capacity building of human resources;
  5. Ensure adequate and efficient of institutional management standards and legislation standards by improving and strengthen institutional and legislation frameworks;
  6. Ensure sustainable access to fisheries resources for rural people by encouraging fisheries reform;
  7. Ensure sustainable forestry management and access to forestry resources for rural poor people by promoting forestry reform;
- 36.** However, the priority strategies for agriculture, land use and irrigation in NSDP, 2006-2010 that will take wetlands and water resources or decrease the impact on wetlands into consideration are (RGC, 2005b, p:56-59):
1. Continue promote of export markets for niche products, especially organic farm exports.
  2. Enable and strengthen community-based development of fisheries sector by empowering local communities.
  3. Transform fishing lots whose concession contracts have expired into fish sanctuaries, thereby to increase natural fish stocks, and conserve endangered species.
  4. Protect freshwater fisheries by sustaining the bodies of water, in terms of both quality and quantity.
  5. Encourage and promote private sector aquaculture to respond to the needs for fish, at the same time to decrease pressure on natural fisheries.
  6. Ensure the rational and strict monitoring of forest exploitation according to international best practices in forest management, to provide adequate forest reserves for domestic consumption, protection against drought and floods as well as preservation of wetlands, which serve as fish sanctuary.
  7. Protected Area System to protect biodiversity and endangered species.
  8. Community forestry as a sound, transparent and locally managed program.
  9. Creating public awareness to add to, replant and use community plantations for firewood and charcoal needs and not destroy forests.

10. Continue to discuss and develop the required legal framework for effective implementation of the land law, including registration of indigenous people's land rights.
  11. Review the existing economic land concessions (ELCs) and make them consistent with guidelines stipulated in the sub-decree on ELC. The challenges are to control and curb further land concentration in few hands, including review of already granted large concessions exceeding limits of 10,000 ha under the 2001 land law, where land is still lying fallow and unproductive.
37. In order to achieve the NSDP (2006-2010) as well as MAFF's goals (2006-2010), MAFF will implement in total 96 actions/programs within the period of 2006-2010. However, the main 11 actions/programs that would take the wetlands and water resources into consideration, are summarized as below ((MAFF, 2005a, p: 19-28):
1. Improve 100,000 ha irrigation systems in potential production areas of irrigated and rainfed areas;
  2. Improve & promote rice and other crops intensification by using integrated crop management, IPM and SRI techniques, (aim to reduce the agro-chemical use);
  3. Implementing of the participatory water management program in existing irrigation systems (in 20% of cultivated area);
  4. Promote integrated farming system program include cropping system, agro-forestry and crop-livestock and fish culture;
  5. Develop legislation frameworks and mapping on the agricultural land use planning;
  6. Strengthen agricultural land concession management;
  7. Develop the national land use master plan and provincial and community land use planning;
  8. Development of community-based land use planning;
  9. Promote Community-based forestry management program;
  10. Promote reforestation and rehabilitation of degraded forest areas;
  11. Develop planning and program for protected and conservation forest areas include watershed management.
38. Agricultural sector development in 2005-2006 has rapidly developed. The crop production is better and higher productivities than last few years due to climate condition and less effected by natural disasters including floods and drought. But, other sub-sectors faced many problems as well; the animal production was affected by Avian fluenza (bird flu) and other common animal diseases, the natural resources (forestry, fisheries, land), especially forest land faced problems of land grabbing, and clearance even though the RGC has issued many declarations to prevent these illegal activities. The flood reached too fast to high level and receded too soon to low level which was badly affected the cultivation of floating rice and dry season rice.
39. Cambodia's agricultural sector, inclusive of crops, livestock, forestry and fisheries, grew at an average 3.3 percent annually over the period 1994-2004. While agriculture is still the largest sector of the economy, its share of GDP has declined from nearly 46% in 1994 to 31% in 2004 (WB, 2005). Crop and fisheries are the two most important sub-sectors and on average, crops contributed the most (56%), while

the contributions from fisheries (30%) of the agriculture GDP. In 2005, agriculture increased 17.3 % (rice production growth rate 27%) compared to 2 % in 2004 (EIC in Koh Santepheap Daily 01.05.2006 and MOEF in RK, June 21, 2006). The growth for the agricultural sector was slow averaging 3.3% p.a. over the last decade, including three years of negative growth since 1999 but was 9.8% in 2003 compared to -2.7% in 2002, due to serious droughts and floods.

**40. Crop production:** It is grouped in rice and secondary and industrial crop. Rice production remains the dominating the crop sector in terms of cultivated area, food security and employment generation. Rice cultivation occupies 85% of the 2.7 million hectares of the agricultural land.

**Rice production,** in 2005, the total cultivated areas for rice production were 2,438,037 ha including wet season were 2,121,591 ha and it was higher about 69,355 ha than 2004 and about 210,758 ha higher than last 10 years (1996-2005). Total paddy production was nearly 6 million tons (5,986,179 tons) in 2005, in which wet season were getting 4,734,300 tons (1,601,719 tons higher than in 2004) and for dry season was 1,251,879 tons. It was 1,815,895 tons higher than 2004. Average yield was nearly 2.5 t per ha (2.26 for wet season and 3.1 for dry season) (MAFF, 2006)<sup>4</sup>. Food sufficiency degree in 2005-06 is nearly 153 % (or food surplus 2,061,830 tons of paddy). Most this surplus rice is sold across Cambodia's borders without going through the export licensing system.



**41. Secondary and Industrial crop production:** Moreover, the total area of secondary and industrial crop production increased over 39 % between 2003 and 2005 or from 327,044 ha in 2003 to 455,506 ha in 2005. Total cultivated area of secondary crops was 225,575 ha and it was 32,614 ha higher than 2004. Total cultivated area of industrial crops was 229,931 ha, and it was 52,233 ha larger than 2004. Also the production is likely increased. According to MAFF (2006) the factors determined the increase of secondary and industrial crop production were market price and favorable weather.

<sup>4</sup> Annual conference MAFF 2005-2006.

The trend of establishment of private plantation in the new cleared land areas could be considered by the new settlers, rich people and companies. The cultivated area can be expanded widely and even the production is still under the strong affect from the change of weather condition, but the threat from this condition was reduced due to the huge investment in the rehabilitation and construction of irrigation system, water management. However, the plantation in the new cleared land is uncertain, and was facing the repossession of forest state land.

#### 42. Agricultural land: Cambodia has five main agro-ecosystem (ADB, 2002).

Forests and mountains: ranging from the dense evergreen jungles of the Cardamoms to deciduous forests covering large parts of the country, from mangroves bordering the seas to the inundated forests of the Tonle Sap Lake. Forest areas cover about 61 percent of the total land surface (MAFF, 2003). In addition to timber resources, a number of secondary an industrial crops are grown in the upland area, including rubber, cashew nut, acacia, cotton, fruit tree, cassava, soy bean, as well as upland rice (*chamkar rice*).

Rainfed upper terrace: rice growing is concentrated at the centre plain, however, rice is also cultivated in the upper terrace areas.

River banks: narrow corridors intensively cropped with vegetables, maize, sesame, mung bean and fruit. Production tends to concentrate near urban markets. Yields are high given the water available around year and the annual fresh alluvial soil of Mekong.

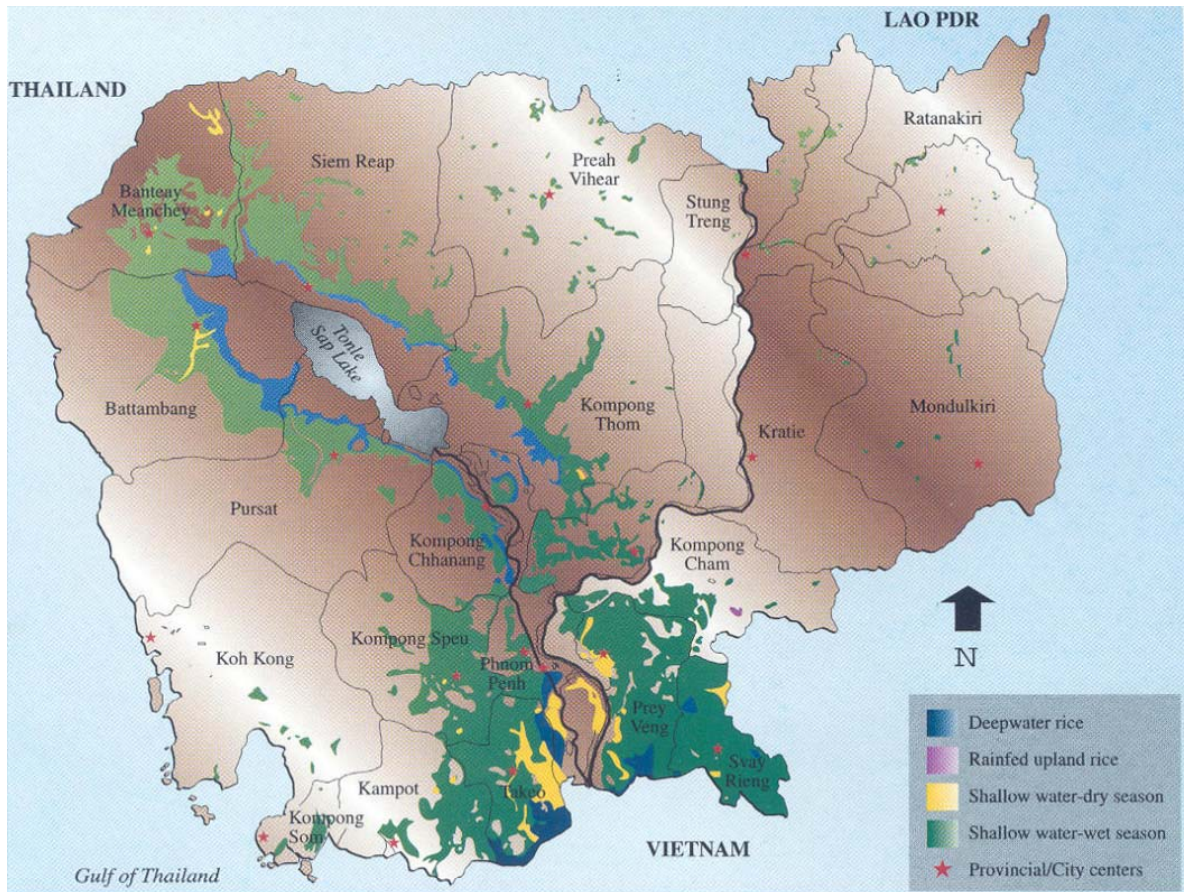
Upper floodplain: expansive low-gradient area between 8 to 10 m above sea level with 5-67days of inundation; densely vegetated in natural conditions and serves as critical fish habitat. In Tonle Sap Lake, his flood zone is used for recession rice and deepwater rice.

Lower floodplain: expansive low-gradient area below 8 m above seas level with more than 67 to 270 days of inundation; densely vegetated in natural conditions and serves as critical fish habitat. In the Tonle Sap Lake, this deeply flooded area is suitable for the cultivation of floating rice and the recession rice with the construction of water reservoir<sup>5</sup> (See the map below).

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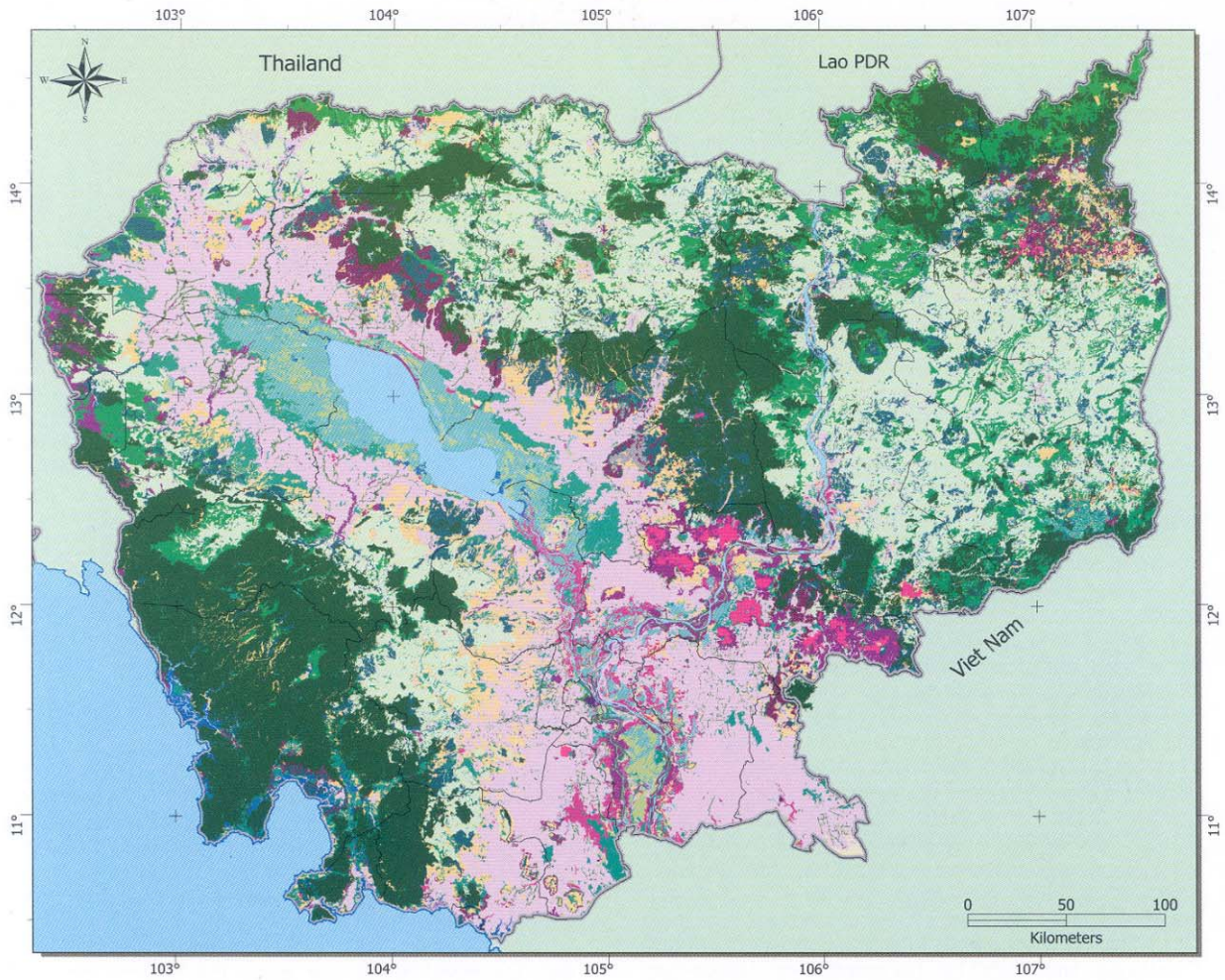
<sup>5</sup> Finding of the field research in 2006 in Kampong Thom.





Source: H.J. Nesbitt (1997), Cambodia-IRRI-Australia Project.





**Legend**

Landuse Type	Ha				
Rice Field	3,163,000	Evergreen broad leaved forest	3,922,638	Perennial Water Body	91,100
Field Crops	372,600	Deciduous forest	3,549,993	Mangrove	64,900
Swidden Agriculture	349,700	Mixed forest from evergreen and deciduous species	1,429,007	Marsh or Swamp	44,600
Village Garden Crops	198,300	Woodland and Scattered trees	1,266,100	Flooded Forest	20,600
Receding Rice and Floating Rice Fields	194,000	Shrubland	1,094,000	Water Body	
Rubber Plantation	88,300	Grassland	861,600	Provincial Boundary	
Urban, and Built-up Areas	18,100	Flooded Shrub	533,200	International Boundary	
Orchards	8,800	Flooded Grassland	173,500		
Salt Evaporator	6,100	Barren Land	27,200		
		Sand Terrain	7,500		
		Rock Outcrops	1,800		

Note: Vegetation types are broadly defined. For greater detail refer to Terrestrial Vegetation and Landuse Patterns map.

Source: SCW (2006), The Atlas of Cambodia.

### 43. Forestry:

**Law and regulations:** RGC has adopted: (i) the 2002 forestry law, (ii) policy statement, (iii) sub-decree on forest management concessions (February 7, 2000); (iv) Sub-decree No 79 on forestry community management (December 02, 2003), (v) *Prakas No 01 BK* on the measure for the management of forest resource and elimination of illegal forest activities (January 25, 1999), (vi) *Botbanhchea* (Regulation) on The Prevention of Forest Clearance to Claim Ownership (May 10, 2006), and other such as technical rules and instruction policy, aimed for sustainable forest management.

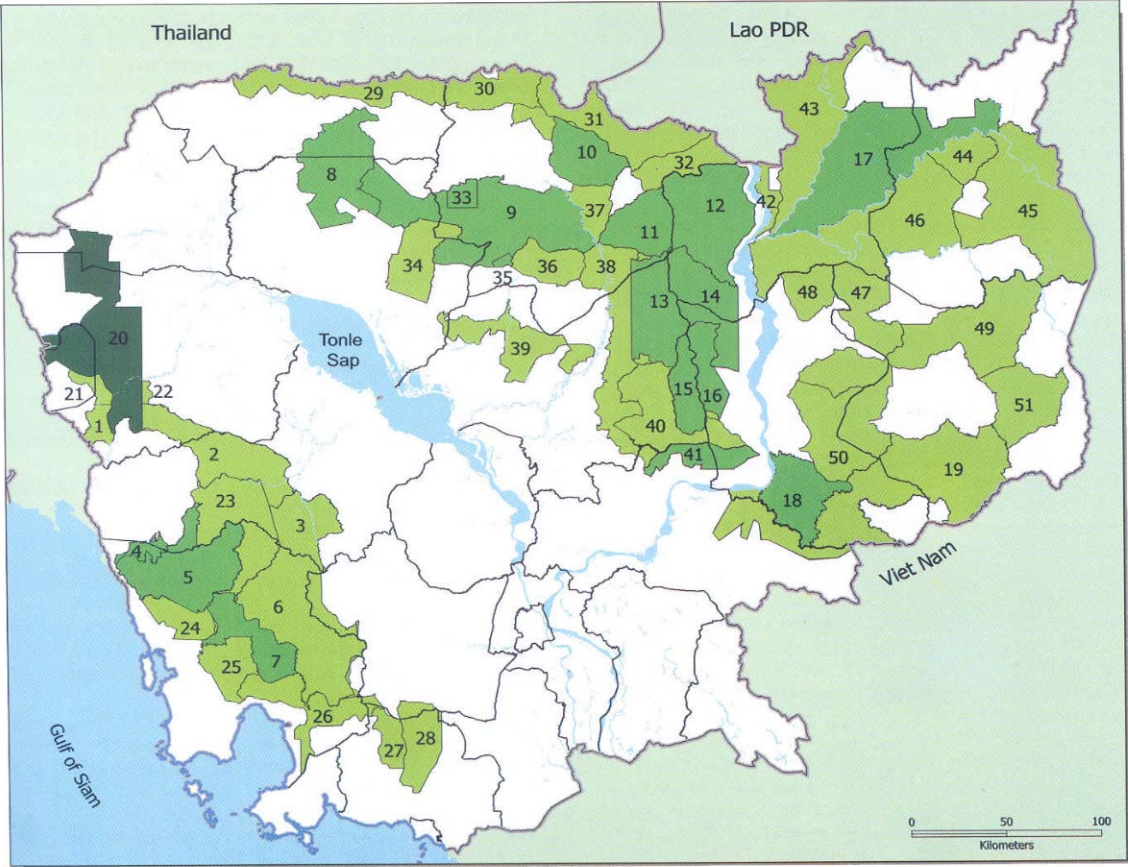
RS of RGC based the forest sector reform is fourth side of the first rectangular which strategy objective of RGC in the forest sector for ensuring with sustainable forest management depend on basis of the tree essential center pillar constituted sustainable forest management policy, National resources protection system and implementation of forestry community development program.

**The Forestry Administration (FA):** FA is the government authority under MAFF, in managing forest and forest resources according to the National Forest Sector policy and the 2002 Forestry law (Art. 6 of 2002 Forestry Law). In 2004, FA implemented activities in 3 main components: Forest Management Concession, Forest Planting-Conservation and Forestry Community, and Wildlife Research and Conservation.

**Forest Management Concession:** From 1999 to date, the RGC has pronounced to cancel the agreement and withhold the forest concession of 17 companies having total forest land area of 24 place equals to 3,501,170 ha. While 12 companies in which investment agreement remains in force and have land area 3,374,328 ha have been required: (1) to renegotiate the concession forest management agreement (2) to re-plan management the concession forest management in accordance with international standards (MAFF, 2005, p:9). According to the Atlas of SCW (2006), the location of terminated forest concession is shown in the map below.



# Forest Concessions



**Legend**

- Bamboo concession
- Timber concession
- Terminated timber concession
- Water Body
- Provincial Boundary
- International Boundary

Note: Current timber concessions status undetermined.

Source: SCW (2006), The Atlas of Cambodia.

**Forest Planting and Forest Community:** MAFF has replanted tree about 5,568 ha during 1999 to 2005 and additional of 862 ha in 2005. The FA has established 101 reforestation centers, including new 51 centers in 2005. Moreover, the FA provided public awareness about forest management and reforestation to people, and provided about 11 million of tree seedlings to the local communities for replanting.

The FA established 274 FCs in 614 villages of 19 provinces as participatory community base forestry resources management and conservation, which covers 218,647 ha (FA, 2006 and MAFF, 2006), according to the articles 41 and 42 of the

2002 forestry law. *Article 41 stated that* "The MAFF has authority to allocate any part of the Permanent Forest Reserve to a local community living near or inside the forest area in the form of a community forest", and *Article 44 stated that* ".....A local community can not use the Community Forest in the form of a concession, nor sell, barter or transfer its rights in such forest to a third party ". Also, the **Sub-decree No 79 on Community Forestry was approved** (Dec., 2003), and it was enacted to put public forest assets under the stewardship of local communities in the framework of approved management plan and benefits sharing managements. The RGC has been working in partnership with various donor agencies and NGOs to pilot community forestry activities in different parts of the country. For example,

*A new DANIDA/DFID support Natural Resource Management and Livelihoods Framework that is now being prepared for five years, state from 2007. For example, DANIDA provided the fund of over \$10,000, through the Seila program, to two communes of Bou Sra and Sre Ampom, Mondulkiri province, for the establishment of an indigenous community in management of a Natural Eco-tourism Site (RK, 18 Aug. 2006).*

**Wildlife Research and Conservation:** The FA cooperated with the national/international organizations and non-governmental organizations such as CAT, FFI, WCS, ITTO, Wild Aid, CI, Birdlife international, WWF, WPA, ICF etc to strengthen the laws enforcement, research study and provided awareness on the wildlife conservation to local communities through implementing of 9 projects including crane conservation at Ang Trapeang Thmar; Beoung Prek Lopov and Anlong Pring; FA-FFI Gibbon conservation survey project. The FA-FFI Asian elephant conservation Project, The FA-FFI Cambodia Conservation Project, The FA-WILDAID Law enforcement, The FA-WCS SIMA Biodiversity Conservation Project, The FA-WWF Srekok Wilderness Area project; The FA-WPA Cambodia Galliformes Conservation Program and the FA-CI Central Cardamon Conservation Project. Wildlife saving in Phnom Tamao conserved 962 heads of wildlife animals.

FA developed the 8 years National Forestry Community Operation Project, in formulating of forestry community in 3 provinces of Pursat, Kampong Chhnang and Kampong Cham; conducted the forestry community research project (FC) in 2 provinces (Kampot and Kratie) in cooperation with the MoE, and Royal University of Agriculture (RUA). FA implemented projects: Japan-Cambodia Collaboration Project "Alternation of water in Mekong River Bank (CWCM)", "Good Development Mechanism Project", and "Cambodia Tree-seed project" in collaboration with concern ministries, WWF, WCS and CITES.

FA discovered the existence of significant wildlife of 1,113 kinds, including 122 kinds of mammal, 537 kinds of birds and 114 kinds of reptile and 40 kinds of aquatic animals and 30 kinds of butterflies, and the RGC has determined to create the forest biodiversity resources and wildlife protection area of 29 places covered land area of 4.45 million ha equals to more than 25 % of total areas nationwide. MAFF also established 8 locations of tree seed conservation and 12 of genetic resources (seeds and endangered species) (MAFF, 2005a, p:10).

**Legal framework for community-based forest resources management:** No exploitation in any forest concession until a Strategic Forest Management Plans

(SFMPs), including environmental impact assessment (EIA) have been submitted and approved according to the Sub-decree on Forest Management Concession (1999). Also, the ELC is offered if the environmental and social impact assessment (ESIA) has been properly conducted, according to the Sub-decree on ELC issued in December 2005 (Art.12 and Art.35). With respect to public disclosure, the RGC must carry out the reviews of the SFMPs and ESIA submitted by concessionaires. They were shared with the concerned communities for comments. However, it is not clear for EIA conducted by FA because logging may have an impact on rural livelihood (e.g. resin collection, soil erosion) as well. For ESIA, in practice, it is uncertain how exactly this would be carried out because it is also not clear classify on different between forest land and fallow land of shifting agriculture, on which the forest regenerates/grows.

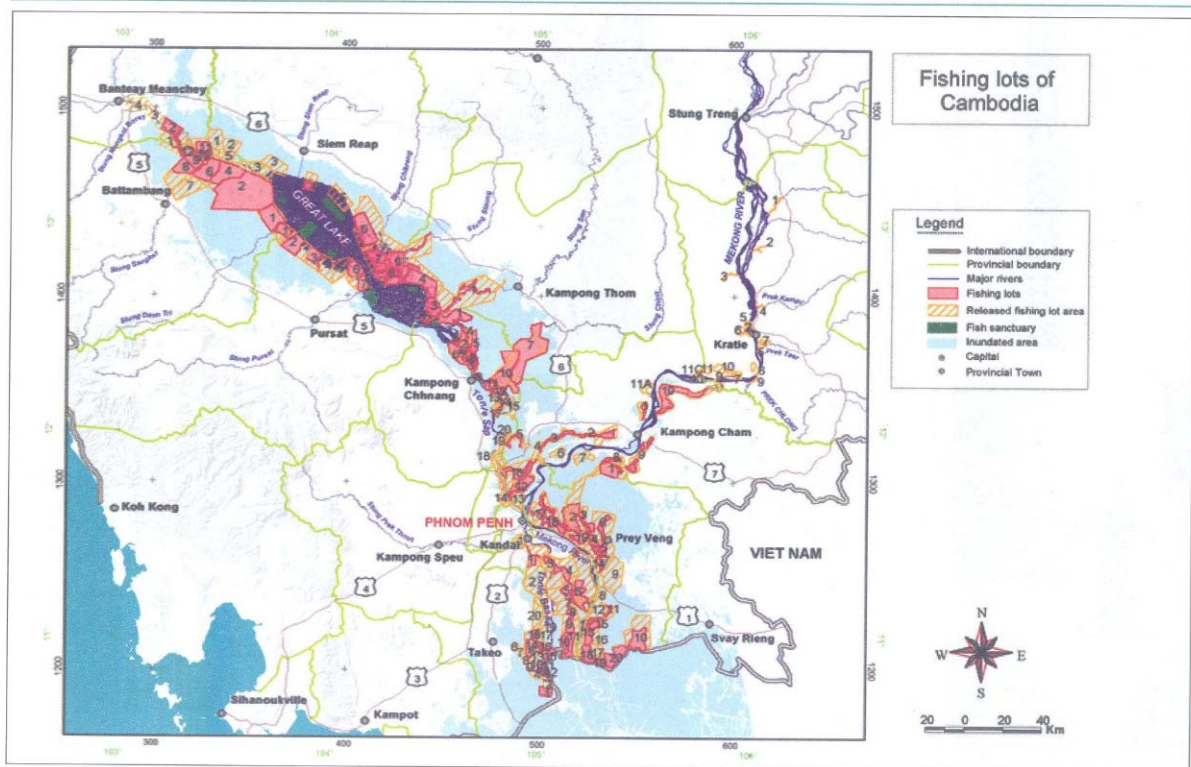
*Art 37 of law on forestry states “Local communities that traditionally practice shifting may conduct such practices on land property of indigenous community which registered with the state..... Forestlands reserved for shifting cultivation shall be identified by Anukret (Sub-decree). To date, the indigenous community land is still not registered.*

#### **44. Fisheries:**

**Fishing lot reforms:** The fishing reform was made in 2001. Until now, 538,522 ha (56.46%) of fishing lots area was released into public fishing grounds for family fishing. The system of fisheries management has changed from state alone to co-management. Moreover, the RGC has stopped collecting hiring fee from middle scale of fishing gears. The revised fisheries law and regulation including sub-decree and proclamation were also amended and enacted. The royal decree on establishment of community fisheries and sub-decree on the community fisheries management already were issued in 2005 (May, June). And recently, the fishery law was approved (May, 2006). Moreover, the Protected Area Law is already drafted, having articles states consider on wetland, biodiversity, and quality of water (Art. 18 and 45).



Map 7 : Fishing lots in Cambodia



Source: SCW (2006), The Atlas of Cambodia.

Fishery Administration (FiA) took many efforts to implement fisheries reforms, including establishing fishery communities (FiC), conducting research studies, stimulating conservation, stimulating rural aquaculture development and especially suppressing illegal fishing in order to reserve fish resources (MAFF,2005). 440 FiC ( 405 in freshwater fisheries and 35 in the marine fisheries domains) were established.

Also, the rural aquaculture development is the government's priority to increase income and improve livelihood. Under the support of AIT/SIAD, the rural aquaculture development has been implemented in South Eastern part of country in Svay Rieng, Prey Veng, Takeo, and Kampong Speu provinces. From 1998 to 2003, the number of farmers involved in aquaculture has increased up to 10,000, and the fish culture produced, approximately 86,930 tons (MAFF, 2005).

Despite the total catch of inland fisheries has decreased in the past few years, caused by environmental and social changes, including irregular water regime, habitat destruction, increasing population and weak law enforcement at local communities that led to increased number of illegal fishing activities, the fisheries production has increased. It increased in 2005, with inland fisheries production of 324,000 Tons, and about 338 % higher than in 2004 (MAFF, 2006). As fishermen have received more fishing ground, the number of conflicts between family fishing and fishing lots operators have been reduced.

However, the substantial responsible of the different institutions such as MAFF, MOWRAM, MLMUPC and Community Committee were overlapping and un-clear, particularly the relation between MAFF (FiA) and MOWRAM in management of agricultural irrigation in the flooded area. Moreover, there are others organizations such as NGOs and CBOs and Farmers who were working in form of partnership. The government has worked in the frame of top-down process whilst the NGOs were directly working with farmers or CBOs. And, the partnership concept seems to be new for government officials. And till date, NGOs working on mobilizing the FC and FiC often complained of the lack of cooperation from both FA and FiA<sup>6</sup>.

**45. Economic Land Concession (ELC):** ELC is one of land transfer modalities to the private sector. MAFF is permitted to grant over 1,000 ha of state land to the private investor for a period in order to stimulate the economic development. The areas of ELC could be leased up to 10,000 ha, with the period up to 99 years (Article 59 of the 2001 land law). And, the provincial authority is delegated to lease state lands less than 1,000 ha, or the capital investment less than 10,000,000,000 riel (ten thousand million riel, equivalent to about \$US 2.5 million (Article 29 of sub-decree on ELC in Dec. 2005).

From 2003 to 2005, refer to point 5 of the Prime Minister declaration dated 25. January 1999, the RGC canceled the principle and contract of 27 land concession companies. In 2005, 41 land concession companies have validity operated/located in 13 provinces with 909,185 ha of total land area, of which: (i) 41 companies have signed the contract of 831,045 ha, (ii) 4 companies had authorized principle but have not yet signed agreement (contract) over 36,900 ha and (3) 3 companies being requested for no objection of authorized principle from the Council of Ministers with the total areas of 41,240 ha (MAFF, 2006a, p: 9).

Also, the private investment on ELC has been progressed starting since 2005 up to March 2006. The MAFF has signed agreement/contract with 16 companies: 1 company in Ratanakiri, 2 in Kampot, 3 in Kratie, 7 in Stung Treng, 2 in Kampong Cham and 1 in Kampong Thom. Moreover, MAFF requested for authorized principle from the Council of Ministers for 5 companies.

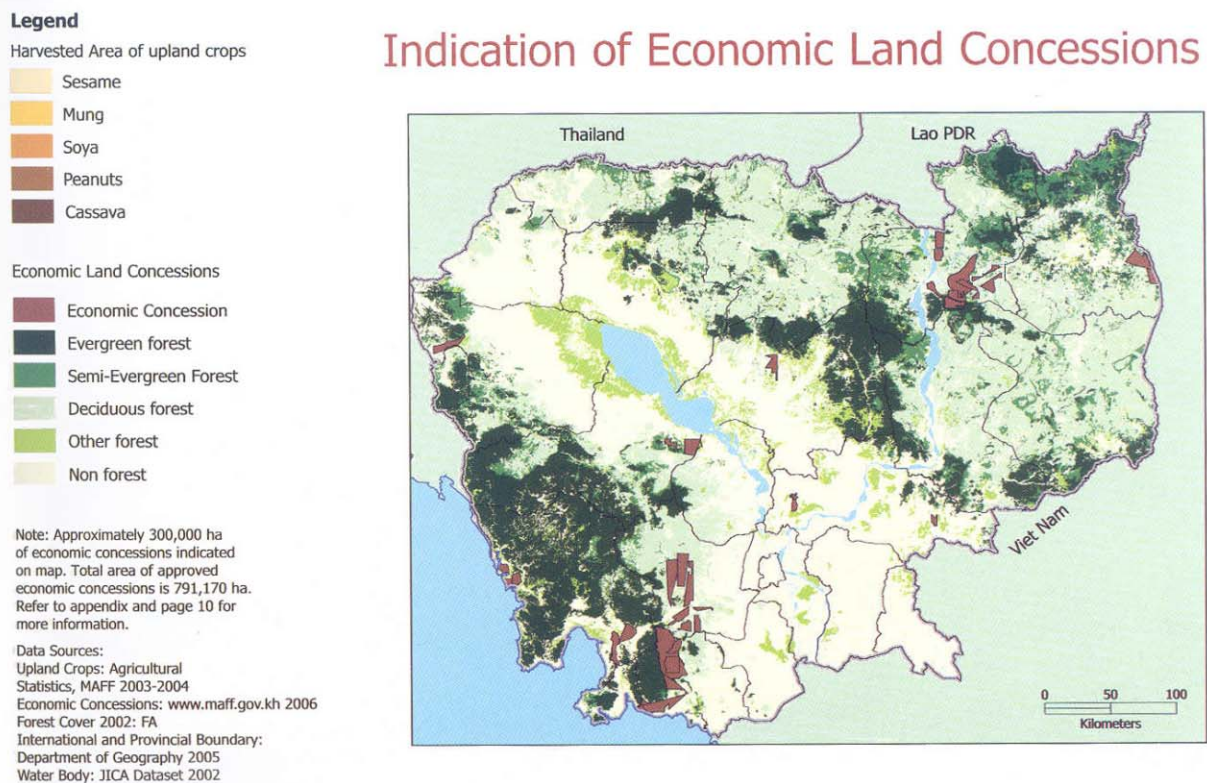
To enforce and strengthen the effectiveness and efficiency management of ELC, MAFF revised the contract form based on the circular No. 5 dated 1<sup>st</sup> July 2005. Meanwhile, the MAFF established the inter-ministry committee (IMC) for definition of land concession's fees followed by the decision No. 280/618 dated on 13 June 2005.

Regarding to ELC, WB commented that Forest/tree plantations should not be excluded from the provisions of the sub-decree on ELC as a means to attract the kind of investment required to develop agriculture with high value added and employment benefits. Generally the kinds of labor-intensive production which Cambodia is seeking to support rural and employment and poverty reduction objectives can as easily or even more efficiently be carried out by smallholders involved in contract farming and other associative arrangements than through

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<sup>6</sup> Findings obtained from field study.

encouragement of very large production units. Experience throughout East Asia and the world demonstrates that small holders - with basic public and private support - can produce as efficiently or more efficiently than large plantations. And, FAO proposed the demarcation between state and private land, particularly between state public and state private lands. Thus, the issuance of the Sub-decree on State Land Management (Oct., 2005) will be equally important for the creation of a viable ELCs system that supported by the Sub-decree on ELC.



Source: SCW (2006), The Atlas of Cambodia.

However, the ELC companies met the problem that can not process and implement due to land conflict and occupation by military and local people. The MAFF respond and provide the information on land concession to high institutions, donor partners and civil societies, concerned ministries such as informing to parliament on conflict of ELC, e.g. the dispute of VANMA Company with local people. The MAFF assigned technical officials to study and evaluate on company's proposal of ELC, setting up a pole and boundary and data survey of concerned land area in the ELC in 20 cases for companies that signed the contract. MAFF approved the master plan for 4 companies, 13 companies have been planted of which 11 companies' growth as plantation and 2 were tested (MAFF, 2006a, p: 31).

**Cambodian law related to economic concessions:**

The 2001 land law applies to all land concessions for economic purposes (but not logging, mining, port and fishing concession); to-date, numerous sub-degrees were passed to make it effective. The land law permits investors to manage and harvest their concession for up to 99 years, although certain conditions apply. For example,



in order to counter land speculation if a concessionaire has not commenced activity within 12 months, the contract is considered cancelled. Also, the area of a concession, in all but exceptional instances, is limited to 10,000 ha in size (Article 59). However, many concessions exceed this limit.

*According to the land 2001 law, state land is differentiated into “state public land “and “state private land”. State public land is: “Any property that has a natural origin, such as forests, courses of navigable or floatable water, natural lakes, banks of navigable and floatable rivers and seashores” and “Any property that constitutes a natural reserve protected by the law” (Article 15). Article 16 states “When state public properties lose their public interest use, they can be listed as private properties of the state by law on transferring of state public property to state private property”. Article 17 then states “Lands within the state private property may be the subject of a concession.*

**46. Forest clearing and encroachment:** Up to March 2006, the encroachment of forest land between 2004 and March 2006 was at 17,175 cases, equivalent to 264,802ha according to the report of The National Committee for Preventing and Eliminating Land Encroachment and Fencing for Ownership during the meeting in March 24, 2006 at MAFF cabinet. 29 cases involved the encroachment over 1,000 ha, 27 cases between 500 and 1,000 ha, 134 cases between 100 and 500ha, 298 cases between 50 and 100 ha, 1,321 cases between 5 and 10ha, and 14,726 cases involved less than 5ha. The meeting reported that up to March 24, 2006, only 19,100 ha among all of them were expropriated (RK, March 26-27, 2006 & CEPA, 2006, Mar-Apr, p: 33).

**47. Repossession of state forest land:** The RGC has issued a *Prakas*, declaration No. 01 dated 25 January 1999, and a *Botbanhchea*, Regulation No. 01 dated 10 May 2004, in order to manage and eliminate anarchy in forestry sector and land clearance, implemented a comprehensive, effective and successful reform in forestry sector and received profound appreciation and strong support from national and international communities. However, recurrent activities of forest clearance, forest burning, earth working, and encroaching of forest lands, flooded land and protected areas to claim ownership has been intensified in almost all provinces. These acts have been committed against articles of the 2002 forestry law and relevant regulations, and may bring about disasters, loss of forest covers, and assets of the state and impair the sustainable forest management goals if prevention and suppression measures are not taken effectively. Thus, the RGC issued recently, a *Botbanhchea* (Regulation) No 01 in May, 2006 on the Prevention of Forest Land Clearance to Claim Ownership. The Provincial Committee on Forest Clearance and Encroachment, which comprises the different officials from the FA as well as the ministries of Land Management, Agriculture and Interior, and in cooperation the newly established National Authority for Land Dispute Resolution (NALDR) expropriated 187,868 hectares (ha) of state land in the provinces across Cambodia up to August 18, 2006<sup>7</sup>. For example<sup>8</sup>, these committees secured the return of 47,701 ha in Siem Reap province, 35,606 ha in Banteay Meanchey, 20,981 ha in Otdor Meanchey, 4,755 ha in Stung Treng, nearly 10,000 ha in Sihanoukville, 1,210

<sup>7</sup> Prime Minister Hun Sen speak during the forum between government and private sector in June 21, 2006, and report of a advisor of the NALDR during the round table discussion dated 19, August 2006.

<sup>8</sup> RK, June 03, 2006.

ha in Kampong Thom, 6,478 ha in Battambang, 10 sites (each site varies from 5 to over 1,000 ha) in Kandal and nearly 400 ha in Ratanakiri.. Also, all illegal occupied land in Kandal and Takeo provinces being repossessed are flooded forest lands (for example 198 ha in Angkor Borei district). In Phnom Penh, the municipal authority repossessed about 972 ha of land; flooded land of the lake “Beung Kob Srov”, aim to take action against filling-in because this lake is very important to prevent naturally or stock the flood.

#### 4.2.2. Land use sector

**48. Historical Background of land ownership:** Policies for land are closely related to the types of ownership and land rights. The objectives of the RGC land policy are to promote sustainable economic and social development, to decentralize land management, and to reduce poverty through the intervention in land administration, land management and land distributions. The vision of land policy as expressed by the Council of Land Policy (2002)<sup>9</sup> has three aspects: 1) land will be administered in a way which makes property rights legally clear and secure, 2) concessions for social purposes will be made to distribute vacant state land to the needy poor household, and 3) land will be managed in an environmental sustainable way, which provides the poor with the opportunities for secure access to natural resources, to secure housing, to credit, and for investment.

Land has always been a fundamental asset for the agricultural- based society of Cambodia. Land administration and land management structures have changed during successive periods. It has often been the center focus of government intervention. To understand the roots of current issues for policy it is necessary to be aware of the historical change (Sik, 2000 and Sar, 2002).

##### **Pre-French colonization (Pre-1863):**

Land belonged technically to the sovereign. Tax of agricultural product (cost of renting land in) was 10 percent but no land tax. Practically speaking, most people were able to freely till their own land and could cultivate as much they liked. With a small population and the absence of a land market, the cultivating proprietor could move from one area to another and assume ownership. Owners had exclusive rights to possess, use and inherit agricultural land, without having to fulfill any formalities except other feudal tribute.

##### **French colonial period (1863-1953):**

After colonizing (protectorate) Cambodia in 1863, the French changed the traditional land use system in Cambodia first promulgating a Land Act in 1884, which was not fully implemented before 1912 due to the resistance of Cambodian farmers. By 1930, most of the rice growing fields were registered as a private property and people were free to sell their land. More importantly, all free areas or unoccupied land became available, leaving opportunities for those people who sold their land to move to the forests. By 1930, most of land was divided into plots of less than 5 hectares and large plantations had been established.

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<sup>9</sup> Interim paper on Strategy of Land Policy Framework by Council of Land Policy (CLP), Sept 2002

### **Independent period (1953-1975):**

After Cambodia gained independence from France in 1953, the Western system of property ownership continued, with an increase in land transactions. The 1962 census showed that 840 000 farmer families (76.9%) had land (document of Land Department), and 84 percent were “owners only” (neither tenants nor share croppers). The two land rights were: Ownership right (*kamaset*) and Possession right (*phokeak*).

- Ownership right: it is the right to manage absolutely and exclusively any property, providing land or transaction of land were not prohibited by law,
- Possession right: could be obtained for agricultural land. Land shall become the private of the state if it is abandoned. It could be divided into three categories: concession right (*deysampatein*) for Cambodian only, use right for cultivation, and long term rent land (for foreigner).

The Cambodian history has shown that land grabbing/expropriation eventually led to land conflict in the district of Samlot, Battambang province and Ou Chum, Ratanakiri province (RK, PP, 6-12.12.02). At that time, the revolt was against the low selling price of rice and land confiscation. In 1967, the first uprising took place against then-Prince Sihanouk’s Sangkum Reastr Niyum regime, after the Government in Phnom Penh tried to force farmers to sell their rice at below-market prices and land confiscation by rich men to extend plantations that supplies cotton commodity to a non local newly constructed textile factory in Battambang. A similar event occurred in Ratanakiri when the Government invested in a new rubber plantation in 1968 using land confiscation from local ethnic people.

### **Democratic Kampuchea (1975-79):**

During the Democratic Kampuchea (Khmer Rouge) period, the land tenure and cadastral records were destroyed and private property was abolished. All land belongs to the State Organization.

### **People’s Republic of Kampuchea (1979-89):**

All land belonged officially to the State and Solidarity Groups (*Krom Samaki*) were established which occupied and used land for agricultural and residential purposes. Land was redistributed to Krom Samaki based on the labor and land available in each area. The collectives consisted of 10 to 15 families who shared land, labor and draft animals. There were 3 types of Krom Samaki<sup>10</sup>:

Type I: The Krom Samaki was allowed to occupy and use agricultural land, which was officially the property of the state. Common exploitation was followed by distribution of products among all members.

Type II: Common land preparation and growing. After that, cultivated land was distributed to each household to take care of. All could exchange their labor for cultivation. Each household kept harvested product for themselves.

Type III: Each household was distributed land. They could practice agriculture in mutual help as was traditionally practiced.

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<sup>10</sup> Land Management Department- Land Policy in Cambodia (unpublished document)

It is important to note that even though all land belonged to the state, occasionally during this period some residential land was unofficially transferred between people by mutual agreement.

### **State of Kampuchea and The Kingdom of Cambodia (1989-2001):**

By 1989 the inappropriateness of collectivization and the planned economic system was recognized. The government began reforming economy towards a free market system. In addition to implementing major economic reforms, the government reintroduced private property rights 1989. Instruction No.3 on Policy on Land Management established that all land rights established prior to 1979 were null and void, and that all land could be sold was the land provided by the state for domicile and exploitation. It established three categories of land:

- Land for domicile: To be provided for ownership (*kamaset*) by the provincial committee or municipality; size up to 2000m<sup>2</sup>;
- Possession land: State land allocated to farmers to manage (*krupkrong*) and for use (*praeprass*) for exploitation; size up to 5ha;
- Concession land (*deysampatein*): Greater than 5 ha. It provides the right to occupy land (*kankap*) for large scale crop production that would contribute to the national economy.

Of these 3 land categories, private ownership rights could be obtained only on land for domicile; whereas on cultivation land and concession land respectively, only possession and use rights. On the basis of Instruction No 3 and Sub-decree No 25 land was distributed to private households. The local authorities implemented land distribution with full participation by local communities. Residential land and productive land were redistributed to people to be owned and possessed. The remaining land was kept as State land for future development.

Based on relevant regulations and on the land redistribution of the early 1980s, the 1989 land distribution was based on land availability in the villages and the number of household members and was implemented by local authorities. The results of the PET (Protracted Emergency Targets) survey of UNWFP in 1998 showed that households had commonly acquired land through different sources: 43% from their relatives or friends; 28% were given by the authorities; 11% with purchasing; 10% cleared land themselves; 5% obtained land through the 1989 *Krom Samaki* distribution and 3% through unused agricultural land (Sik, 2000).

The Land Law of 1992 maintained the situation of rights of possession for agricultural and residential land, while the State continued to be the legal owner. The 1992 Land Law also created ownership rights for residential properties. Two types of State land are recognized in the 1992 Land Law: State public use and State private land. Only State private land can be released for concessions. More and more the ownership right of big land and land concentration tends to be increasing, as the result of the free market economic reform. As the consequence, there were high incidences of land dispute and land grabbing.

### **The Kingdom of Cambodia (2001-present)**

The new land law was passed in 2001 since 1992 land law did not provide a solid platform for full tenure security or for effective land management. Its contents did not fully reflect the 1993 Constitution (Art. 44), which recognizes land ownership rights in a broader sense. Nor did it provide a basis for a national of systematic registration.

Its reforms include extending private ownership rights to residential land and agricultural land and officially certifying ownership in a government document known as a land title. Land size for ownership right is no more limited. Land concessions areas could be provided up to 10,000ha (Art. 59), with period up to 99 years (Art.61).

- 49.** In the late 1980s, land distribution was partly a de facto recognition of lands that people already controlled under the collective group/solidarity group (*Krom Samaki*).
- From 1989 to 1994, the Department of Cadastre was under the Ministry of Agriculture. The provincial and district offices of the Department of Cadastre carried out the work and the Provincial Governor was the final authority for issuing certificates for both agricultural and residential lands.
  - From 1995 to 1998, the Department of Cadastre was shifted to the Council of Ministers. The final authority also shifted from the Provincial Governor to the Director of the Department of Cadastre.
  - In 1998, the Department of Cadastre (now the General Department of Cadastre and Geography-GDCG) was again relocated to the newly established Ministry of Land Management, Urban Planning and Construction (MLMUPC). One of the main tasks of this Ministry is to undertake a comprehensive survey, mapping and land registration.
- 50.** At the end of 1990s, there was a high incidence of land dispute and land grabbing. More and more the ownership rights of big land areas and land concentration was to be increasing (Diagram 1). The RGC accepted that the Land Law issued in 1992 was not appropriate for the development of the free market economy. In response to the need of solving land disputes, the RGC decided in March 1999 to set up the National Land Dispute Resolving Commission (NLDRC), Minister of LMUPC, chairs this commission which has a secretariat provided by the Ministry of Interior. The Provincial Land Dispute Settlement Commissions (PLDSCs) were established in every province and municipality chaired by one of the Deputy Governors. In April 1999 ADHOC, CCCR and Oxfam GB Cambodia organized a national workshop on “Institutional Cooperation to Resolve Land Disputes” presided by Deputy Prime Minister H.E Sar Keng. Objective of this workshop was to demonstrate the desire of civil society to work with RGC to rid the country of threat and improve resolving land conflict. The outcome was to enhance cooperation at all levels of three powers: executive, legislative and judiciary in order to build an essential linkage with NGOs for resolving land disputes.
- 51.** In 1999, NLDRC conducted research and set up mechanisms for solving land issues. Nevertheless, they did not have sufficient powers. There are needs to provide land tenure security to all landowners and develop an effective and transparent land registration system. This would have the potential to strengthen public order, and to reduce and prevent land disputes (RGC, 2000). Thus, the Council for Land Policy

(CLP) was established in December 2000 to develop a comprehensive framework and to implement land legislations. CLP is an inter-ministerial mechanism consisting of senior representatives of 7 ministries and institutions, and the minister is the chairman of the CLP. In the meeting of Council of Ministers on 21 July 2000 to discuss drafting of the land law, the Prime Minister said that “the Government has to do a revolution in land issue instead of farmers” (RK, 23.07.2000). As the result, the new land law was issued in August 2001, with articles that require for effective implementation of sub-decrees on land registration, social land concession,, cadastral commission, state land management, and economic land concession.

**52. Land policy:** Policies for land are closely related to the types of ownership and land rights. The objectives of the RGC land policy are to promote sustainable economic and social development, to decentralize land management, and to reduce poverty through the intervention in land administration, land management and land distributions. The vision of land policy as expressed by the Council of Land Policy (2002)<sup>11</sup> has three aspects: 1) land will be administered in a way which makes property rights legally clear and secure, 2) concessions for social purposes will be made to distribute vacant state land to the needy poor household, and 3) land will be managed in an environmental sustainable way, which provides the poor with the opportunities for secure access to natural resources, to secure housing, to credit, and for investment. The main interventions of the land policy are land administration, land management and land distribution. The government efforts will focus on the 3 interventions in order to address landlessness issues and land speculation including the sale of state property for private gain (Sar Sovann, 2002 and CLP, 2002).

**Land administration:** It will improve economic opportunities and reduce vulnerability for the poor by creating secure property rights. The policy goal of land administration policy is to clarify and record ownership and other rights of all properties (Public and private land) in accordance with the Land Law. Specific objectives of land administration policy are to define types of ownership and land rights, and to implement a nation-wide land registration system. It includes also a linkage of land registration to dispute resolution, demarcation of administrative boundaries. Secure property rights will:

- Protect the poor from land grabbing and assist in dispute resolution;
- Improve incentives to invest in land for agricultural or other productive purposes;
- Improve the ability of the poor to use their land as collateral and as a marketable asset. Improved land administration is therefore a contributing element to the goal of agricultural improvement for poor households and an element of urban and industrial development.

Recently, Prime Minister requested to accelerate the SLR with the increase of registered plots from 20,000 to 50,000 per month. The action envisaged in the land reform policy is to improve and implement land registration procedures for systematic titling and sporadic titling and issue titles for at least 32% of land parcels (urban and rural) by 2010 (RGC, 2005b, p: 59).

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<sup>11</sup> Interim paper on Strategy of Land Policy Framework by Council of Land Policy (CLP), Sept 2002

**Land management:** Their measures are intended to protect the access of the poor to natural resources and to support access to affordable housing and economic opportunities in urban areas. The objectives of the land management policy are to ensure that land and natural resources are used in an efficient manner in order to support sustainable and equitable socio-economic development. The main activities being implemented to achieve these objectives are:

- Co-ordination of land use planning with socio-economic development and natural resource management;
- Decentralization of land management and planning authority to local and provincial authorities after the establishment of national land use guidelines;
- Development of land use plans for priority areas including tourism and investment zones, key urban areas and major road corridors;
- Implementation of procedures for urban land management and re-settlement;
- Creation of housing policy.

Also, the Ministry of LMUPC, in June 22, 2006 reminded the recommendation of the PM during the national forum on land in Oct 18, 2004 that 80% of the total land are still owned/managed by the state but were grabbing and encroaching leading/causing the land disputes because the state land is not delineated and demarcated, and the land classification and land use planning have not yet existed. The new cleared state forest lands are repossessed at over 180,000 ha, particularly land straddling the NR 7, north from the Sekong River-Stung Treng to the border of Cambodia-Laos. Also, the state land management will be enforced by the issuance of the 2001 land law and sub-decree No 118 on state land management in October 2005, in which the Art. 25 states that the Provincial/Municipal State Land Management Committee shall have following functions and duties: lead the District/Khan State Land Working Group in conducting state land identification and mapping, decide and review participatory commune-sangkat land use action plan preparation through provision of comments on land concession projects and cooperate in monitoring the project performance.

**Land distribution:** The objective is to promote land distribution with equity. To achieve this, the sub-decree on social land concessions (SLC) was issued in 2003. The land distribution program will distribute land in the private domain of the state (*enforced by in Art. 17 of 2001 land law*) to households identified with priority needs for SLC. The program is to include schemes, which are initiated both at local and national levels. It is responded to the needs for lands of the landless and land poor households that are, households with inadequate shelters, and victims of natural disasters. However, the practice is facing the problem of land occupation or encroachment. Regard to the wetland, providing land to poor families for farming (*Art 3 of sub decree No 19 on SLC*) could help to decline pressure on wetland with fishing and fuel wood cutting.

**53. Preventing land right and resolving land dispute:** In order to achieve tasks as mentioned above, the MLMUPC set up the Land Administration, Management and Distribution Program with the Land Management and Administration Project (LMAP), which is implementing the systematic land registration. The land registration aims to

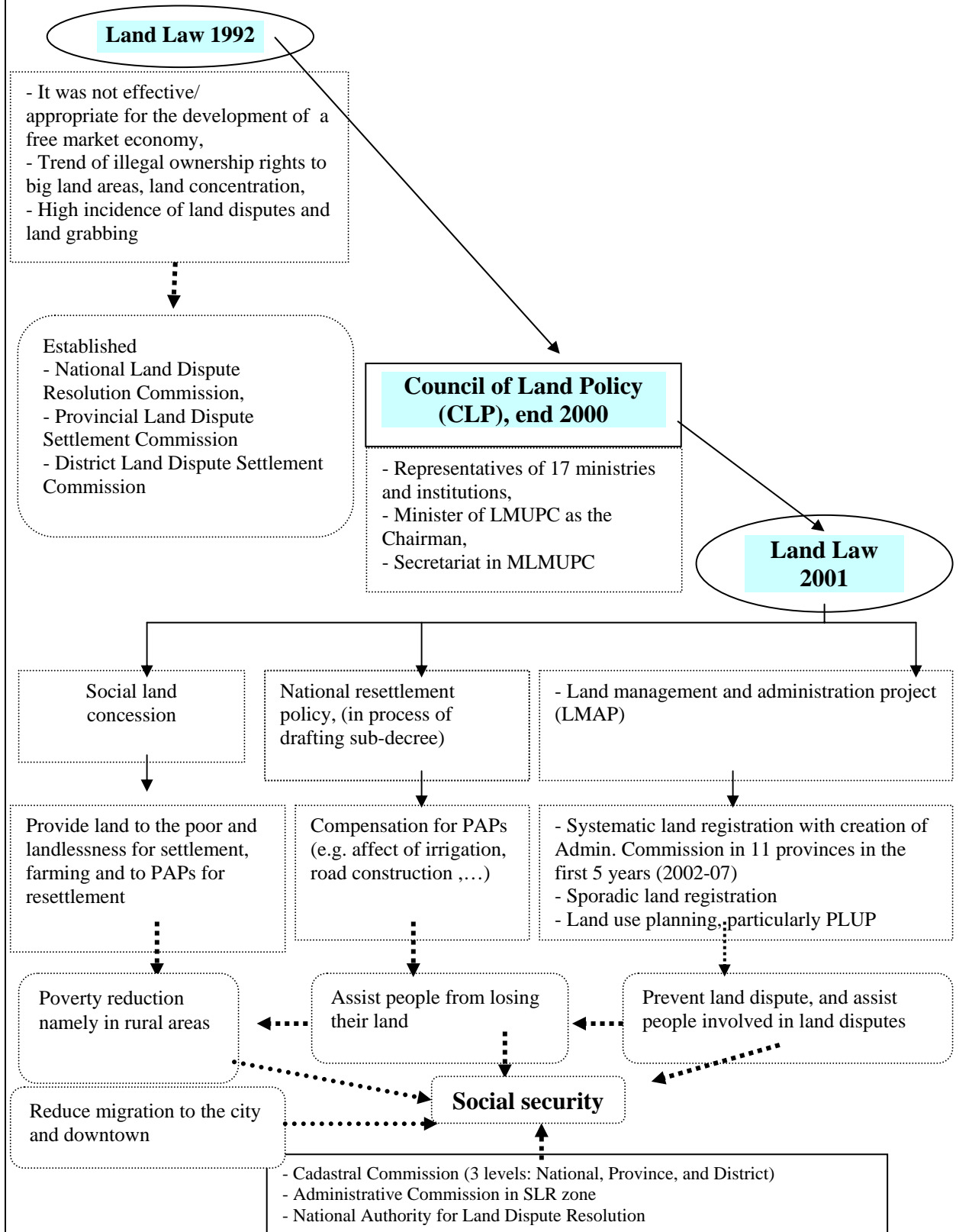
prevent and eliminate land disputes while the Cadastral Commissions (CCs) aims to assist people who do not have land titles, and are involved in land dispute. Both components would protect people from losing their land by grabbing and assist people from losing their land. Thus, the Land Management, Administration and Distribution Program will fight the rural poverty, reduce the rural migration to the city/downtowns with the assumption that the social security in rural areas will be improved, will help rural people help themselves and their environment by providing land, land titles and assistance in community land use planning (compare to diagram below). The CCs resolved 889 cases between 2003 and 2005, out of 3,257 cases (RGC, 2005b). As ineffective resolving land dispute cases by the CCs, the government established another institution, called the National Authority for Land Dispute Resolution (NALDR) by the issuance of a Royal decree in February 2006 and a sub-decree No 168 in March the same year, led by H.E. Sok An. The NALDR has the roles of: 1) Preventing land disputes and reduce the cases of land dispute through education and punishment on land grabber, 2) Enforcement the land law, and 3) Watch for land dispute resolving of the CCs and other. Since then, the NALDR received 2,546 up to 18 August 2006<sup>12</sup>, particularly from Banteay Meanchey (229 cases). 457 cases of them were submitted thumb printed complaints by the people directly.

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<sup>12</sup> Report of Advisor of NALDR during the round table discussion on 19. August 2006, organized by APSARA TV.



**Diagram: 1**  
**Recent History of Changes in Land Laws, Policies and Approaches**



**54. Land registration:** The unclear property right led often to land dispute as the land market has risen, as much as 80 % of rural households owned land without land titles in 2004 (WB,2006). After the promulgation of the 2001 land law, MLMUPC is the only institution responsible for land registration and titling (as stipulated in article 3 of the land law). Cambodia uses two systems for land registration: sporadic land registration and systematic land registration (SLR). SLR is land titling undertaken in a process initiated by the state in a program to register all rights in property within a jurisdiction. Sporadic registration refers to registration of properties at undetermined times, depending on the request of the owner/occupant (CLP, 2002). The LMAP has been conducting SLR, and has 5 components: 1) Development land policy framework and legal framework; 2) Institutional development; 3) Development of land titling and land registration program; 4) Strengthening a land dispute resolution mechanism; and 5) Land management. In March 2003, JICA provided aerial photographs for total of 40% of Cambodian's land. The process of consultation appears to be more participatory in the SLR that is conducted on a commune by commune basis. For new strategy, however, people have to contribute in the systematic titling cost.

International experience was shown that donors for land reform programs often prefer to concentrate on land administration first, focusing on land titling in areas where there are no conflicts. Regarding the current situation in Cambodia, NGO-Forum (2002) proposed land management come before land administration. But, land titling is envisaged under the first phase of the LMAP.

**55.**WB, Germany (BMZ) Finland (ministry of foreign affairs), the RGC have financed LMAP to conduct the SLR and titling in 11 provinces (Phnom Penh, Sihanouk-Ville, Takeo, Kandal, Kampong Thom, Kampong Cham, Prey Veng, Kampot, Kampong Speu, Kratie and Battambang), for 5 years (2002-2007) in the first phase. In whole Cambodia, there are about 8 millions parcels of land that would be registered and it is expected to be implemented over 15 years (S. Sovann, 2002). WB estimated that SLR will take at least 10 years and will require an operations budget of around \$US 100 million. ADB and GTZ have funded training on resolution mechanisms of land dispute for Cadastral Commissions officers. WB provided a loan of \$US 24.30 million. Germany/GTZ and Finland/Finmap; each country provided grant \$US 3.5 million for technical assistance. The RGC also contributed \$US 2.6 million. Also, a total budget is intended to facilitate the registration of 1.2 million plots of land in 5 years (2002-2007), with the issuance of 20,000 titles per month; however, recently the Prime Minister requested the acceleration of SLR up to 50,000 titles per month. Up to 2004, 280,000 titles were issued through SLR in 11 provinces and 13,500 titles through sporadic land registration for plots (RGC, 2004a, p: 55).

**56. Registration of communal land:** Often, land grabbing disputes happened in the zones of development plan. The RGC plans to develop eco-tourism zone and has started the newly graded NR 76 from Phnom Penh. As the road passes through numerous eco-tourism zones, the land prices rise, and land encroachment and land disputes are becoming hot issue. In these remote areas land prices soar, but land

rights are still unclear/uncertain. Government officers have been reported to grab land from the indigenous/ethnic minority peoples and distribute it amongst themselves. To prevent land disputes of this kind, the MLMUPC has conducted 3 pilot projects of SLR; 2 in Ratanakiri and 1 in Mondul Kiri. This is the first time that the MLMUPC has invoked the 2001 Land Law to address indigenous land rights, and offering communal land titles to 3 ethnic minority villages is expected by the end of 2003 (PPP, Aug. 15-28, 2003).

**57. State land mapping and Participatory Land Use Planning (PLUP):** The Provincial/Municipal Commission of State Land Management was set up refer to the article 24 of sub decree No 118, and will lead to identify and make state land mapping (Art. 25). In 2006, MLMUPC has implemented the state land mapping in 2 districts (Memot and Kratie) of the 5 in plan, and since 2005, the ministry has conducted PLUP in cooperation with other institution in selected district of 4 provinces (Pursat, Siem Reap, Mondul Kiri and Ratanak Kiri)<sup>13</sup>. Since 2002, some NGOs have been working on PLUP, aims to assist the ethnic people by preventing land disputes and using the natural resources in a sustainable way, particularly in the new clear land area for cultivation such as Ratanak Kiri. In La En village (Toeun commune) and in Kalai commune, CIDSE and NTFP in cooperation with LMAP conducted registration and titling of collective land. The registration of collective land means that each farmer has the right of occupation and use or possession (*in Khmer words Sith Kankap Neung Preupras Dei*), but he has no right to sell land. However, land can be transfer to their children or relatives as possessors. *In the draft regulation states "People could sell the communal land if they all have agreed. In case that a farmer will displace to other village outside the community, those farmer can be distributed part of their possession land for selling depend on the community decision. But, he can not get land again when he returns to the village"*. PLUP process was terminated in 2004, but need to review refer to the legal frame work of PLUP of MLMUPC and participation of the new institution of FA. Similarly, once SLR and titling of communal land is upgraded to include titling of state, public as well as private land being bought by the Khmer in-migrants.

*Work plan for the pilot activities of community land registration are:*

1. *Selecting the target villages*
2. *Provincial task force formation*
3. *Extension on land law*
4. *Community Apply for communal land title*
5. *Review PLUP by the district cadastral administration*
6. *Training of adjudication and demarcation team*
7. *Formation of legal entity of community*
8. *Measurement, demarcation adjudication, survey*
9. *Public display*
10. *Conflict resolution*
11. *Endorsement of agreement*
12. *Issue title.*

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<sup>13</sup> Interview with Mr Touch Sokha, coordinator of LAND of NGO Forum on 19.10.2006.

However, this process is intended to be harmonized with the commune councils' responsibilities in development of budgeting and planning. PLUP could include an opportunity for CCs to identify potential SLC sites. However, there will be no sustained poverty alleviation benefit if SLC become an enabling deforestation and therefore degradation of the natural resources upon which the livelihoods of the endogenous people are based on gathering NTFP.

**58. Landlessness:** Since the Forestry Law was issued on 31<sup>st</sup> August 2002 access to land is becoming increasing difficult. The Prime Minister stated in the consultation group (CG) in Tokyo of June 2001 that the agricultural landless household (ALH) in Cambodia was around 12-15% of the total rural households. Approximately, 1 million rural populations have no agricultural land (WB, 2004) and The Popular Magazine, 11-12. Dec.2004). Around 80% of the total areas (61% as forest land) are managed by the government, but not clear delineated and demarcated. The trend of rural landlessness is increasing at an alarming rate due primarily to the population growth, health problems, indebtedness and land grabbing.

The 3 surveys (conducted by Oxfam GB, MRC and SES) show that the incidence of ALHs (although they might have other land such as residential or gardens) ranges from 13% to 22% based on a national average of several provinces. The average incidence of landlessness varies significantly between provinces. On average about 22% of fishing households and 24% of non-fishing households have no agricultural land according to MRC. Land and Development Information Tools (LADIT) of OXFAM (2000) reported the overall level of landlessness in their research area was 13%. This translates to more than one in eight families not owning agricultural land and not the means to purchase it. According to LADIT, the relative number of ALHs rose from 3 % in 1984 to 15 % in 2001. On average about 22 % of the ALHs left their village because they became landless. There were a greater number than average of out-migrants in Takeo, Banteay Meanchey, Prey Veng, Kampong Cham, Svay Rieng and Siem Reap. About 44% of ALHs are farmers who have in the past owned land in the village but have afterwards lost it because of: illness (45%); lack of food (18%); expropriation (13%); indebtedness (5%); natural disaster (3%); business failed (3%); and others (13%).

Landlessness is rising, the proportion of ALHs has risen from 13% in 1997 to 16% in 1999 and 20% in 2004 (WB, 2006). For those who never had land, the reasons reported were: new marriage (42%); returnees (28%); migration within the country (25%); and other reasons (6%). The parties who expropriated land are listed as: military (37%); provincial authorities (37%); former owner (13%); local authorities (10%); relatives (2%); and others (1%) (Oxfam, 2000).

**59. Social Land Concession (SLC):** SLC is a legal mechanism to transfer private state land for social purposes to the poor who lack land and do not have land for residential and/or family farming purposes (*sub-decree issued in March 19, 2003*). To implement the Sub-decree of SLC at national, provincial/municipal, and district/khan levels, pilot projects were carried out in 3 communes in Battambang, Kampong Speu provinces, and 1 Sangkat in Phnom Penh. Based on the result of pilot project and the poverty social impact assessment study on social land

concessions project, the CLP in collaboration with various development partners is currently involved in designing program for Land Allocation for Social and Economic Development (LASED). Two pilot projects of LASED are being prepared in Kampong Cham (2 communes: Chorm Pravean,... of Memot district) and Kratie province (2 communes: Sambuk of Kratie district and Changkrong of Sambo district) funded by WB with technical support of GTZ. However, LASED is confronting the claim of land right/occupation by the local people. Oxfam also implemented a pilot project of SLC in Pursat, and plan to implement another pilot project in Banteay Meanchey in 2006. However, Samdech Hun Sen, during the forum between government and private sector in June 21, 2006, proposed to distribute the repossessed state lands which are not appropriate for reforestation to the real landlessness. The government planned to develop and implement scheme for SLC to provide small land parcels with titles for settlement and agricultural production; on a pilot basis provide these to a minimum of 10,000 landless households (RGC, 2005b, p: 60) until 2010.

Any linkages and mutual support between social land concessions and economic land concessions was written in Art. 5 of the Sub-decree on ELC (Dec.2005), as a criteria for the evaluation for ELC proposal.

**Box: SLC in Toul Kreul commune, Prasat Ballang district, Kampong Thom**

The Provincial Land Use and Allocation Committee provided 300 plots of SLC to 300 households with each plot of 25 m\*56 m, and established one new village, "Boung Pe Thmei". However, people do need bigger than this for farming during the protest. According to Oxfam study, each farm-household should own land 3 ha to survive under Cambodian context.

#### 4.2.3. Irrigation sector

**60. National policy on water resources and irrigation:** The national policy is part of a broad program of the RGC to protect, manage and assure sustainable exploitation of both fresh-water and marine resource while enhancing bio-diversity and sustainability. During the third mandate (2004-2008), the priorities of the RGC, as stated in the second of four "growth rectangles" of RS, are: (i) to develop and expand irrigated lands; (ii) to ensure effective water resources management by improving the efficiency of the existing irrigation system; (iii) to further develop and enhance the effectiveness of water use in farmer water user communities; and (iv) to reduce the vulnerability of the population to natural disasters and its total dependence on natural conditions (RGC, 2004, p:92).

**61. Circular No.1 on the implementation policy for sustainable irrigation systems (January, 1999):** The policy is based on six basic principles: (i) Legal status of Farmer Water Use Community (FWUC), (ii) Involvement of FWUC in system development, (iii) Obligation of farmers in paying the operation and maintenance cost and emergency cost of operation and maintenance, (iv) Permanent maintained and improved of the existing irrigation systems, (v) Arranged the water delivery in equality and effect, and (vi) Received supports and assistants from the MOWRAM on technical backstopping managing, monitoring and evaluation. Also, the MOWRAM

was set up to take over the responsibility and in 2000 (June), MOWRAM issued a declaration on “Policy for Sustainability of Operation and Maintenance Irrigation Systems. This policy was formulated with the focus on (i) Policy provisions for irrigation development and management, and (ii) 8 Steps in the formation of a FWUC (formation process, setting the levels, formation of FWUC board, selection of farmer organizers, discussion on the draft FWUC statute, formation of the system-wide FWUC, final ratification of the FWUC status and registration of the statute and the committee of FWUC.

**62. Participatory Irrigation Management and Development (PIMD):** In August 2001, the MOWRAM organized a National Training Workshop on PIMD. As the result, the policy and strategy of PIMD were determined referring to the government’s circular No 1 and MOWRAM’s declaration in 2000. Budget constraints require that farmers also contribute a significant part of the costs of irrigation repairs and rehabilitation in both forms labor and cash. Also, the policy and strategy in 2001 for PIMD aimed to provide (MOWRAM, 2001, p: 27):

- incentives for farmers to raise their levels of investment in irrigation management and development,
- a practical strategy for more productive and sustainable management of existing irrigation schemes,

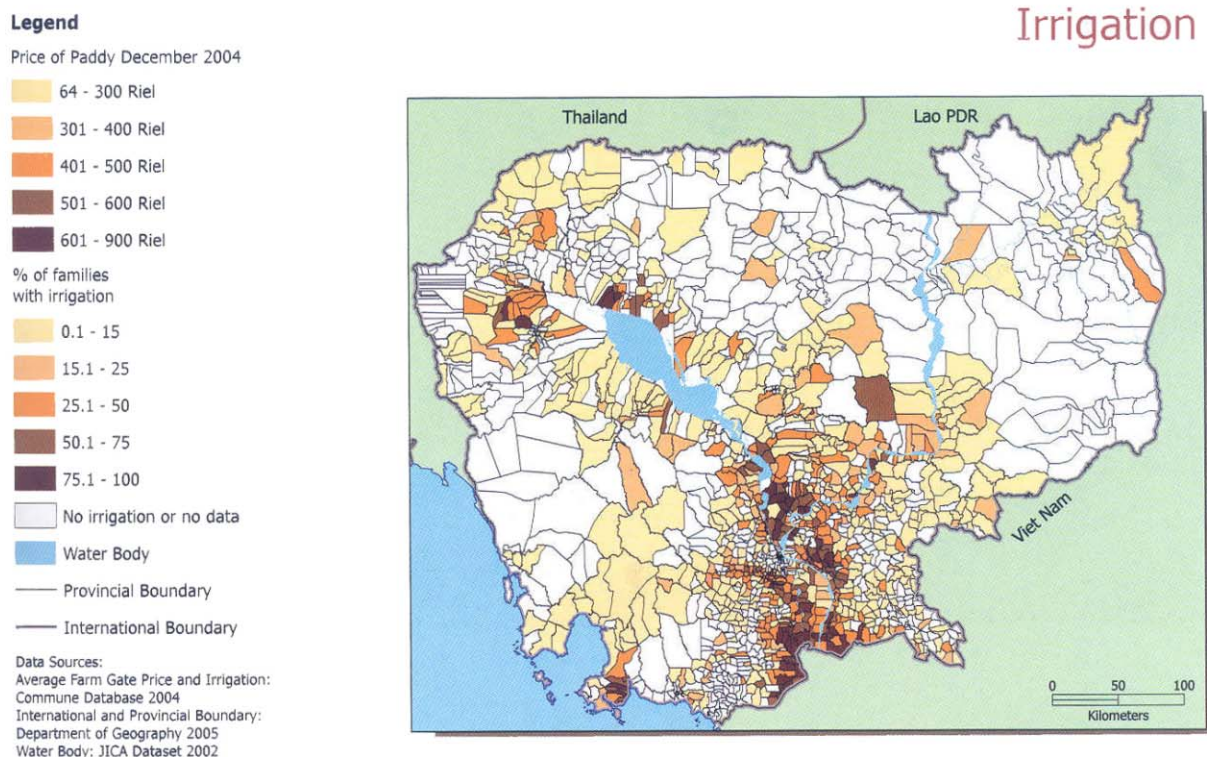
However, to date, the participation of beneficiaries in the planning, construction, management and operation of irrigation, drainage and flood control infrastructure is limited. Every year, farmers face shortages of water, drought and floods, and these have a major impact on agricultural production. To address these issues and ensure the provision of sufficient water for agricultural production, the RGC has the following policies:

- To promote the rehabilitation and construction of irrigation, drainage, and flood management infrastructure,
- To promote the development and extension of appropriate water management technologies that are particularly suited to rainfed agricultural areas such as water harvesting, improvements to the moisture-holding capacities of soils and use of farm ponds,
- To strengthen and expand Farmer Water User Communities, to enable them to participate in water management and allocation and to maintain irrigation infrastructure with effectiveness and sustainability,
- To minimize the impact on the water resources caused by the uses of chemical substances in the agricultural production by encouraging people to implement diversified agriculture.

**63.** Agriculture is under the responsibility of MAFF, while water resources (irrigation, flood control and land drainage) are under the responsibility of MOWRAM (drinking water is the responsibility of the ministry of rural development). While close coordination of agriculture and irrigation development strategies is essential, the both ministries formed a Technical Working Group with the roles to analyze development strategies of sustainable agriculture and water management (SA&WM). In 1997, the total area under irrigation is approximately 473,000 ha or about 16.6 % of the total



cultivated area for food crops. The construction irrigation system was considering as a priority national movement, and presently, over half of million hectare of cultivated land is under irrigation<sup>14</sup>. It is estimated at 588,687 ha in 2006, and projected to increase up to 650,000ha in 2010 (RGC, 2005b, p: 3). The irrigated area produces an estimated 54% of total agricultural production (and 40% of total rice production) (MOWRAM, 2001). But, World Bank (WB, 2005) reported that the arable land that is irrigated is, at 7% in 2002, the lowest in all of south-east Asia, and less than half that of the next-lowest country (Lao with 19%). To support the increase of rice production projected by MAFF, since 2001, MOWRAM planned to increase the total irrigated area by 180,000 ha by 2005 (which is 36,000 ha per year). The most likely means to promote agricultural growth in short term are through minor repair or rehabilitation of irrigation system, improved water delivery and maintenance of irrigation schemes. The level of farmers were able access to irrigated water, see the map below.



Source: SCW (2006), The Atlas of Cambodia.

**64. National Water Resources Policy (NWRP) in supporting the agricultural development:** Based on RS in supporting the agricultural development. MOWRAM formulated the NWRP in 2004. This policy covers all water resources including sea water and marine products. Water for agriculture was given as high priority in the NWRP, five policies is determined: (i) To provide farmers with the quantity of water they need, when and where they need it, and within the limits of available water

<sup>14</sup> Speak of H.E. Chan Sarun, the Minister of Agriculture during the consultation workshop on information system related food security, nutrition and risk in July 05, 2006.

resources and technology; (ii) To promote the rehabilitation and construction of irrigation, drainage, and flood management infrastructure, in order to provide sufficient water for agricultural production and to alleviate the adverse consequences of excess water; (iii) To promote the development and extension of appropriate water management technologies that are particularly suited to rainfed agricultural areas, such as water harvesting, improvements to the moisture-holding capacities of soils and use of farm ponds; (iv) To strengthen and expand Farmer Water User Communities, to enable them to participate in water management and allocation and to maintain irrigation infrastructure with effectiveness and sustainability; and (v) To minimize the impact on the water resources caused by the uses of chemical substances in the agricultural production by encouraging people to implement diversified agriculture (MOWRAM, 2004, p:6). Other policies of the NWRP that are mainly appropriated for water management for agricultural sector are related the river basin management, equitable water sharing and allocation, mitigation of water-related hazards and maintenance, protection and sustainability of aquatic system. The NWRP in 2004 recognized that lakes and wetlands play a crucial role in the hydrological cycle, and in aquatic resources and fisheries on which many Cambodians depend for livelihoods and food (MOWRAM, 2004, p: 4-14).

However, MOWRAM has identified the following major problems in the sector: 1) Deterioration (damage) of irrigation, drainage and flood control facilities, 2) Uncontrolled water resources and limited capacity, 3) Limited farmer participation in operation and maintenance, 4) Insufficient institutional capacity, and 5) Lack of polder/dykes to prevent flooding in wet season agricultural areas.

**65. Management of Water Resources and Irrigation:** In the NSDP 2006-2010 (RGC,2005b), the RGC' objective in management of water resources and irrigation is to mitigate the effects caused by the natural phenomena such as drought, risk of pollution, floods by adopting an integrated approach to water resources management and development. The emphasis is on: (i) ensuring that water in sufficient quantities and of appropriate quality, is available to meet year-round demands of all sectors while sustaining aquatic ecosystems; (ii) managing flood flows and enhance the capacities of communities to cope; (iii) controlling water for agricultural purposes, by means of storage, drainage or irrigation as appropriate; and (iv) keeping water resources free for contaminants to support the ecological system particularly fisheries. The RGC recognized that of the total area of rice cultivation, only 1 percent is fully irrigated and about 19% receives some form of supplemental irrigation. The priorities for the next 5 years are:

- Rehabilitate and reconstruct the existing irrigation and drainage systems , particularly in high poverty incidence areas and along the border areas;
- Expand surface water storage capacity and promote water harvesting technology;
- Promote effective and sustainable development of ground water resources, in areas with scarce surface water availability;
- Develop and apply measures on flood and drought mitigation and management;
- Strengthen and expand FWUCs with increasing membership and participation of women;



- Promote investment by private sector in irrigation, drainage and other aspects of agricultural water management;
- Improve and install nationwide hydro-meteorological observing and monitoring systems to be able to provide to the public high quality, effective and real-time hydro-meteorological forecasts;
- Promote appropriate and effective river basin management and water allocation systems (RGC, 2005b, p: 63-64).

To fulfill the mission of MOWRAM “effective management and development of water resource with sustainable way and equity, preventing the ecosystem and mitigate the affect such as floods, drought leading to loss of lives and public properties” and the RS of the government, MOWRAM will consider on 5 main goals that be achieved by creating 5 activities. The main 5 activities and 5 main goals for 2006-2010 that state in the strategic development plan of MOWRAM are in table below:

Activities	Main goals for 2006-2010
1. Water resources management and development	1. The water resources of Cambodia has to be managed and developed in effectiveness, equity and sustainable way.
2. Natural disaster management (flood and drought)	2. The affect of disaster, particularly flood and drought on people and public properties has to be reduced. (By increase of the area irrigated at 10,000 ha per year)
3. Law on water and by-law	3. The law on water resources will be issued.
4. Data management on water	4. Water resource has to be developed and well managed based on enough data.
5. Administration, management and human resource development	5. Administration and management system, technical and service competence and human resources of MOWRAM, provincial department, district office and community based organization will improve their management skill with the effectiveness.

Source: (MOWRAM, 2006)

**66. Technical Working Group on Agriculture and Water (TWGAW)**, was set up for development of strategy on agriculture and water management (SA&WM). In April 2006, this group formulated a draft document a Short Term Strategy for SA&WM 2006-2010 covering the relevant areas of MAFF and as well as of MOWRAM. In this document the group analyzed the constraints and stakeholders concerned based on SWOT method. This will be followed by the development of a Sector Program Framework taking the strategy forward to implementation.

**67. Compensation policy:** The Sub-decree of compensation is being prepared, while the Ministry of Economy and Finance released in February 2000, a guideline/list of compensation for the project affected people (PAP) by the construction of road, irrigation system, etc...refer to Article 44 of the Cambodia’s constitution 1993 and Article 5 of 2001 land law. But, on this list, the compensation is made for other affected immovable properties such as house, trees, not for land. For example, the compensation is between \$US 10-15 for Jackfruit tree, and between \$US 25-30 for Mango tree. However, experiences from the construction of irrigation system in the “Development Zone South of Phnom Penh” shown that the PAPs were compensated between \$US 0.5 to 2 per m<sup>2</sup>. For the reconstruction of Stung Chinit Irrigation

system, the compensation was done \$US 2 per m<sup>2</sup> for residential land, between \$US 500-1,500 per ha of rice land.

#### **68. International financial support in irrigation:**

- The government of India provided grant of \$US 11 million for the development of agriculture and irrigation sectors (RK, May 28-29, 2006),
- IMF cancelled the loan of \$US 82 million to be borrowed by Cambodia, and the money was requested for the development of agriculture (\$US 27 million) and investment in water sector (\$US 6 million) and other infrastructure (KSP, June 06 and RK, June 11, 2006),
- The government, particular the PM provided many pumping stations of irrigation
- The government of china provided 20 excavators (March 18,2005) to MOWRAM
- ADB provided loan of \$US 23 million for the reconstruction of Stung Chinit Irrigation. ADB provided grant of \$US 18 million for the rural drinking water and sanitation project in 5 provinces around Tonle Sap Lake for 2006-2011 (RK, March 16,2006).
- ADB and the government of Finland provided grant of \$US 15 million and \$US 4.7 million, with the RGC contribution of \$US 0.6 million, for supporting the the projects of community development in the Tonle Sap basin around this lake, establishment of “Core Zone” of natural resources and public awareness, in 4 years between 2006-2009 (RK, March 11, 2006).
- The Korean government funded the reconstruction of irrigation system (e.g. Tamouk Reservoir in Ponhea Leu district).
- The Korean organization” Neak Chet Khang Kampuchea” in 4 communes of Samrong district of Takeo (RK, May 12, 2006),
- WB provided loan for the rehabilitation of two reservoirs “Thnal Dach and Anlong Trach” in Thmar Pourk district, Banteay Mean Chey (RK, June 28-29, 2006),
- JICA of Japan, provided fund for the rehabilitation of irrigation system, e.g. the Kamping Puoy irrigation system in Battambang province.
- PLG and IFAD funded the rehabilitation of small scale irrigation system
- PRASAC (EU) funded the rehabilitation of small-medium scale irrigation system
- AFD funded the polder rehabilitation in Prey Nup district, Sihanouk-ville,
- French embassy funded the rehabilitation of small scale irrigation system
- MRC and Red Cross funded the establishment of nearly 60 stations for controlling the water depth.
- GTZ provided training-workshop on preventing natural hazard.
- WB, IFAD and the RGC financed the agricultural irrigation, which was a component of the Agricultural Productivity Improvement Project, and implemented by MOWRAM between 1997 and 2005 in two provinces: Kampong Thom and Kratie.

#### **4.2.3. Driving force**

**69. Legal framework as driving force:** To enforce and stimulate the sustainable development in the sectors of agriculture, land use and irrigation, there are many policies and legal documents: Laws, Royal Decrees, Sub-Decrees, Declarations (Prakas), Circulars (Sarachor) in which some articles considers wetlands were passed/ issued as in Table below:

Table: Policies, legal framework related to wetland and agriculture, land and irrigation

No	Year issued	Policies
1	2001	Land Policy
2	2002	National Forest Sector Policy
3	2004	National Water Resources Policy
4	2005	National Fisheries Sector Policy
No	Year issued	Legal Framework
1	1996	Law on Environmental Protection and Natural Resource Management (December 24)
2	2001	Land law (August 30)
3	2001	Law on The Administration and Management of Commune/Sangkat (March 19)
4	2002	Forestry law (August 31, 2002),
5	2006	Fishery law (May 21)
6	2006	Protected Area Law (Draft)
No	Year issued	Royal Decree & Sub-Decree
1	1998	Sub decree No 69 on Management of Agricultural Materials (October 28)
2	1999	Sub decree No 72 on Environmental Impact Assessment Process (August 11)
3	2001	Royal decree on Agricultural Community (16 July )
4	2000	Sub-decree No 05 on the Management of Forestry Concessions (Feb 07)
5	2003	Sub-decree No 19 on Social Land Concession (March 19)
6	2003	Sub-decree No 79 on Forestry Community (December 02)
7	2005	Sub-decree No 53 on Legal Procedure for Establishment, Classification and Registration of The Permanent forest Estates (April,20)
8	2005	Sub-decree No 118 on State Land Management (October 07)
9	2005	Sub-decree No 146 on Economic Land Concession (December 27)
10	2005	Royal decree on The Establishment of Community Fisheries (May 29)
11	2005	Sub-decree on Management of Community Fisheries (June 10)
12	2006	Royal decree on the National Authority for Land Dispute Resolution (NALDR) (16 February)
13	2006	Sub-decree No 168 on The Composition of the NALDR (15 March)
No	Year issued	Prakas, <i>Sarachor</i> (Circulars), <i>Botbanhchea</i> (Regulation)
1	1999	Prakas No 01 on Measures for the Management of Forest Resources and Elimination of Illegal Forest Activities (January 25)
2	1999	Sechkdei Prakas No 06 on Eliminate Anarchy in Forestry Sector and Land Clearance (September 27)
3	1999	<i>Sarachor</i> , Circular of RGC on Policy of Sustainable Management of Irrigation System (11 January 1999),
4	2000	Declaration of MOWRAM Water User Community on Establishment and Development of Farmer Community for Water Use (20 July 2000)
5	2003	Declaration of MAFF on the model of the Establishment of Agricultural Community (23 October)
6	2004	<i>Botbanhchea</i> (Regulation) No 01 on The Prevention, Suppression and Elimination of Clearance Burning and Encroachment and Fence to Occupy the Forest Land (June 09)
7	2006	<i>Botbanhchea</i> (Regulation) No 01 on The Prevention of Forest Clearance to Claim Ownership (May 10)

### 4.3. Analysis of the legal instruments related to wetlands

#### 4.3.1. Land law (2001)

The new land law was passed in 2001 since 1992 land law did not provide a solid platform for full tenure security or for effective land management. Its contents did not fully reflect the 1993 Constitution (Art. 44), which recognizes land ownership rights in a broader sense. Nor did it provide a basis for a national of systematic registration. Its reforms include extending private ownership rights to residential land and agricultural land and officially certifying ownership in a government document known as a land title. Land size for ownership right is no more limited. Land concessions areas could be provided up to 10,000 ha (Art. 59), with period up to 99 years (Art.61).

The 2001 land law applies to all land concessions for economic purposes (but not logging, mining, port and fishing concession); to-date, numerous sub-decrees were passed to make it effective. The land law permits investors to manage and harvest their concession for up to 99 years, although certain conditions apply. For example, in order to counter land speculation if a concessionaire has not commenced activity within 12 months, the contract is considered cancelled. Also, the area of a concession, in all but exceptional instances, is limited to 10,000 ha in size (Article 59). However, many concessions exceed this limit. Economic land concession (ELC) is one of land transfer modalities that refer to the Sub Decree No 118 on ELC issued in December 2005<sup>15</sup>. MAFF is allowed to grant over 1,000 ha of state land to the private investor for a period in order to stimulate the economic development. The areas of ELC could be provided up to 10,000ha (*Article 59 of the 2001 land law*). And, the provincial authority is allowed to grant state land less than 1,000 ha.

*According to the land 2001 law, state land is differentiated into “state public land “and “state private land”. State public land is: “Any property that has a natural origin, such as forests, courses of navigable or floatable water, natural lakes, banks of navigable and floatable rivers and seashores” and “Any property that constitutes a natural reserve protected by the law” (Article 15). Article 16 states “When state public properties lose their public interest use, they can be listed as private properties of the state by law on transferring of state public property to state private property”. Article 17 then states “Lands within the state private property may be the subject of a concession.*

However, the RGC issued the sub-decree No 146 on ELC (Dec. 2005), in which the Art 4 state an ELC may be granted only the Environmental and social impact assessments (ESIA) have been completed with respect to the land use and development plan for ELC projects. In order to create rural employment and increase rural livelihood evaluating ELC proposals shall be based on linkages and mutual support between social land concessions (SLC) and economic land concessions (ELC) (Art. 5).

As ineffective resolving land dispute cases by the national cadastral commission (NCC), the government established another institution, called the National Authority for Land Dispute Resolution (NALDR) by the issuance of a Royal decree in February 2006 and a

<sup>15</sup> Approved by the ministers meeting under the leadership of Prime Minister in Dec,16.2005.

sub-decree No 168 in March the same year,. The NALDR has the roles of: 1) Preventing land disputes and reduce the cases of land dispute through education and punishment on land grabber, 2) Enforcement the land law, and 3) Watch for land dispute resolving of the CCs and other.

The repossession of state and public land being grabbed is encouraged by the Art. 18. The RGC has issued a *Prakas*, declaration No. 01 dated 25 January 1999, and a *Botbanhchea*, Regulation No. 01 dated 10 May 2004, in order to manage and eliminate anarchy in forestry sector and land clearance, implemented a comprehensive, effective and successful reform in forestry sector and received profound appreciation and strong support from national and international communities. However, recurrent activities of forest clearance, forest burning, earth working, and encroaching of forest lands, flooded land and protected areas to claim ownership has been intensified in almost all provinces. These acts have been committed against articles of the 2002 forestry law and relevant regulations, and may bring about disasters, loss of forest covers, and assets of the state and impair the sustainable forest management goals. But, the prevention and suppression measures are not taken effectively. Thus, the RGC issued a *Botbanhchea* (Regulation) No 01 in May, 2006 on the Prevention of Forest Land Clearance to Claim Ownership. The Provincial Committee on Forest Clearance and Encroachment, which comprises the different officials from the FA as well as the ministries of Land Management, Agriculture and Interior, and in cooperation the newly established National Authority for Land Dispute Resolution (NALDR) expropriated 187,868 hectares (ha) of state land in the provinces across Cambodia up to August 18, 2006<sup>16</sup>. For example<sup>17</sup>, all illegal occupied land in Kandal and Takeo provinces being reposessed are flooded forest lands (198 ha in Angkor Borei district). In Phnom Penh, the municipal authority reposessed about 972 ha of land; flooded land of the lake “Beung Kob Srov”, aim to take action against filling-in because it is very important to prevent naturally or stock the flood.

The law recognized the lands of indigenous communities are those lands where the said communities have established their residences and where they carry out traditional agriculture. The lands of indigenous communities include not only lands actually cultivated but also includes reserved necessary for the shifting of cultivation which is required by the agricultural methods they currently practice and which are recognized by the administrative authorities (Art 25). Land of indigenous communities is prevented by Art. 28. Also, it can not be lost by ELC (Art 58). Land concession can only be granted on lands that are part of the private property of the State. The land concession may not violate roadways or their borders and the ground necessary for their maintenance, nor to waterways, pools, ponds and water reserves to be used by the people in their daily lives (Art.58).

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<sup>16</sup> Prime Minister Hun Sen speak during the forum between government and private sector in June 21, 2006, and report of a advisor of the NALDR during the round table discussion dated 19, August 2006.

<sup>17</sup> RK, June 03, 2006.

Regarding to irrigation management and development, there are 3 articles relevant: 144, 146 and 156.

*Art. 144: Lower land shall receive waters flowing naturally from upper land. The owner of lower land may not build dams, dikes, barriers, or other works to impede the water flow. The owner of the upper land may not do anything that would aggravate the easement of the lower land.*

*Art. 146: The owners of lands situated along running waters shall allow the waters to flow to the neighboring lands and the owners of neighboring land, in turn, are subject to the same obligation with respect to lands that are further away, depending on their agricultural needs.*

*Art. 159: The owner of land who authorized works to be built on his land may always ask to share the use of the weir, provided he contributes half the cost of setting it up and its maintenance. No compensation is due in this case to this owner and any compensation already paid must be reimbursed*

Also, the 2001 land law focuses on right and right tenure transfer, and not take the affect of quality change either of both land and water or wetland into consideration.

#### **4.3.2. Forestry Law (2002)**

**Law and regulations:** The RGC has adopted: (i) the 2002 forestry law, (ii) policy statement, (iii) sub-decree on forest management concessions (February 7, 2000); (iv) Sub-decree No 79 on forestry community management (December 02, 2003), (v) *Prakas* No 01 BK on the measure for the management of forest resource and elimination of illegal forest activities (January 25, 1999), (vi) *Botbanhchea* (Regulation) on The Prevention of Forest Clearance to Claim Ownership (May 10, 2006), and other such as technical rules and instruction policy, aimed for sustainable forest management.

It is also not clear classify on different between forest land and fallow land of shifting agriculture, on which the forest re-generates/grows. In the shifting cultivation system, both land and forest are link together. *Art 37 of law on forestry states “Local communities that traditionally practice shifting may conduct such practices on land property of indigenous community which registered with the state..... Forestlands reserved for shifting cultivation shall be identified by Anu-kret (Sub-decree).* Also, the exploitation of natural resource exploitation is authorized by Art 35, but the holder of such right shall be responsible to avoid causing or aggravating soil erosion, damage to growing vegetation, damage to the hydrologic systems and the quality of water;

**Repossession of state forest land:** The RGC has issued a *Prakas*, declaration No. 01 dated 25 January 1999, and a *Botbanhchea*, Regulation No. 01 dated 10 May 2004, in order to manage and eliminate anarchy in forestry sector and land clearance, implemented a comprehensive, effective and successful reform in forestry sector and received profound appreciation and strong support from national and international communities. However, recurrent activities of forest clearance, forest burning, earth working, and encroaching of forest lands, flooded land and protected areas to claim ownership has been intensified in almost all provinces. These acts have been committed against articles of the 2002 forestry law and relevant regulations, and may bring about disasters, loss of forest covers, and assets of the state and impair the sustainable forest



management goals if prevention and suppression measures are not taken effectively. Thus, the RGC issued recently, a *Botbanhchea* (Regulation) No 01 dated 10 May, 2006 on the Prevention of Forest Land Clearance to Claim Ownership. The Provincial Committee on Forest Clearance and Encroachment, which comprises the different officials from the FA as well as the ministries of Land Management, Agriculture and Interior, and in cooperation the newly established National Authority for Land Dispute Resolution (NALDR).

Also, the forestry law contains various prohibitions on activities within the permanent forest estate and subject to penalty provisions if engaged in, unless otherwise state in Article 31, 35 and 37.

#### **4.3.3. Fishery law (2006)**

The fishery law contains various prohibitions on activities within the flooded area /floodplain in order to protect the new settlement in the fishery area (Art 15), to protect water quality from making poison or dangerous for animal and plant (Art. 22). The construction of crossing dams or filling-in the stream, river, course, lake, canal, reservoir and natural reservoir or digging the canal hole and big pond or the construction of new buildings or pumping that causes the affect of fishery resources in the fishery areas has to be evaluated by the MAFF (Art 25). And, it is prohibited also (i) the expansion of cultivated land or land use for the purposes off fishery activities in the fishery area to be protected by this law, (ii) Providing ownership or occupation right of land in the fishery area (Art 28)<sup>3</sup>. The fishery management areas is determined as stipulated in Art.10 and 11, and providing the land possession right or ownership under the fishery management areas can be processed if there is an impact assessment of the MAFF. However, the law secures the people's participation in management and use of fishery resource in a sustainable way, and request the FiA to mobilize people in FiC according to the royal decree on establishment of fisheries community (2005) and sub decree on the management of community fisheries (2005).

## **V. Field finding of local practices**

### **5.1. Agricultural production**

The agricultural production; crop production/cropping and animal production/raising have been changed in the three provinces selected for the study due to many factors such as natural disaster (flood, drought), migration, private investment and political support. In the three studied provinces, the provincial strategic development plan 2006-2010 is made, aims to achieve the provincial development goals. The first three development goals in this plan are concern with agricultural development, land right security, and water sources/resource management and irrigation system development. However, the last two goals support to achieve the first goal as well. The last development goal, in KPT, states improving the private investment through the facilitation of investment climate.

### 5.1.1. Dry season rice/ receding rice production

Regarding to the wetland areas, the recession rice (RR) in the dry season is considered as the main crop. It has increased in KPT and KD whilst declined in STR. However, it should the effect of political statement of both leaders (Prime Minister and Minister of MAFF), who requested farmers for the rehabilitation of DWR/floating rice lands with the cultivation of recession rice (RR) using the short term improved rice seed through the construction of reservoir or dam systems. In the rainfed lowland rice area, they have requested farmers to change growing the late rice seed to the short term/early rice seed "Harvesting in wet condition better than nothing to harvest". However, this statement is very sensitive adapting the dynamics of agro-ecosystem.

In KPT, the RR production has increased instead of DWR (deep water rice)/floating rice production. In 1960s, there were 86 000 ha of DWR/floating rice field but the DWR/floating rice cultivable area has decreased as low as 27 000 ha in 2001. Following the political and economic reform in 1989, the government stopped collecting this rice product from farmers. The DWR farmers abandoned the rice seed with low quality, hard and red grain. Instead, they selected the good quality seed with long and white grain for self-consumption. However, the new seed has gradually destroyed because it is not resistant to the rapid high flooding from the Tonle Sap, particularly between 1999 and 2002. The DWR/floating rice has declined due to two main common constraints, which are: 1) lack of water or drought at the beginning of the season, and 2) rapid flooding from the Tonle Sap Lake in the mid of rainy season. The lack of water at the beginning of the rainy season destroys rice because the young plants do not grow well, without nodal tiller and are not in the late elongation stage, no healthy. If there is no enough water since the beginning of the season, the rice plants are not able to elongate the floodwater, which arrives very fast and higher flooding. The drought or lack of water at the beginning of the season has made the stagnant water in the flooded forest comes before favorable (rainy) water, which destroys DWR/floating rice plants. Often, it caused by shortage of water flows in *Stung* (rivers) from the upland and the block of water stream. In order to sustain their livelihood, farmers changed to the RR production and the cultivated area of RR has increased with an average annual growth rate of 87% between 2001 and 2006, through the rehabilitation of former DWR/floating rice land and encroachment into the flooded forest land forward the natural lakes. Also, The cultivated area of RR has increased from 1,450 ha in 2001 to 9,043 ha in 2006 or about 524 % in the last 6 years (average annual growth rate of 87%). However, there are land potentials for increasing RR production on the former DWR/floating rice land. For example, the current cultivated land of RR in Stung Sen district (KPT) is 1,760 ha, however, the district has 9,600 ha of flooded land, as a good potential for RR (RK, March 31, 2006).

In KD, the RR production has increased instead of the cultivation of other non-rice crops such as corn, mung bean, and encroachment into the flooded forest land as the result of population pressure. The growth rate was 18.8 %, less than in KPT, but, the cultivated land is over 5 times bigger than the cultivated land in KPT. PDA (June,2006) of KPT conducted a study in Kokoh and Phnov communes, and found that 23 % of the interviewed families cleared forested forest for cultivation of RR and other crops during the dry season.

In both provinces KPT and KD, the cases have often occurred that fishing lot owners prohibited people from using water for irrigating dry season rice/RR (e.g. fishing lot No 1 in Sankor commune of Kampong Svay district). And, there is opposing interests between farmers who fish as the main activity (e.g. from Ou Konthor and Baktouk communes) and other farmers who grow dry season rice/RR as the main activity (e.g. irrigating rice from Antong Lake in Roulous village, Sroyov commune). The encroachment into the flooded forest land around natural lakes for cultivation of dry season rice/RR has caused destroying aquatic lifes such as the loss of big fish in the lakes of the Tonle Sap basin such as Giant Barb, Mekong Giant Catchfish and Great White Sheatfish, and soil erosion into the natural lakes. The size of lakes become smaller in width, and the water depth is shallower than the decades of 80s.

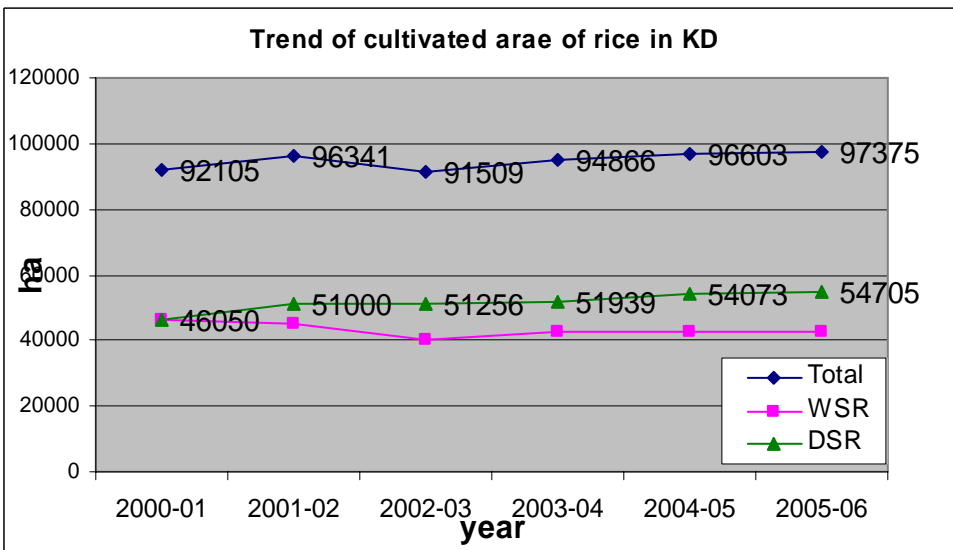
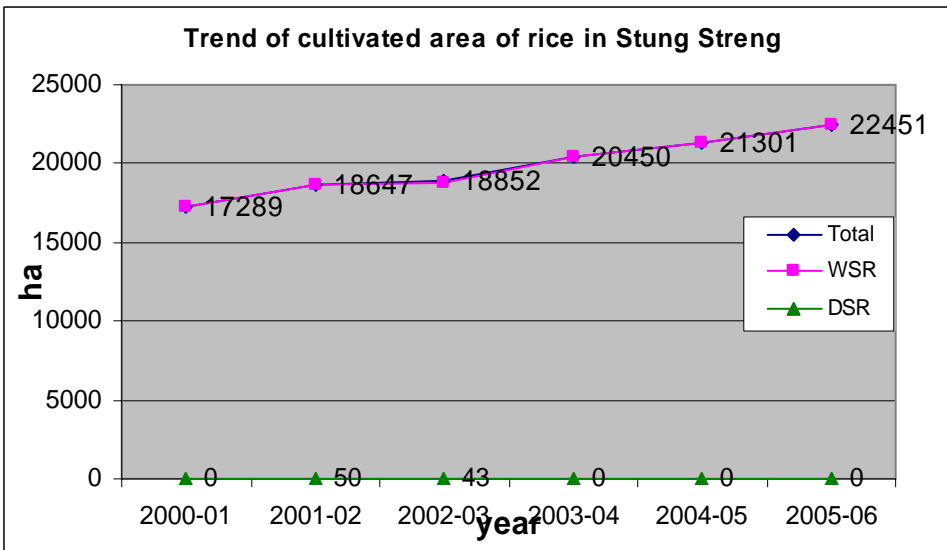
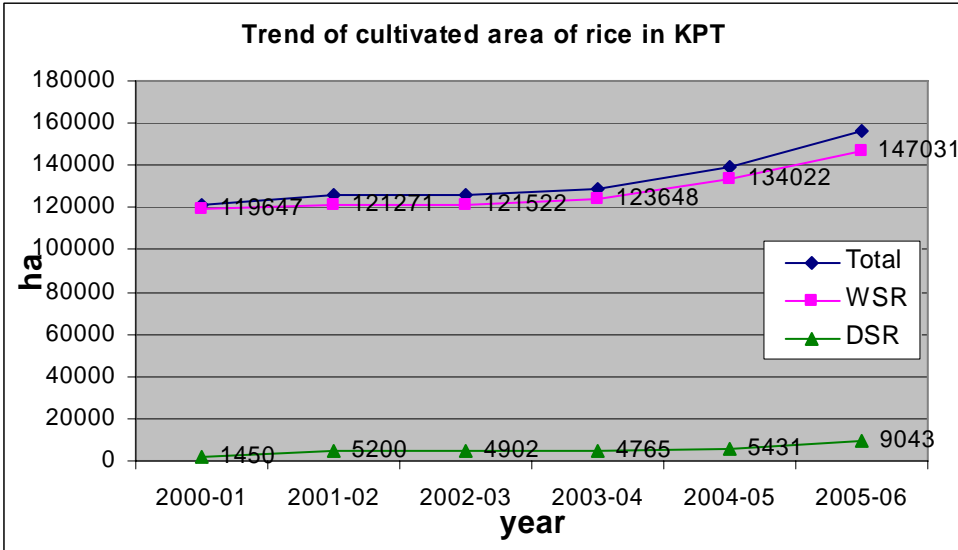
The RR production needs the use of modern rice seed. Some big farmers illegally imported the modern rice seed (e.g. 504 rice seed), which is unknown the quality, and requires the import of a technology packet of rice seed, fertilizer and pesticides, and [that might lead to impact on ecosystem and aquatic \(e.g. invasive species\)](#). The introduction of HYV seeds and hybrid seeds make the local seed disappear, and that accelerates mono-cultural practice and creates an ecological imbalance in agriculture.

However, there is no one policy to control for importation of seeds for agriculture, only sub-decree No 69. The article 89 of the 2002 Forestry Law states the punishment for import of forest vegetation species without a visa from the scientific authorities from the exporting country and without permission from MAFF. But, the lack of implementation and enforcement mechanism should be considered.

**Art. 26 of Sub- decree 69:** *Importations of seed or material seed in Cambodia has to be permitted by the MAFF, and has to be implemented refer to the regulation of Phyto-sanitary controlling.*

[No policy to promote RR, but it was advised for food security as urgency, with the development of RR in the flooded area or on the former DWR/floating rice land, which contradicts with fisheries and land law with regards to the public and state land or property such as natural lake, water course, waterway,...etc.](#)

In the contrary, in STR, farmers abandoned both rice cropping systems: DWR and RR due to lack of water. It was explained that the lake was dried up earlier; the Mekong flood flowing-in was blocked by the national road 7 being under construction; the natural water courses were filled in for leveling the plantation. However, the cultivated land of rainy or wet season rice (WSR) increased 5.4 % compare to 2004 due to the rehabilitation of the former rice land (PDA, 2006). Moreover, the shifting agriculture decreased rapidly and has changed to permanent agriculture (cashew, bean,..) after the reconstruction of NR7 and the impact of agro-industrial production investment through ELC. Big cultivated lands increased due to new settlers from the low land areas. Many private companies stated the establishment of plantation of rubber, acacia, teak and cassava. Also, the development of agro-industry and plantation, including planting trees and establishment of plantation, are promoted by the agricultural sector development policy.



However, planting trees on the degraded forest land is encouraged by the Article 46 and 61 for economic development, but *“Planting too many acacia trees causes increasing loses of the underground water source and other environmental impacts”*, said H.E. Mok Mareth, Minister of Environment (PPP, Sept. 23-Oct. 6, 2006). It should be considered also that the underground water in the upland area such as in Stung Treng is very deep, particularly in the dry season.

Regarding the use of modern or hybrid seed, Shimpei Murakami (1991) reported that local varieties are the genetic base for improving seeds and are a very important resource for the future. The introduction of HYV seeds and hybrid seeds make the local seed disappear. That accelerates mono-cultural practice and creates an ecological imbalance in agriculture.

In Koki Thom commune of Kean Svay district, Kandal, cutting the government support of pumping made many farmers invested in tube wells for irrigation of sugar cane, a mono-culture, in dry season. One of the serious problems in Bangladesh is reduction in ground water. Deep tubewells are commonly used for irrigation of HYV rice paddy in dry season. This causes a decrease in ground water level. Many tubewells do not work in areas where many deep tubewells are working (Shimpei Murakami, 1991). Also, He reported that there is a high iron content in ground water in Bangladesh, iron accumulation in the soil is another problem.

### **5.1.2. Animal raising**

Animal raising remains small scale practices in earning supplementary cash income and value adding. Farmers raise cow, buffalo, pig and poultry. Animal raising has changed related the change of cropping system as well.

In KPT, cattle raising plays a major role for draft power and the raising system has changed with the extension of the dry season crops. Cow raising is an important economic activities to support the dry season crops. Cows are more heat tolerant, and have a good selling price. Thus the number of households raising cows and the number of cows per household has increased in relation to those raising buffaloes. The number of buffaloes has decreased due to the encroachment of grass and shrub land around the water bodies in the dry season and in the abandon of DWR fields. During 1993 and 2002, the number of cow increased more than 2 % whilst the number of buffaloes decreased 8% (MAFF, agricultural statistics 1993-2002). But, in 2005, the number of buffaloes increased 0.5% compare to 2004 (MAFF, 2006), as the result of market opportunity. Some farmers changed draft cattle with machine whilst most of them had to rent tractor (with driver) for DWR land preparation. In 2006, the renting cost was 80,000 riel/ha. This cost increased 50% compare to 1998 due to high demand for land preparation and increased price of gasoline.

*For example, Ta Chak, an old man, aged 65, living in Roluos village, Sroyov commune, Stung Sen district, who used to sell his labor for cattle keeping during the dry season, but he abandoned this activity as the consequence of the development of RR . In 2005, last year, he kept cattle, as free grazing system on the fallow land of DWR, for other farmers with cost of 15,000 riel per head in 3 months (Feb.-April). In 2006, the fallow land of DWR was converted to the cultivated land of recession rice with the construction of reservoirs. As the consequence, there is no place anymore for animal grazing.*

In KD and STR, the number of buffaloes raised by farmers increased 59% and 4% in 2005 compare to 2004 as the result of market opportunities. In STR, buffaloes were raising more than cattle, and 80% of animals are freely raised in the forest during the dry season. Also, farmers are interested in increasing the number of cows and buffaloes but the lack of animal fodder and declining of natural grass in the wetlands due to the expansion of dry season rice or RR remain the major problem.

### **5.1.3. Agro-chemicals use**

The field finding shown that farmers use many types of pesticides and fertilizers for cultivation of RR or dry season rice, mung bean, corn, etc in both areas of the flooded land or wetland and upland. Use of pesticides banned and restricted for use in Cambodia, could cause pollution on land, water and aquatic resources.

In KPT, the result obtained from in-depth interview with 34 farmers growing RR in the wetland or flooded area shown that the modern rice seed was used in average, 169 kg/ha (IR 66, Senpedor and 504 from Vietnam) for broadcasting, 150 kg/ha of chemical fertilizer (DAP-18:46:0, Urea and NPK-20:20:15) and 0.75 liter of pesticide. 100 % of interviewed farmers used chemical fertilizer and nearly 52 % used pesticides. However, the good condition (whether and rain fall) in this year resulted a good harvest of RR with an average rice yield of 4,674 kg/ha, equivalent to an average gross income of \$US 355 per hectare. This income resulted an average gross margin was of \$US 162 per ha<sup>18</sup>.

In Kandal, 98 % of RR farmers used fertilizer at the average rate of 127 kg/ha (Keam Marady et al., 2001). The rate of fertilizer used varied according to the growing years; it means it was higher if the land use was longer. Also, the rate varied between 100 and 250 kg for land used between 5 and 10 years, and between 350 and 500 kg for land used since the decade of 60<sup>th</sup>. However, farmers used less fertilizer on the new cleared land of the flooded forest. The finding from in-depth interview with 125 farmers in 5 villages of Koh Thom district (over 70 % of the total area is annually flooded by the Basac River) shown that 99% and 94 % of interviewed farmers used on the average over 2 liters of pesticide and 170 kg of fertilizer per farmer and year (Mob Sareth, 2003).

In Stung Treng, more and more the use of agro-chemicals tends to increase, particularly in two districts (Stung Treng and Thala Barivat) close to Stung Treng town. However, it is significantly correlated with the change of cropping system; from shifting agriculture to permanent agriculture practiced, mostly, by the migrants from the lowland areas and big land owners. The big land and lack of hired labor caused increasing of herbicide use. At the provincial level, 3 % and 5 % of farm-households used chemical fertilizer and

<sup>18</sup> Gross margin= Gross income – variable cost.



pesticide, but in Stung Treng district the number of farm-household used fertilizer and pesticide increases up to 9.0% and 13.0% (PRDC, 2005).

CEDAC (2004) reported that the average amount of pesticide used for vegetable farming in the inundated areas of Tonle Sap Lake in Kampong Chhnang was 50 liters per hectare per season. On average farmers mixed 4 different pesticides, into a cocktail to increase pesticide efficacy. It was estimated that in 2000 around 1.3 million liters (or kgs) of pesticides were used in the 6 provinces around Tonle Sap (CEDAC, 2001 p: 3).

An evaluation study conducted by CEDAC in July 2006 in the Mekong flooded areas and on Mekong island in the provinces of Kampong Cham and Kratie, and by in-depth interview with 50 tobacco farmers found that 76 % of farmers reduced the average amount used of pesticide from 1.1 liter to 0.6 liter per hectare whilst other still use the same amount like before or increased. This study was conducted at the request of the British American Tobacco (Cambodia) Limited (BACT) to estimate the effectiveness of IPM training on pesticide use in tobacco cultivation.

Also, the use of agro-chemicals is very concern in Cambodia. During his field visits in the lowland areas, for example in Svay Chrum district (Svay Rieng province)<sup>19</sup>, H.E. Chan Sarun, the Minister of MAFF, requested the rice farmers to reduce the amount of fertilizer used up to without using due to the negative consequence of high production cost, declining the soil quality, degenerating of water quality and poisoning the fish.

Shimpei Murakami (1991) wrote that the uses of chemical fertilizer result in: 1) PH imbalance wherein the soil becomes acidic, 2) accelerated elimination of humus, and 3) death to some micro-organisms causing an imbalance. To solve these problems, the practice includes the application of more of the same chemicals, as well as others (calcium, zinc, sulphur, etc.). This is only a temporary fix, however, and creates other problems while accelerating the soil degradation. For example, the practice recommends the use of calcium for regulation of low PH (high acidity). Calcium can regulate the soil PH for 3 or 4 months, but after the calcium is no longer effective, the soil PH becomes lower than before. The next time, the farmers need to apply even more calcium. This much calcium in the soil obstructs magnesium and other mineral supply to the plants which is called micro-nutrient deficiency.

The un-proper use of pesticide and fertilizer is very concern as below:

- **Unknown Pesticides and fertilizer:** Many studies on pesticide issue in Cambodia consistently found that much of trade in pesticide is unregulated, that farmers have little or no information about what they buy, and that they use pesticides without regard for suitability or safety. They don't know the name and action of these pesticides because the labels of pesticides were stamped in foreign language, not Khmer.
- **Registration:** Result of the field observation show that the most popular insecticides used are cypermethrin, chlorpyrifos, dimethoate, mevinphos, monocrotophos, endosulfan and carbofuran even though the insecticides, carbofuran, mevinphos,

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<sup>19</sup> Reported by RK-daily dated 19 August 2006.

monocrotophos, endosulfan are list of banned pesticide in Cambodia. The herbicides of 2,4-D, quinclorac and pyrazosulfuron-ethyl, rodenticide is zinc phosphide are also popular used by farmer. Some of these pesticides are very toxic on fish and aquatic, particularly, cypermethrin, endosulfan, chlorpyrifos, dimethoate and zinc phosphide. The extent of illegal cross-border trade is unknown. These pesticides bottles/packages with no-Khmer language and did not conform registration by MAFF.

- **Dose:** Farmers use a combination of herbicides, insecticides and rodenticides to protect dry season rice against pests. For example, in KPT, on average 0.75 litre of pesticides were used per hectare per growing season, but the usage by individual farmers ranged between 0.5 litre and 2 litres per hectare. Farmer sprayed up to four times per season.

It is noted by EJF (2002) that although pesticide usage is lower for dry season rice than vegetables, because total area of rice production in Cambodia is significantly greater the total volume of pesticide applied will also be greater. Jahn et al. (1996) determined pesticide practices among 1265 lowland rice farmers in 10 provinces over 1995/1996. Jahn et al (1996) determined that 57% of dry season rice farmers used pesticides. In a subsequent survey Jahn et al., (1999) determined that of 319 deepwater rice farmers and upland rice farmers, 36% of deepwater rice farmers used pesticides, whilst less than 2% of upland rice farmers used pesticides.

The rodenticide, zinc phosphide is popular and used every year. Also insecticides may be used during the seedling stage to control brown plant hopper and cutting worm. With these exceptions, other herbicides are used rarely, maybe on a two or three yearly basis. On average farmers use 0.8kg/ha of pesticide per year, ranging between 0.1 kg and maximum 2 kg. The most common pesticides used in wet season rice production are the herbicide 2,4-D, and methyl parathion, used to control crabs (crabicide).

JICA (1998) noted that the intensive farming system in the Mekong flooded areas, particularly in Kandal province and RR production lead to indiscreet and risky application of pesticides and fertilizers with insufficient experience, lack of proper knowledge and poor information, particularly pesticide use. Overuse fertilizer and pesticide will cause adverse effects in the backswamp water or called wetland. Also, the reservoir and the colmatage canals in the study area play a significant role for the fishery, as well as lakes, streams and swamps in the rural area. During flooding season, they provide the fishing grounds for artisanal small-medium scale family fishery in the proximity of water bodies. Use of agro-chemicals would be increased if farmers could access to credit with favorable interest rate. Lack of capital is the main reason behind little use of fertilizers and pesticides. Among farmers who said they do not have enough fertilizers and pesticides, 79 percent said they do not have enough money to buy them (EIC, 2006, p: 11-13), and access to formal credit is very limited. Our case study found also that the RR farmers in KPT said they lack of money to buy it.

Also, the government tries to increase the agricultural productivity in order to ensure food security and improve rural livelihood by promoting agricultural intensification and distribution of fertilizers and rural credit. This strategy is likely to increase use of agro-

chemicals that will cause adverse effects in the wetlands. Besides, the controlling mechanism for pesticide import seems to be ineffective, and the use of pesticides is not controlled. The government issued a Prakas No 598 on the list of pesticides in Cambodia (Dec, 2003) and Sub decree No 69 (1998). But, it is likely, the sub-decree formulation process has limited consultation with users, traders and other stakeholders.

**Pracas No 598 on the list of pesticides in Cambodia, dated 15 December 2003.** The Pracas has formulated three lists of pesticides relevant to Cambodia, namely: 1) List of pesticides banned for use, the Insecticides, such as: Carbophenothion, Mevinphos, Monocrotophos, Endosulfan, Parathion, etc.), 2) List of pesticides restricted for use such as Carbofuran, Zinc Phosphide

**Art. 14 of Sub-decree No 69:** Pesticides forbidden to use by MAFF pesticides imported without authorization, and agricultural pesticides mentioned in the 1st classification according to WHO are not authorized to be registered, except for urgent cases or special requirements determined by the MAFF.

**Art. 11 of Sub-decree 69:** "It is to ban to import, produce, mix, wrap up, and wholesale or retail pesticides which are not registered or stated in permitting circulation of the MAFF".

**Art. 22 of the 2006 Fishery Law:** It is prohibited to dispose, release, flow or spread the solid or liquid waste or poisonous substance into the fishery area determined by the law and legal instruments of the Kingdom of Cambodia and international agreement or convention on Environmental Poisson or ....

#### 5.1.4. Community of agricultural development

Intensification of agriculture was one of the strategic objectives for agricultural sector (2003-05), but it is not written for 2006-2010. The food security and rural livelihood improving are ensured by improving productivity and diversification of agriculture with environmental protection and food safety. Thus, the government has promoted the system of rice intensification (SRI), which allows increase production with reduced use of agrochemicals. In 2005, 40,000 farmers in 2,500 villages of 21 provinces practiced SRI method on the cultivated area of 11,200 ha. The average yield reached at 4.1 Ton per ha (CEDAC, 2005). Farmers were mobilized in different group/association in order to disseminate easily this innovation.

In KPT, different group of farmers are mobilized in 2 communities: Organic Rice Community of Stung Sen and Agricultural Development Community of Thboung Krapeu since 2003 and 2004. 355 members of both communities practiced ecological system of rice intensification (SRI) and organic vegetable on nearly 600 ha. The production on 121 ha of them is used for export.

Also, the ecological agriculture development contributes to sustainable natural resources management and conservation but the practice is still limited. The strategic SRI likely do not appropriate for RR in the flooded area of Tonle Sap basin due to big rice land, fast water receding and lack of labor. RR intensification is likely need more and more agro chemicals use, which could cause ecological and social problems.

## 5.2. Natural resources management

### 5.2.1. Fishery

Fishery areas are permanent inundated areas, with Mekong flood water, including areas of marine water, at tide, which serve for fisheries and protect the water ecology (Art. 8 of 2006 fishery law), and part of wetlands as well.

Since the government released over 56 % of fishery areas to the community, in KPT, the fishery communities (FiCs) have been established with the assistance from outsiders, either by the fishery office of PDA in collaboration with IOs/NGOs such as JICA, GTZ, CODEC, TSEMP (Tonle Sap Environmental Management Project) and UNDP or by the facilitation of NGOs. Presently, there are 24 FiCs in KPT but only 3 of them were official recognized by the provincial authorities, particularly the Fishery Administration (FiA). Other FiCs were established by NGOs before the sub decree of FiC issued in 2005 (June) but have been not yet approved by the provincial authorities, e.g. the FiC of Roluos established in 2003 with its statute of 11 chapters under the facilitation of the provincial fishery office in collaboration with CODEC. In the areas of TSEMP, there is a need to revise the process and criteria refer to the sub decree of FiC in 2005. The fishery office aimed to establish up to 50 FiCs till 2008. However, some NGOs complained of the lack of collaboration from the fishery office in mobilizing the FiC as well. In the flooded area of the Tonle Sap basin, WCS (Wildlife Conservation Service, an NGO) made a request for the conservation of 2 zones of *Srange*, wild floating rice, to the government for the conservation of Bengle Florican bird, the zone of 31,000 ha located at the Kampong Thom-Kampong Chhnang province border, and the zone of 18,700 ha at the Kampong Thom-Siem Reap province border (RK, Jan. 01, 2006). The last zone is located close to a core area of the Tonle Sap Biosphere Reserve (TSBR) of *Beung Tonle Chhmar* (14,560 ha), which is a Ramsar Site as well.

*The Royal Decree in 2001 on the creation and management of the Tonle Sap Biosphere Reserve emphasizes the identification of 3 core areas, one at Prek Toal (21,342 ha) in Battambang province and the other two areas; Boeng Tonle Chhmar (14, 560 ha) in Peam Bang commune, Stoung district and Stung Sen site (6,355 ha) in Phat Sanday commune, Kampong Svay district, Kampong Thom province (PRDC of KPT, 2006 and SCW, 2006) (See map below).*

However, the TSBR is threatened by over fishing, destructive fishing practices, flooded forest exploitation, land conversion to RR, dams or reservoir and pollution, primarily by the inappropriate use of pesticides and fertilizers (See 5.1.3, 5.4.1 and 5.4.2, and SCW, 2006). PDA of KPT conducted a study in Kokoh and Phnov communes in May 2006, and found that 10 % of the interviewed families cut flooded forest for selling and fuel wood.

In STR, 51 FiCs were established since 1997, funded by NGOs in 4 districts (16 in Siem Bouk, 27 in Thala Barivat, 2 in Sesan and 6 in Stung Treng) and have in total 4,477 household-members. CEPA (Culture and Environment Preservation Association) facilitated the establishment of 47 communities; 17 of them as fishery communities along the Mekong River, 15 as communities of water resource management of Sesan River, 8 as communities of water resource management of Sekong River and 3 as communities of water resource management of Sre Pouk River (CEPA, 2006).



### 5.2.2. Forestry

Forest means natural ecosystem, land, water, plants, micro-organism, etc. which are dominated by woody plants or bamboo of more than 10% and having a size of 0.5ha or more, including dry land and wetland forest formations and any wetlands without trees covering most or part of land, or open land within a forest that forms 10% of that ecosystem (*definition in the law on forestry 2002*).

Regarding to forestry, the review/study considered only on clearing forest land. In KPT, since 1986-87, people have occupied degraded forest land in the upland area (north-east of the NR6) for clearing. But, clearing has become difficult since 1998 due to the ban on deforestation. On new cleared lands, farmers had cultivated perennial crops to protect their land right. In the upland areas of Santuk and Baray districts, located over 5 km from NR 6 people cleared more land even though they owned agricultural land being allocated by the solidarity group, for growing industrial crops in particular cashew nut. Nearly 40 percent of interviewed FH cleared land in upland area and occupied over 11% of total plots<sup>20</sup>. Also, forest land of the natural resort zone determined by the provincial order was encroached more and more even though after the issuance of this order.

In KPT, however, representatives of the MAFF spoke recently (Jan 2006) about the change from warning to suppressing the encroachment into forest land and flooded forest land of over 2,700 ha. The big land owners were accused of illegal snatching forest land through persuading the people to clear forest land in exchange with the money or clearing cost (around \$US 75 per ha) and the loan of land for 2 year cultivation. In many cases, they bought new cleared land from the local people, and then requested the witness and recognition of the chiefs of village and commune<sup>21</sup> for the sale contract. But, this recognition was denied if land located in the natural resort zone of Santuk. To date, 43 forestry communities (FCs) were and have been established covering 40,250 ha with the assistance of RPF (8 FCs), GTZ (11), BFDK (12), Blub Beitang (3), ESSD (7) and WFD (2).

In STR, the collection of NTFP remain a main source to sustain the local people livelihood, but more and more access to the forest become difficult due to offering ELC. Between 2005 and 2006 (up to March), the government has leased the ELC to 7 private companies, and the concession land cover in total over 200,000 ha<sup>22</sup> for the establishment of agro-industrial plantation of rubber, teak, acacia, eucalyptus and cassava. In addition, some companies had received the ELC from MAFF between 1999 and 2005. However, the implementation of ELC has faced many complaints from the local people. The ELC areas cover forest, but explained as degraded forest, and cover the fallow land of shifting agriculture, location of NTFP collection and water sources where the ethnic farmers use for cattle/buffaloes. Some ELC extends to the Mekong River bank that would cause the problem of erosion. Many ELCs exceed over 10,000 ha

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<sup>20</sup> Pel Sokha et al. (2005), Land Transaction Study (not yet published).

<sup>21</sup> Extension meeting of the government officials led by the under secretary of state of MAFF in KPT in Jan, 4. 2006, and reported also by RK Daily issued on 05-06.Jan.2006.

<sup>22</sup> Interview with Mr. Hi Chantha, a deputy director of PDLMUPC, April 2006.



limited my by the 2001 land law. Also, the term of degraded forest is still not properly defined.

*The government's Declaration in Jan. 25, 1999 on Measures of Management and Elimination of the Anarchy in forest sector, point 5 state"..... Converting the degraded forest land to develop the agricultural and agro-industrial crops has to be approved by the government through the MAFF.....*

To date, 4 FCs have been established in 9 villages by the facilitation of CEPA, but have not yet the recognition from the Forestry Administration. To prevent their right on forest land, the FCs applied for the communal land title at the PDLMUPC but the issuance of title relating to the forest land need to be agreed by the MAFF (Art. 3 of Law of Forestry 2002). However, NGOs working on forest and fishery community development oftenly complained of the lack of collaboration/support from the governmental officials or of being reluctant to accelerate the process. *Despite the Article of 45 of The Law on The Administration and Management of Commune/Sangkat states "Commune/Sangkat administration shall have no power to decide on Forestry.* In practice, the chief of commune intervened in signing documents for people to sell their land being cleared. For many cases, the local authorities are member of the advisory group of FCs and FiCs. Also, it is not clear classify on different between forest land and fallow land of shifting agriculture, on which the forest re-generates/grows. *Art 37 of law on forestry states "Local communities that traditionally practice shifting may conduct such practices on land property of indigenous community which registered with the state..... Forestlands reserved for shifting cultivation shall be identified by Anu-kret (Sub-decree).* Also, fully integrating forestry and fishery management into community development plan is still a challenge due to interest/benefit conflict between communities and officials.

### 5.3. Land use

In the studied provinces, land use was very dynamics in both wetland and upland, and has correlated with the change of land right as well. Banning of the forest exploitation and offering the ELCs have caused pressure on wetlands with the expansion of cultivated land and rehabilitation of DWR/floating land, increasing of fishing and fuel wood/herb collection. Concerning the wetlands, the officials at provincial and district level and local people understand that all lands are flooded during the rainy season by the rivers (Mekong, Bassac, Sesan, Sre Pouk, Sekong) and Tonle Sap Lake, and the natural lakes. Considered as wetlands, in KPT, all lands located in southwestern of the NR 6 whilst in STR, all lands in the distance less than 0.5 km straddling the rivers and lakes. In KPT, the grass and shrub lands, as the flooded land covers 162,627 ha (10.80 %) of the total land (PRDC, 2006). In Kandal, around 70 % of land areas in 8 districts and 30 % in other 3 districts (Kandal Stung, Angk Snuol and Ponhea Leu), whereas are flooded during the rainy season are considered as wetland.

#### 5.3.1. Cultivated land

In the lowland provinces, the cultivated land was distributed to the people since the beginning of 1980s, and redistributed many times in some areas to the family. In KPT, the flooded land was distributed to *Krom Samaki* (solidarity group) 300 ha per village.

Then, it was distributed by the solidarity to family in some villages (e.g. in Stung Sen) However, many land poor farmers and new families who did not have land occupied the forest land or encroached into the flooded forest in order to expand their farm land or to have the farm land. In the upland area, people have grown the industrial crops, particularly cashew tree, bean and cassava on the new cleared land whilst in the lowland or flooded area; they cultivated cleared flooded land for receding rice (RR) cultivation since 1986. PDA (June,2006) of KPT conducted a study in Kokoh and Phnov communes, and found that 23 % of the interviewed families cleared flooded forest for cultivation of RR and other crops during the dry season Since the issuance of *Botbanhchea*, regulation No 01 of the government in 2004, the forest land clearance has become more and more difficult. In the upland, the FA complained of illegal grabbing the state forest land, whilst clearing flooded shrub and regenerated shrub, forest land confronted the complaint of Fishery Administration (FiA). However, 16% of interviewed farmers cleared flooded forest for RR between 2001 and 2006 (PDA, 2006, May)

In KPT, part of grass and shrub lands of the flooded land was used for DWR/floating rice. In 1960s, there were 86,000 ha of DWR/floating rice land in the province but the DWR/floating rice cultivable area has decreased as low as 27,000 ha in 2001 (Pel Sokha et al. 2002), and 28, 447 ha in 2005 (PDA, 2005 or RK, 02. Nov. 2006). Flooded land covered by grass remain un-use and abandoned is over 60,000 ha, and the provincial authorities/governor intend to convert it into cultivate area with the construction of reservoir<sup>23</sup> (RK, Feb.11, 2006).

The former DWR/floating rice lands in the Tonle Sap basin were abandoned to date in different steps due to the civil war (between 1970 and 1993). The government distributed these lands to the farmers between 1984 and 1986 but they abandoned its in 3 different stages due to many constraints such as insecurity and natural disaster (drought and flood). After a number of years the abandoned land may regenerate into flooded shrub and forest. Currently, those abandoned lands have been used more and more for cultivation of RR through reservoir, supported by the provincial authorities with refer to the government policy of the rehabilitation of former DWR/floating rice land with the cultivation of RR. Modalities of access to the former DWR/floating rice lands are different, including distribution by solidarity group (1985-86), clearing, offering the economic concessions of flooded shrub and grass lands remain as state land, offering ELC after buying the use right from farmer owners and making agrarian contract of sharecropping with farmers.

Since 2004, the provincial governor started to offer the former DWR/floating rice land (e.g. in Stoung district) that farmers or the group of solidarity abandoned since the late of 1980s, as ELC to the concessionaires, working on proposal and refer to the contract of borrowing land from the local authorities (chiefs of village and commune). Thus, offering ELC of the un-clear land right often led to land dispute between farmers, as the former owners and concessionaires. Also, the concessionaires have gained access to land through different modalities: (i) granting/leasing ELC of the state land, (ii) buying, and (iii) borrowing link with sharecropping. The rich people bought the former DWR/floating rice land before submitting the proposal of ELC to the provincial authority.

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<sup>23</sup> Report of H.E. Nam Tom, KPT provincial governor to Japanese expert (RK, Feb. 11, 2006).

For renting, sometimes, it was written as borrowing in the contract but the farmer group became rental fee through their representative as the village chief. However, the contract states borrowing (with giving money) land from people represented by village chief, and with recognizing of commune chief.

Regarding to land right security, in KPT, LMAP, funded by GTZ and in cooperation with PDLMUPC, conducted the SLR in the communes of Kokoh, Tipou, Chrab and Srayov. Only plots of rice land and homestead had been registered. For chamkar in the foothill, new clear land and chamkar with distance more than 200 m from NR 6 and 3,000m of distance around the mountain of Santuk, were not titled even though people had occupied it for cultivation of cashew tree and other crops since the end of 1980s. Land is considered as state private property, and used for conservation of natural eco-system, a resort site of Santuk, refer to *Sechkdei Samrach* (decision) in May, 1995 of the provincial governor. Also, rice land in the damaged reservoirs constructed, mostly during Pol Pot period are not titled. Farmer can continue cultivation temporary but has to give it back when land is needed for public development purpose. The former DWR/floating rice lands are not registered. The provincial authorities intend to preserve those lands as state properties refers to the 1992 land law even though it was un-validated since the issuance of the new land law in 2001. However, this intension may confront complaints of those farmers who have consecutively possessed land since the mid 1980s.

In Kandal, the main crops grown in wetlands are receding rice (RR), mung bean and corn. As mentioned above, the cultivated land for RR gradually increased. Farmers encroached or expand their rice land into the flooded forest land, whilst other farmers grow RR instead of corn or other field crops. Also, they confront the dispute with the group fishers who are mostly agricultural landless farmers and want to preserve the natural lakes. Moreover, the market of flooded lands or receding rice land has risen since 1995/96.

Also, the rehabilitation of long un-used DWR land, clearing flooded shrub / forest often confronts the fishery administration due to differing interpretations of “flooded forest” and “former DWR/floating rice land with re-generating shrub/forest”. For those investors who want to invest in receding rice production have to buy the use right of former DWR/floating rice land or making agrarian contract of sharecropping with farmers before submit the proposal for land economic concession leased by the provincial authorities or agree to share irrigated water with the farmers. However, sharecropping would be changed to renting and selling water for easy management.

### 5.3.2. Land market

Land sales and purchases happen since the privatization of land 1989 but exist with the lands which close to the national road. **By law, land transactions are subject to a sale, or turnover, transfer tax of 4 percent<sup>24</sup>.** In practice, a great deal of tax is evaded. Change hands by land transaction occurred generally, approved by the local authorities: the chiefs of village and commune. Officially, land transaction has to be registered and changed the name of the owner at the office of land management, urban planning,

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<sup>24</sup> Council of Land Policy, 2002

construction and cadastre (OLMUPCC). However, less people followed this rule because of cost and time. In the districts studied, most people sold land without registration at OLMUPCC. For an unofficial fee, village or commune chiefs change names on the receipts as the lands change hands. Sometime the chief of village did not know, the buyer and seller only agreed each other.

In KPT, the land sales and purchases have risen since 2000. Many urban dwellers in Kampong Thom town are interested in buying the DWR land. The trend of land price has been increasing quickly since 1998. The price of abandoned DWR land increased 4-6 times; from about \$20 per ha in 1998 to \$40-100 per ha in 2005 depend on distance from the village whilst the price of new clear land in upland area increased from \$30 to \$600 per ha (or 1,900%). In Kandal, the price of the flooded land close to the NR5 increased from \$1,500 in 1996 to \$10,000 in 2005/06 as the result of increasing of investment.

Also, in KPT, the investment in DWR land is becoming more and more attractive since the government policy oriented to development of dry season rice production through reservoir instead of unstable DWR production. DWR lands have changed hand in different modalities. In Stung Sen and Kampong Svay districts the urban dwellers bought hundreds hectare of DWR lands whilst in Baray district, the groups of farmers leased DWR lands remain belong to the state from the district authorities. Land transfer had been made upon the commune level. Even though for land sale and purchase between outsiders and villagers, in the most cases, selling land changed name at commune level. Only some cases for buying the big land changed name at the district and provincial level. The degraded forested lands around Santuk hill, the natural resort site, had been sold with the sale contract being made between both parties, but some cases were recognized by the village chief even though he known the provincial declaration on prohibition of selling its. However, land sale between villager and villager was usually made without written contract but for some case, it is still without informing the chief of village.

In Kampong Reussei commune (Stung Sen district), farmers possess many plots of land in different agro-ecosystem zone; there was a high incidence of land sale since the end of 2004. They sold all their DWR land to urban dwellers. In Rung and Kok Ngoun villages, farmers sold all DWR land, and keeps only rainfed lowland rice land straddling the NR6. The returnees sold land, and then migrated to the district of Anlong Veng, north of Cambodia where the Khmer Rouge occupied till 1998, and it is believed that access to land is still easily. The urban dwellers and rich farmers in local areas bought land for planting the fruit trees and wood trees (acacia and eucalyptus) in upland areas whilst they bought DWR land in lowland areas for RR production.

*For example, in Kuk Nguon village, Kampong Russei commne in January 2005, the former DWR land was sold at 150,000 riels (for land already cleared) and 50,000 riels (for land with regrowing shrub) to Mr Moul Kim Oun, an urban dweller and former official of provincial rural department. He intended to grow recession rice with construction of reservoir, and planned to make sharecropping with the volunteer farmers, in which farmer contribute labor and rice seed and other cost such as land clearing, water, etc will be in charge of the land investor. The land owner will get 720 kg (equivalent to 30 Thangs)<sup>25</sup> of paddy per ha, and the rest remains for farmer.*

<sup>25</sup> Thang is a Khmer unit, equivalent to 24 kg of paddy.

In Ponhea Leu district of Kandal, land market has risen since 1995/96. Up to May 1999, people sold 1,635 ha of different types of land; 36.9 % of them are receding rice land, and 40 % are low land forward to the natural lakes and flooded forest land. Most of the land buyers are urban dwellers in Phnom Penh. Then, the land buyers loaned land to farmers or land sellers for temporary use. Some of them have changed from loan to renting after 2-3 years through the land keeper. Also, the usage of water from lake for RR must be paid because the villager sold the natural lakes as well. For example, the Phan Emix Company rented RR land to farmers in Toul Ngouk village, Kampong Loung commune, at the cost of 300 kg of paddy (around \$US 33) per ha, and farmer paid \$US 10 for watering of RR. In this year of 2006, those farmers face the lack of cultivated land as the companies has withdrew land for cultural center development.

*Ms Peuv Un and her husband, living in Toul Ngouk village, Kampong Loung, Ponnhea Leu district, Kandal, with 6 household members. The family occupies 3 main economic activities: dry season rice cultivation, bronze smith handicraft and fishing. The family has 1,750 m<sup>2</sup> (25 m\*70 m) of homestead and 0.50 ha (5 m\* 1000 m) of flooded land for cultivation of dry season rice. The length of rice plot lay forward up to the natural lake. She sold the rice land to an unknown company, but known as “Chinese Company” through the chief of village as land market broker. The broker told that if farmer sold land to the company, then land are rented to farmer back for rice cultivation. When the contract will terminate the company will give land back to farmer or land seller. Later on, she knows the company name “Phan Emix”, when the company started to establish a cultural centre serving the tourism sector. Ms Peuv Un has rented the 0.5 ha selling land in for rice cultivation since 1996 with the rental of 150 kg (\$ 16.5). The average rice product of 40 bags (2.0 tons) is used for self consumption whilst the product of bonze smith provides family cash income. From now on, the family has to buy rice food with the money from selling handicraft products instead of the rice production. Moreover, for other farmers who sold land by installment since 1996 are trying to protect their land right with the protest, aim to stop filling-in the flooded land. To date, the dispute remains un-resolved even the complaint has been referred to the parliamentarian, and president of national assembly.*



*Flooded rice land bought by the urban dwellers Thnal Bat village, Koh Chen commnue, Ponnhea Leu district*



*Inundated rice land under dispute between rice in farmer group and Phan Emix Company in Kampong Loung commune, Ponnhea Leu district*



### 5.3.3. Economic land concession

*Economic land concession (ELC) is one of land transfer modalities that refer to the Sub Decree issued in December 2005<sup>26</sup>. MAFF is allowed to grant over 1,000 ha of state land to the private investor for a period in order to stimulate the economic development. The areas of ELC could be provided up to 10,000ha (Article 59 of the 2001 land law). And, the provincial authority is allowed to grant state land less than 1,000 ha.*

In KPT, the ELCs were granted in both areas: the flooded land in the Tonle Sap lake basin, considered as wetland and the upland areas/forests where people practice upland farming and collect NTFP. The provincial governor leased former DWR/floating rice lands to the private investor. But, the unclear use right of these land led to many case of conflicts, for example, in Kampong Chen Tboung commune, Stoung district. Also, unclear land right before investment came led to land dispute between investor and a farmer group.

In the upland areas, the government granted the red soil land for establishment of rubber plantation in Tomring commune, Sandan district to the state rubber company but the area covers land used by the local people as well. Thus, land consolidation was arranged that each household was allocated 3 ha of young rubber tree plantation in exchange with other land being expropriated by the company, as measure preventing land dispute. But, the un-proper implementation of land consolidation led to land dispute as well because many households complained that they did not regain land as promised by the government. Another case of land dispute caused by ELC in April 2005. For this case, the government granted an ELC of 9,863 ha in two communes (Sala Visei and Toul Kreul), Prasat Balang district, to the An Mardy Group company for the cultivation of agro-industrial crops and animal raising<sup>27</sup>. Even though, the areas of ELC is degraded forest land but people are very concern because the ELC boundary is delineated close to the housing area, and they has collected non-timber forest products (NTFP) and also used the areas for animal raising. The first protest happened in April, 07. 2006 with the request to solve this problem, and to provide SLC. This dispute was resolved by providing land for farming to farmers. For other ELC, please see in annex.

In the flooded areas of KPT, as mentioned in 5.3.1, there were three different modalities of access to the former DWR land:

- In Stoung district: many rich people had an access to land with capital investment in reservoir. The provincial authorities granted former DWR lands that farmers did not cultivated long times to concessionaires for RR production through the construction of reservoir. To prevent land right dispute and to make utility of both groups, different arrangements were made such as: providing water to farmers who were expropriated DWR land in exchange with access to concession land and sharecropping. Land will be returned back to the state as written in concession contract and provincial *deika* (decision). But, people expressed concern that land

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<sup>26</sup> Approved by the ministers meeting under the leadership of Prime Minister in Dec,16.2005.

<sup>27</sup> Rasmei Kampuchea Daily dated 09-10 April 2005.



will be repossessed as state land or the government will give ownership to concessionaires.

- In Stung Sen and Kampong Svay districts: The case as mentioned above occurred also in Kampong Svay district. Besides, many rich men or government officials have bought ex-DWR lands for receding rice cultivation through construction of reservoirs. Some of them occupied land since before the 2001 land law but need to buy for expanding more land. Some of them they got access to land with capital investment in reservoir/canal and buying, as buying use right from the former DWR farmers. Also, purchase of big DWR land occurred in both; through broker of village and commune authorities or themselves without intervention of broker. For purchase without broker, if the land investor request village and commune chiefs to sign on sale contract for registration and recognizing the land buyer has to pay them but illegally. The authorities need money for investigation and measure the land areas being sold. Then, the investor of land and reservoir cultivated rice by himself with hired labor or leased land to farmers or made sharecropping with volunteer farmers or he made all 3 modalities. In this case, the landownership of the land investor is unclear either they could apply for certificate of ownership right or not. But, there is idea to preserve the former DWR land being bought after the issuance of 2001 land law as state land<sup>28</sup>.

Currently, some reservoir affects the livelihood of farmers. The dams block the rainy water flowing causing the hard problem of land plowing/preparation on time at the early rainy season and the damage of rice product during the maturity stage.

*Mr. A, living in Kampong Krabaov village, Kampong Krabaov commune, Stung Sen district, and other four representatives of farmers in four villages received the lease of economic land concession of 1,500 ha in Sroyov commune with the construction of three reservoir with Deikar (decision) of the provincial governor dated in September 2004. But during the working process in 2005, they confronted farmers as the former land owners but abandoned land since mid-1980 and the construction of reservoir confront the fishery community and farmers with complaint because the reservoir dam ringed the natural lake where people fish, use water for free raising animal and block the ox cart path. Mr. A gave part of the land back to people, and the remain about 420 ha is allocated, for first growing year 2006, 250 ha for renting with providing water and making sharecropping with farmers from four villages of Sroyov commune. In this case, the chiefs of village assisted to seek farmers who want to grow receding rice. A formal contract between Mr. A and farmers is made with the recognition of the village chiefs. The owners grown by themselves 78 ha and the rest is clearing for next growing years. For renting, the rental is 1 Ton/ha for the first year but planned to reduce to 0.8 Ton/ha for next year 2007. For other modality, the harvested product is equally shared between the landowner and sharecropper. For this, the owner gives land use right, input such as chemical fertilizer and pesticide and water, clear land and harvest while farmers need to spend on rice seed (in average 200 kg for broadcasting) and labor to take care of rice plant.*

- In Baray district, many groups of farmers were granted the ex-DWR lands by the provincial authorities without problem because land was not allocated to farmers during 1980s, and belong to the state. Farmers have the right for temporary cultivation of RR with group investment in reservoir (in Sralau commune). Land was granted without dispute, and is suggested to preserve for granting to farmers or

<sup>28</sup> According to Mr. Long Be, the deputy director of PDLMUPCC.

providing as social land concession or loaning to agricultural landless farmer (ALF) and land poor farmers.

However, offering those land did not led to dispute on land right. As people known the utility of a good harvest of RR, dispute of commune boundary between members of the same group/community occurred. Farmers of Sralau commune complained to the authority to return land being used by farmers from Soyong, a neighboring commune, to them, even though farmers of Soyong paid the cost of reservoir and cleared land. It was resolved that farmers of Soyong are not permitted to expand the flooded shrub land anymore.

Also, from now on, access the former DWR land through ELC that will be direct granted by the provincial governor is becoming difficult due to the confrontation with people's claim of their former land. However, the encroachment into long un-used DWR land, flooded shrub / forest often confronts the fishery department or fishery community. For those investors who want to invest in receding rice production have to buy the use right of former DWR land before submit the proposal for ELC leased by the provincial authorities or agree to share irrigated water and make sharecropping with the farmers.

In STR, many private companies established the plantation of rubber, acacia, teak and cassava whilst other were recently awarded, and are seeking for ELC. For example, in August 2006, the official approval was communicated to two companies (Sal Sophea Peanich Co. Ltd and Sopheak Nika Investment Agro-Industrial Plants Co. Ttd<sup>29</sup>) by the MAFF after getting the permission from the Prime Minister to award the concession of nearly 20,000 ha, in Kom Phun and Kbal Romeas communes, Sesan district, about 22 km from Stung Treng town. Both companies are believed to be owned by oknha Na Marady because Mr Sal Sophea is son-in-law of Marady<sup>30</sup>. By the environmental law, before offering the ELC the MAFF must to inform the MOE in order to do an ESIA on the land concession with participation from other ministries and related stakeholders. To date, there are 10 companies known in Stung Treng (see Annex). 5 of them were already granted by the government with the total area of 133,169 ha, and other 5 companies are conducting ESIA and feasibility studies refer to sub decree of ELC (Art. 4 and 5) with the total projected areas of 67,629 ha. As mentioned above in 5.2.2, the implementation of ELC has faced many complaints from the local people. The ELC areas cover forest and the fallow land of shifting agriculture, location of NTFP collection and water sources where the ethnic farmers use for cattle/buffaloes. Some ELC extends to the Mekong River bank that would cause the problem of erosion. Some companies cleared and leveled land for plantation, and the natural courses as watershed of the Mekong were filled-in, have caused also the lack of water flow in the natural lake. As the consequence, the DWR and dry season rice were abandoned.

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<sup>29</sup> Phnom Penh Post, Sept 23-Oct 6 2005.

<sup>30</sup> Phnom Penh Post, Sept. 23-Oct.6 2005.

*For example, in the districts of Siembouk and Stung Treng and about 20 km south of the provincial capital, The Cambodia Farmer Investment Co has made a request for ELC of 13,993 ha after the field identification and meeting with the local authorities. As the consequence and to prevent the affect on their livelihood, the villagers of 301 households of 2 villages (Damrei Phong and Koh Sampeay), Koh Sampeay commune, Siembouk district made a request to the provincial governor with the collection of thumb print approved by the chiefs of village and commune, for: 1) Preserve land straddling the Mekong River with 5 km distance from the bank, 2) Allocate 894 ha of land that people has used since 1979, 3) Request for 2,000 ha of social land concession (SLC) for the next generation, and 4) Provide 3,000 of forest land for the establishment of Forestry Community (FC), aimed to collect NTFP.*

*In O Svay commune, Thala Barivat district, The Company of Tapioca Starch Production Co.,Ltd (Cassava Powder Production) received 7,400 ha of ELC in 1999 (Nov). The cultivation need to level land, and land was fenced as well. 53 indigenous families possessed 57 ha of farm land in this area, but at the beginning of establishment of plantation they requested to expanse to 100 ha. The 100 ha land was cut for farmers with intervention of the authorities concern, and the company promised to make legal land document for people, but on date of our study land document or title has not yet issued.*

In Kandal, the situation of investment on flooded land is similar to the current situation in KPT. For some cases, the land buyers are able to get ownership right of those lands. The flooded lands were bought up to thousand hectares. The flooded lands were used by farmers for the cultivation of RR or community fishing lots. The companies bought the flooded land for integrated farming development (aquaculture and rice etc.) with the construction of irrigation system and cultural development center with filling-in the low land or the natural lake. Sometimes, they bought the flooded land from farmers with intension to encroach into the flooded forest land nearby. For those people who rejected to sell their land, were persuaded or threatened to sell land at low price. For some case, the company bought the flooded by installment since the mid of 1990s without payment in the next, and just started to invest on land in 2005. The not clear land right before investment led to land dispute. Increasing of the market of flooded land resulted also the dispute on commune administrative boundary between different groups of farmers living in different communes, particularly in Saang and Kean Svay districts, and more clearing of flooded forest. For example,

*in March 2006, the MAFF ordered land developer Oknha Dy Po, a rich man, to cease offering money to villagers in return for their endorsement of his plans to clear state-owned flooded forest in Kampong Os commune, Ponhea Leu district, Kandal as responding to the complaints by the Minister of Environment and opposition lawmaker Son Chhay, who have accused Mr Dy Po of attempting to acquire, through gifts and cash, 1,690 ha in the commune. He has given 840 families in 3 villages (Kampong Os, Dang Kom and Prek Tame) cash totaling more than \$93,000 in return for their agreeing to his acquisition of the flooded forest. However, the flooded forest lands are in the Community Fishing Lots and Exploitation Lots of the state<sup>31</sup>. The Article 62 states “.....The community has no right to sell, exchange, lease, loan, share fishing area, allocate or transfer the community fishing area. Also, people were confusing the use right and ownership right of the community fishing lots.*

*Also, the development of cultural center was implementing by the Phan Emex company on 200 ha of flooded land and dry season rice field, closed to NR 5 in 3 communes (Kampong Luog, Phsar*

<sup>31</sup> Interview with Mr. Khling Vanthul, Fishery Office Chief of Kandal in June 2006.

*Dek and Prek Taten), but led to a serious land dispute in 2006. The company bought dry season rice land between 1996 and 1998 with the cost of \$1,500 per ha by installment. Some families were paid all the money along, but some was paid by installment of \$20-30. However, some farmers did not agree to sell their land at that time. For example, in Po Touch village, 85 % of dry season rice lands were sold, and other 15% (50,35ha) of flood rice land remain belong to farmers. However, in 2006, the company stated to fill-in the low land and encroached into dry season rice land to be disagreed for selling, after receiving permission from the Councils of Minister for the establishment of cultural center. In this case, the company was accused of without cooperation with the ministries or authorities concern<sup>32</sup>.*

#### **5.3.4. Social land concession**

Social land concession (SLC) is a legal mechanism to transfer private state land for social purposes to the poor who lack land and do not have land for residential and/or family farming purposes (Art. 2 of the *sub-decree issued in May 19, 2003*). In KPT, the Provincial Land Use and Allocation Committee and District Working Group in each district were nominated in October 2003 from officials of different departments and offices, but the SLC mechanism is still not in force. In Santuk, Hagar, an NGO is working to assist vulnerable women and children from living on the street by setting up the Community Development Program since 1995. In 1998, the provincial government provided 100 ha of degraded forestland close to the foothill of Santuk, a natural resort for establishment of a new community "Tapreach". In 2000, 24 women were volunteer to resettle in the community with the allocation of: 2 ha for farming and housing, a wooden house of 20m<sup>2</sup> (4m x 5m) with latrine and well, a grant of \$US 20 per year for children that they are able to go to school, training on agricultural techniques and follow up support, irrigation equipment in group, land preparation for cultivation (bean or other crops) in 5 years. For the time being, they had possession right of land but they would be able to get land ownership after a consecutive period of 5 year exploitation, supposedly.

*For another example, in Toul Kreul commune, Prasat Ballang district, the provincial authority has provided 300 households with 300 plots of SLC, each plot is 25 m\*56 m, and established a new village, "Boung Pe Thmei". However, people do need bigger than this for farming during the protest in April as mentioned above<sup>33</sup>.*

#### **5.3.5. Land dispute**

Land dispute is becoming hot issues since granting large scale agricultural projects. The local authorities were reluctant to report dispute cases involved with powerful men and state company. The type of land dispute changed from dispute over boundaries to unclear ownership right. Affect of the private investment in DWR land, granting land to private and state concessionaires led to many cases of land disputes. Also, types and causes of land disputes in the flooded areas or wetlands are summarized as following:

<sup>32</sup> Reported by many articles in different dailies: RK, April 19 2006, The Popular Magazine, ) and Field Survey in May-June, 2006.

<sup>33</sup> Rasmei Kampuchea Daily dated 09-10 April 2005.

- Between farmer group and authorities over unclear land right of former DWR land before granting land to concessionaire;
- Between farmer group and private investor of reservoir over the affect on farmer's livelihood;
- Between villagers and local (village) authorities over right of village/public land;
- Between fishery community and dry season rice farmer group
- Between land owner and land borrower/land occupant.

In KPT, the provincial authority has expropriated land based on *Article 76 of the 1992 land law*. For example, a case of land dispute in the commune of Kampong Chen Tbound, Stoung district. A serious dispute over DWR land occurred between two concessionaires of ELC who are living in Chheu Teal village in the same commune and a group of 197 farmers. Those farmers who abandoned DWR land more than three years tried to claim their land back from new occupants or concessionaire.

From now on, for those investors who want to invest in RR production have to buy the use rights of former DWR/floating rice land before submit the proposal for getting ELC ( 18-25 year period) or renting. When the duration of contract will terminate land would be repossess as state land because people thought that they sold the ownership of land. Moreover, the provincial authority intend to preserve those lands as the state property refers to the 1992 land law even though it was un-validated or it was repealed by the 2001 land law. Besides, the difficulty in making sharecropping would be the reason of change to renting system.

*Article 76 of the 1992 land law, states that any land that a possessor has abandoned for three consecutive years shall become the private domain of the state” but this article should be also compared with Article 70 “ keeping land vacant for improving the soil fertility will not mean abandon.....”. However, the article 30 of 2001 land law states “Any person who, for no less than five years prior to the promulgation of this law, enjoyed peaceful, uncontested possession of immovable property that can lawfully be privately possessed, has the right to request a definitive title of ownership.*

Also, buying the DWR/floating rice land maybe mean buying the use right of land, and all land will be repossess as the state private land. Thus, it should be a model of the repossession of state land through economic expropriation, and the roles of private sector in repossession of the state land.

In red soil chamkar land areas of KPT, a serious case of land dispute occurred in Tom Ring commune, Sandan district. It occurred between a group of farmers (11% of the total households in the commune) and the state rubber company due to improper land consolidation that the new couples (between 2001 and 2005) were not taken into account. The government granted ELC to the rubber state company of Chub and promised to give 3 ha of young rubber plantation back to each family.

In KPT and KD, most of land disputes in the 1990s related to boundary because there was no clearly measurement during land distribution in the 1980s. In KPT, high incidences of land dispute were in Stung Sen district due to population growth, shortage

of land and reservoir affected farmer's livelihood whilst in Stoung and Sandan districts some cases of serious disputes occurred over land expropriation of ex-DWR land. Disputes over un-clear plot boundaries of DWR rice land and land right between ex-owners and new owners were very common during the systematic land registration (SLR). In the SLR zones, the cases of land disputes reduced as the result of land titles but disputes over land right between new owner and old owner and between successors remain un-resolved even though it were referred to the NCC<sup>34</sup>. Legally, land involved the disputes that were not resolved by conciliation during the SLR process are not titled.

*For example, in Svay Kal village, KoKoh commune (Santuk), one plot of homestead involved dispute between new owner (Mr. Kang Sinoeun) and a relative of old owner (Mr. Lach Saron) since 2002, was not registered even the provincial court judged in favor the new owner. The old owner has referred this case of dispute to the appeal court in Phnom Penh, supposedly.*

*In Tboung Krapeu village, Kokoh commune, it was a dispute between the chief of village (Mr. Tob Bunheng, 57) and a farmer living in Samrong village, Tipou commune (Mr. Chhe Yoeun, about 60), in the same district of Santuk. Mr. Chhe Yoeun bought a residential land of 8192m<sup>2</sup> (128m\*64m) from a farmer of Tboung Krapeu village in 1982, also change hands without registration at the office of local authority or with the chief of village. Land dispute occurred when Mr Chhe Yoeun planted fruit trees in 1995 because the chief of village banned planting trees on land. The chief claimed that he did not recognize this transaction. Mr Chhe Yoeun complained to the chief of commune, district and provincial governors. But, the provincial governor recommended them for conciliation with the chief of village, but the case of land dispute was not resolved. Land was registered in the name of the chief of village during the SLR in 2002. Mr Chhe Yoeun complained to the provincial court, and the provincial court invited the chief of village for investigation the case. But, the chief informed the court that he got land title from the SLR team. Thus, the court said the chief becomes the land owner.*

*Since January 2005, a serious dispute occurred between 97 villagers in Po Ta Un village, Sra Yov commune, Stung Sen district and local authorities over 4 plots of land, as public or village lands. All lands are preserved for new settlers for temporarily use, village development and a loan to the village chief in addition to a low fee paid by the government. Under the village rule, land will be handed over to new village chief for his mandate. But, during the SLR in 2005, the SLR team had registered land on the name of the village chief. In this case, the villagers have complained to ADHOC for assisting them in order to keep land for the community development. This case was also discussed in the public forum organized by two NGOs Comfrel and ADHOC between people and parliamentarians represented KPT province. At that time, the district governor promised to resolve it.*

Since the government decided to cut 536,289 ha of fishing lots equivalent to 56.23 % of the total exploitation lots in 2001 in order to put at the people household's disposal with the establishment of Fishery Community it led sometimes to dispute between this community and the group of dry rice farmers who have used water long ago.

*For example, land dispute between fishery community (FiC) and farmer group of dry season rice. The dispute occurred since 2004 during the period of plowing. It caused by the group of farmers*

<sup>34</sup> National Cadastral Commission, the government body in charge of resolving dispute over land without title.



*from Ou Konthor and Baktouk communes, Stung Sen district, came to cultivate dry season rice near Antong Lake (the conservation lake of FiC in Roluos village, Sro Yov commune) and used the water of this lake for irrigating their dry season rice which caused the lake dry up. People who used the water did not stop their activities even the representative of FC asked them to stop. They relied that they have cultivated on this land since 10 years ago. Actually, the case of land dispute between FC and group of people is also occurring in Minav village, Sra Yov commune but the dispute was not referred to the commune level. However, all FCs in KPT province are formal but have not been yet recognized by the fishery office or provincial authorities.*

Also, on 07 April 2006, a meeting was organized under the presidency of H.E provincial governor and the director of Tonle Asp Biophere Reserve, to discuss on converting the former DWR/floating rice land into RR with reservoir construction and respect to the conservation of flooded forest zone and bird zone, and aims to resolve issues concerning the flooded land including new clearing flooded land and not appropriate construction of reservoir, which affected negative on social and environmental situation. Result of this meeting is to set up an Integrated Commission, which is the secretariat of the provincial governor for reservoir development. Concrete duty of this commission is to conduct ESIA and report to the governor. This commission compost of institutions concern, 5 district governors and CCs concern (KSP, 20 April 2006).

## **5.4. Irrigation**

### **5.4.1. Rehabilitation and Construction of reservoir**

The irrigation system development is more considered in the third mandate of the government, and closely correlated with the development of the dry season rice production. It develops in different system depends on location and resources availability.

In KPT, many reservoirs and dams for blocking flooding water were constructed in the former DWR/floating rice areas. Up to June of 2006, there are 71 water reservoirs were re-and constructed for RR in 5 districts (Baray, Santuk, Stung Sen, Kampong Svay and Stoung) (31 in Stoung district, 23 in Stung Sen, 9 in Kampong Svay, 4 in Baray) and 4 in Santuk. But, only 21 (30%) of them were formal/legal with permission of provincial *Deikas* (decision) for construction<sup>35</sup>. However, many reservoirs have been already approved but have not yet started. For example, 30 reservoirs in Stoung district cover 3,444.7 ha and can irrigate 5,546.6 ha of (RR) (with ration 1:1.6). All reservoirs are able to irrigate 17,353 ha<sup>36</sup> of RR land in the Tonle Sap basin of KPT province. This area remains less compare to the vacant grass land of 162,627 ha (PRDC, 2005). Also, there is more big potential to increase the RR production, caused declining the flooded forest land from 109.300 ha in 1985-87 to 84.335 ha in 1996-97 (or -29.6 %) (RK, 04-05 June 2006). Also, the not clear boundary between flooded forest and former DWR field, and different understanding on flooded forest and shrub land of the former DWR/floating rice land led often to dispute between farmers and the FiA. The number of reservoir and land use area for RR in the flooded area in KPT is shown in table below.

<sup>35</sup> Reported by Mr. Nou Hensenara, chief of administration office of PDA-KPT is 29 reservoirs (RK, Jan. 06, 2006).

<sup>36</sup> Report of the provincial governor during the meeting on disaster management dated 27 July 2006, (64 reservoirs), but increase to 71 reservoirs (RK, Nov 02,2006)

Table 2: Reservoirs in Kampong Thom

District	No of reservoir	Permission of provincial deika	Without permission	Land use area For reservoir and RR land (ha)
Baray	4	3	1	6,300
Santuk	4	3	1	2,393
Stung Sen	23 (16)	1	22	10,47
Kampong Svay	9 (7)	9	0	7,267
Stoung	31 (30)	5	26	8,991
Total	71	21 (29.6 %)	50 (70.4)	25,998

Note: in ( ) is the number until 2005 for growing in 2005-06, however there is new constructed in dry season of 2006 (Source: survey with PDA, PDA, 2006, RK, Jan. 06, 2006 and RK, Nov. 02,2006)

In STR, some the canal system was reconstructed for irrigating of rainy season rice, and funded by PLG through Seila program. The affect on land lost in the reservoir was easily resolved by the land consolidation due to the land availability. But, in the ELC area, the natural water courses were filled in for levelled land for tree plantation. Some cases already occurred by the plantation; land was leveled, and natural water course were filled-in (e.g. in O Svay commune, Stung Treng).

In Kandal, there are in total 143 reservoirs covering the areas of 182,849 ha. 134 reservoirs of them are located in the inundated areas, and covers 179,849 ha<sup>37</sup>. All lands of the old irrigation systems are community or public and state properties. People can use those lands but are obligatory to give land back for the common use or for the rehabilitation of the old structure without compensation. But, for the construction of irrigation system in the integrated development zone designated by the Prime Minister in the west of Phnom Penh, those people who lost land can be compensated \$US 0.5 per m<sup>2</sup> (refer to the Art. 5 of the 2001 land law) because it is based around the old structure from Pol Pot time. However, the rehabilitation of “ Ta Mouk reservoir” in Ponhea Leu district, funded by the government of Korea, led to land dispute because people claimed their right on land of RR or dry season rice in the reservoir. Some plots of this land were sold, and the land buyer have tried to fill-in but confronted the prohibition of the authority.

*In Samrong commune, Ponhea Leu district, Kandal more than 100 villagers of 3 villages living near the lake staged a protest in the district on 16 June 2006 over filling-in of Samrong Lake of 500 ha (5 km\*1 km), saying they depended on it for their livelihoods. The villagers hoped the district authorities to confiscate trucks and bulldozers that were used to fill in land within the natural lake. The company began to filling it three years ago. Lake is very important basin for 1,000 families to fish, and get water for farming during the dry season. In this case, District governor said he had ordered the company to temporary cease filling in the lake as they had not been given permission to do so (CD, June 19, 2006).*

In both provinces KPT and KD, the cases have often occurred that fishing lot owners prohibited people from using water for irrigating dry season rice/RR (e.g. fishing lot No 1 in Sankor commune of Kampong Svay district). And, there is opposing interests between farmers who fish as the main activity (e.g. from Ou Konthor and Baktouk communes) and other farmers who grow dry season rice/RR as the main activity (e.g. irrigating rice

<sup>37</sup> Data obtained from the Fishery Office of Kandal (June, 2006).

from Antong Lake in Roulous village, Sroyov commune). The encroachment into the flooded forest land around natural lakes toward the Tonle Sap lake for cultivation of dry season rice/RR has caused destroying aquatic lives such as the loss of big fish: Giant Barb, Mekong Giant Catchfish and Great White Sheatfish, and soil erosion into the natural lakes. The size of lakes become smaller in width, and the water depth is shallower than the decades of 80s. For example,

*Beung Phouk, lake of Phouk located about 13 km from Roca village, Sroyov commune, Stung Sen district, people cleared all flooded forest around the lake for cultivation of dry season rice and for ownership. As the consequence, the water depth in the dry season remains only between 1 and 1.5 m compare to 4.0-5.0 m during 1980s.*

*The same effect occurred for Phaot lake, located between 6 and 10 km from the Sroyov commune office. At the time before 1970, the water depth was between 4 and 5 m during the dry season, but to date, it has declined to about 1-1.8 m.*

*The lake of Praveng, located in Ou Kanthor village, Kampong Roteas commune, Stung Sen and about 16 km west of Kampong Thom town. Before 1970, the water depth was about 2 m during the dry season. But, the natural lake was dried up during the dry season, caused by irrigating the dry season rice and fish catch.*

*Beung (lake) Khel Meas, located about 10 km from Kang Meas village, Tnot commune, Baray district and around 30 km from the Tonle Sap Lake. In the decade of 1970s, it was between 180 and 200 m in width, and the water depth was 4-5 m in the dry season. As the consequence of flooded forest encroachment for dry season rice cultivation, the width become smaller (100-150 m), and the water depth remains 1.5 -2.0 m.*

Despite the natural lake used public drinking water and animal in residential area has involved dispute between villager group and villager as well. For example

*In Samproach commune (Stoung district), a natural lake “Msay” of 0.96 ha for public drinking, irrigating and animal was encroached at beginning of 2005 with putting poles to fence the whole lake for lotus planting by Mr Som kan; a villager who is reservoir owner in flooded are and has certificate of possession since 1994 but only for 936 m<sup>2</sup> (13 m \* 72 m). In this case, the commune councilor and former deputy chief of commune said he never joined to measure it, but think that it is public asset for people of 6 villages of the commune. If the occupant filed the lake the water flow would be impeded. Then, poles were moved out by villagers and 558 people collected thumb print for their representative to complain to provincial court. For this case, the court ruled in favor the villagers but decided to allocate 936m<sup>2</sup> land of the lake to Mr Som Kan as determined by the certificate (RK, Feb 23, 2007).*

It could be concluded that the lack of water for dry season rice/RR and dispute on water have resulted another dynamics of RR production development through reservoir construction in the Tonle Sap basin, on both the flat land and around the natural lake. Despite of the negative effects occurred as descript in 5.4.2. below, but the wetland areas have increased during the dry season. Many reservoirs have been used for both gravity irrigation and fish raising (natural fish stock and fingerling releasing).

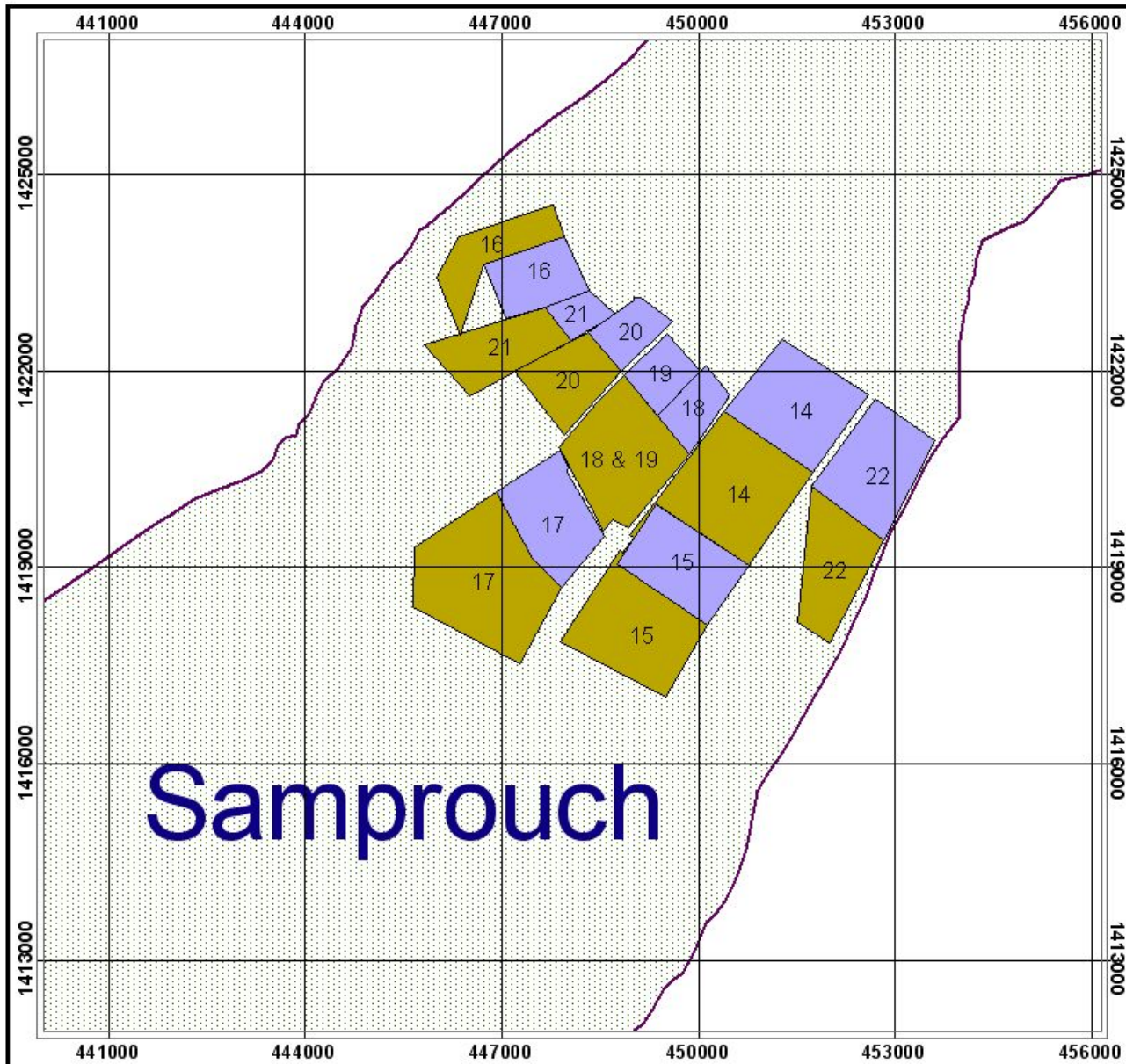


Reservoir in Samprouach commune, Stoung district



Reservoir and temporary settlement on dam in Samprouach commune,

The location and size of reservoirs, which mostly were constructed in 2005, in the flooded area in 3 communes (Samprouach, Chamnar Kraom and Pralay) of Stoung district, are shown in the map below:



**ផែនទីអាច  
យុំ សំរោច**



Coordinate System :  
 Projection : UTM  
 Spheroid : Everest, Zone 48 N  
 Map Datum : Indian 60  
 UTM Grid : 3000 Km  
 Scale : 1/80000  
 Prepared by : PDAKT

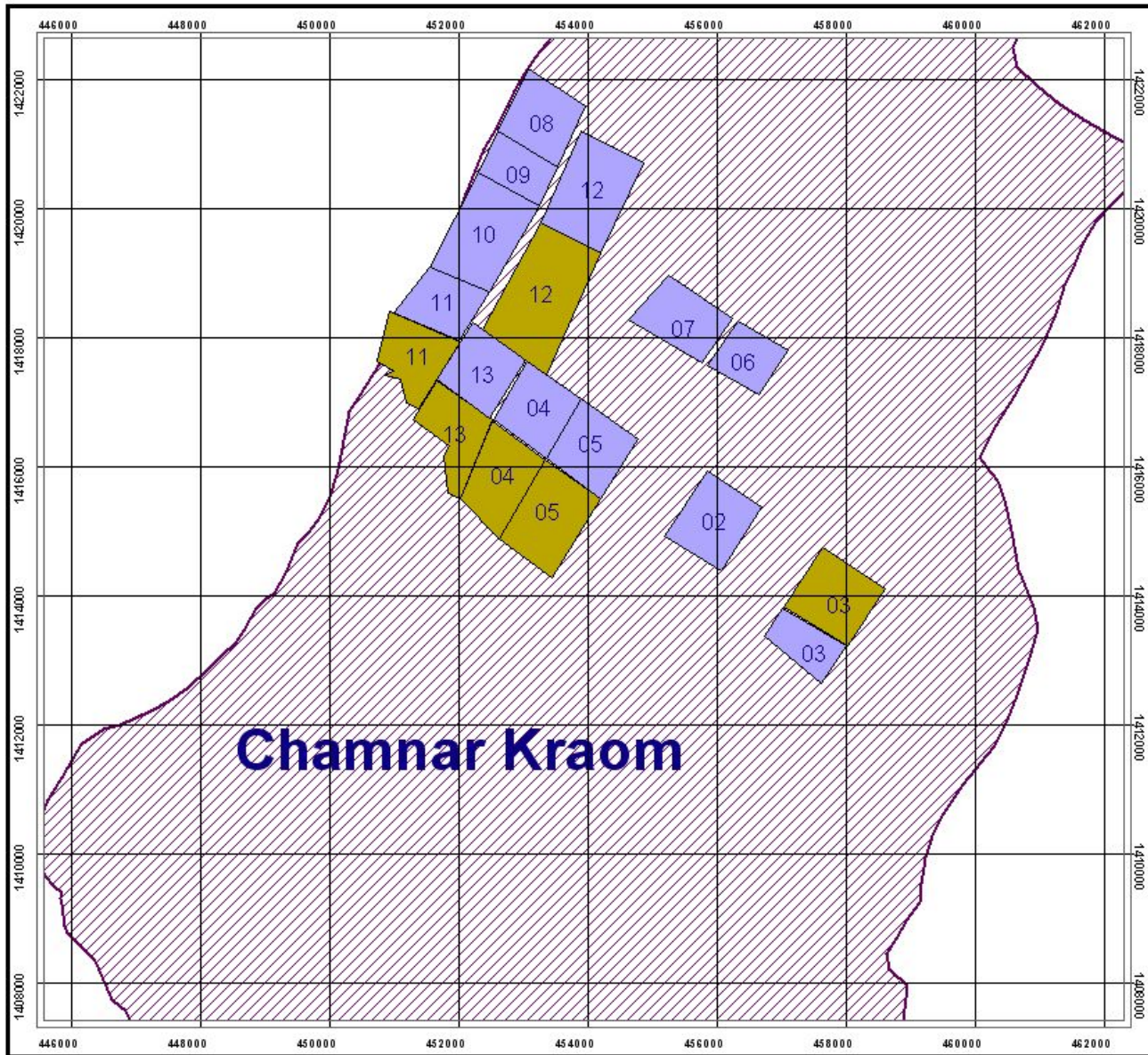
**LEGEND**

- Reservoir*
- Paddy*

**1:80000**

1000 0 1000 2000 Meters





**ផែនទីអាច  
ឃុំ ចំណាមក្រាម**



Coordinate System :  
 Projection : UTM  
 Spheroid : Everest, Zone 48 N  
 Map Datum : Indian 60  
 UTM Grid : 2000 Km  
 Scale : 1/80000  
 Prepared by : PDAKT

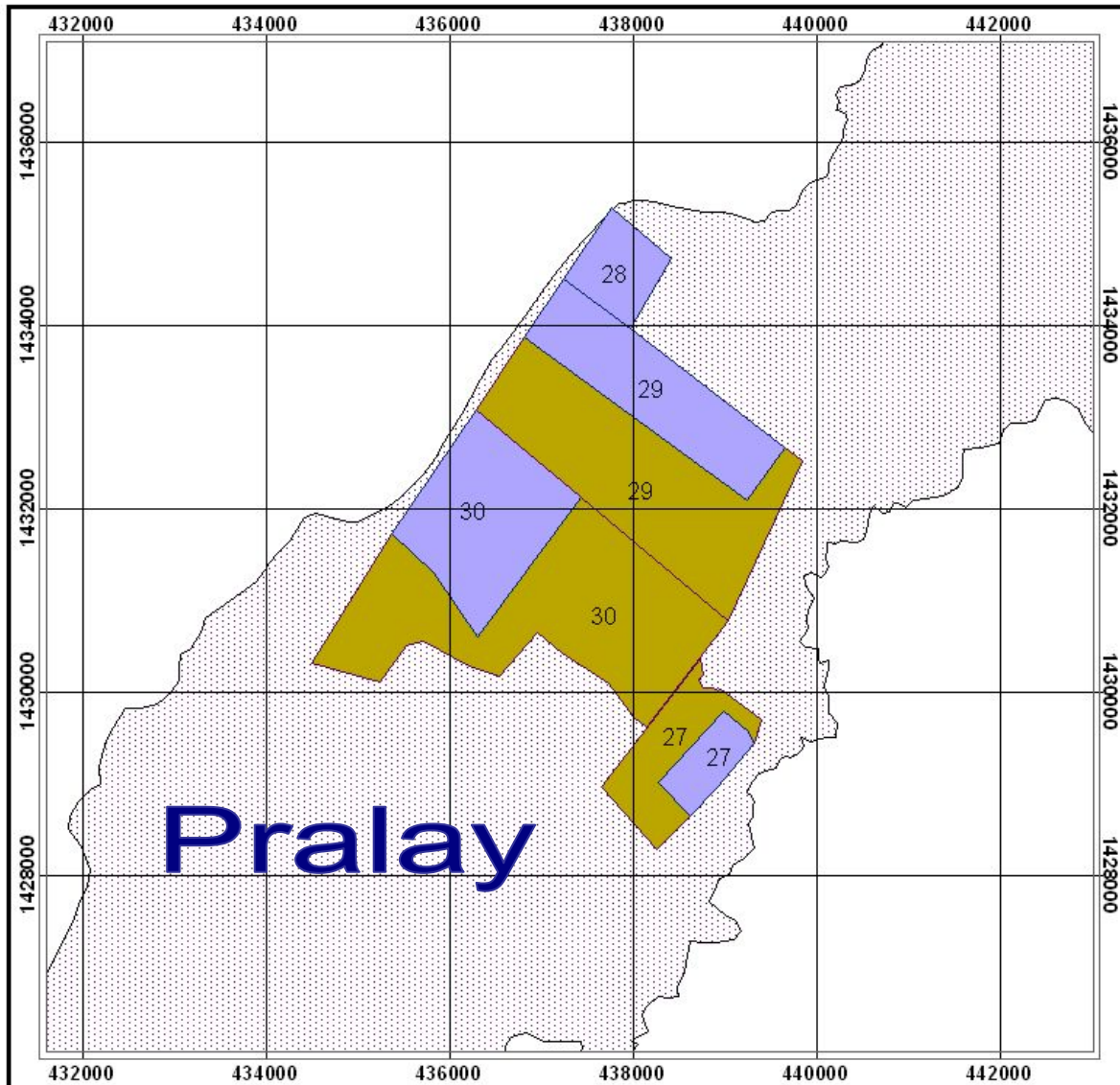
**LEGEND**

- Reservoir*
- Paddy*

**1:80000**

1000 0 1000 2000 Meters





**ផែនទីកាត**  
**ឃុំ ប្រតាលាយ**



Coordinate System :  
 Projection : UTM  
 Spheroid : Everest, Zone 48 N  
 Map Datum : Indian 60  
 UTM Grid : 2000 Km  
 Scale : 1/60000  
 Prepared by : PDA KT

**LEGEND**

- Reservoir*
- Paddy*

1:60000

600 0 600 1200 1800 Meters

#### 5.4.2. Affect of reservoir in the flooded area

As mentioned above, the constructed reservoirs, particularly in KPT, have given a good potential for increasing the RR production instead of decreasing of DWR/floating rice, and provided another new activity instead of NTFP collection and selling labor for wood exploitation. But, the reservoir dams have impeded the water flow naturally from upper land, and affected the livelihood of many small farmers, and have caused the conflicts between reservoir owner and farmers. The reasons of dispute are:

- The owner of upper land, farmers, can not plow land for broadcasting on time because land is submerged by deeply water;
- Rice was harvested in water even though in the dry season, and lost of harvest product by submerged water is high;
- Ox-cart paths were blocked or crossing of the dam is become more difficult.

However, for those farmers who used to sell labor for keeping cattle during the dry season faced the lack of place for cattle grazing, and abandoned this complementary activity. Farmers/community fishery complained of the lack of water for cattle and lost of fishing area because the natural lakes were enclosed by the dams (See cases in 5.1.2 and 5.3.5). Many farmers often complained that their cattle get deceases due to residue of pesticide.

Also, it should be refer to the article 58 and 144 of the 2001 land law, in which it states:

*“A land concession can only be granted on lands that are part of the private property of the State. The land concession may not violate roadways or .....or their borders and the ground necessary for their maintenance, nor to waterways, pools, ponds and water reserves to be used by the people in their daily lives “ (Art. 58), and “Lower land shall receive waters flowing naturally from upper land. The owner of lower land may not build dams, dikes, barriers, or other works to impede the water flow. The owner of the upper land may not do anything that would aggravate the easement of the lower land.*

#### 5.5. Land brokerage

##### 5.5.1. Land market brokerage

Most cases of land sale and purchase happened without the intervention of land broker but since 2004, the purchase and sale of big land for both upper land extending into degraded forest and DWR land usually intervened by the brokers of the chiefs of village. Other land brokers are such as villager, money borrower, urban dweller, motorbike repairer and land keeper. They did brokerage to earn additional income. For villagers, they are also rice farmers and/or cattle trader.

The chiefs of village and commune were requested to persuade villagers to sell former DWR lands, to share land in return of water or register those farmers who want to grow RR in making sharecropping with reservoir owners. They assisted concessionaires by making borrowing contract, in which it states farmers agreed to loan the former DWR land to concessionaires. For some case, the company requested the urban dweller broker to seek villagers who want to sell land in zones determined by the company. In Kampong Reussei commune, one case was noted that a rich man from Phnom Penh bought land from villagers who were not able to repay his loan, and bought land from other money borrowers of the bank through his client. The chief of this commune was proposed \$US 2,000 by the company for seeking to purchase 100 ha of land. There are also linkage between urban broker and local broker. For many cases, the local authorities persuaded their villagers to sell abandoned DWR land to the urban/rich people.

*For example, in Kok Ngoun village, Kampong Russei commne, KPT, the chief of village received 10,000 riels per ha for brokerage of land sale from his villagers. Also, the land buyer pays between 10,000-20,000 riels per plot or hectare for changing name at the village and commune levels. But, in the most cases, they take money for recognizing signature on sale contract from land seller or someone who made the sale contract. The village chief plays another important role as land broker. Farmers sold DWR lands following farmers in the neighboring village of Krasaing in which all farmers sold DWR lands in 1998 to an urban dweller and also powerful man who used also to negotiate with farmers in Kok Nguon for buying DWR land but did not reach an agreement on land price. In 2005, 99 farmers (69.7% of the total households) through the village chief, agreed to sell all their DWR land to another urban dweller, a former official of provincial rural development department (Mr. Moul Kim Oun) but the land price was lower (\$ 13 for regenerate forest/shrub land to 25 for cleared land) than before. Those farmers who did not want to sell their land were threatened to follow other farmers who sold land “if you did not sell land you throw the money” (Beu neak min lak dei neak noeung choal luy heu), its means DWR land will be expropriated as well because they abandoned it since the end of 1980s. In particular, who did not have draft animals could not remember their DWR plots where they are. The village chief arranged meeting in order to facilitate farmers to sell all 300 ha of their DWR land. Then, he went to meet the land buyer in the provincial capital. In this case, all farmers agreed to pay mediator cost, 10,000 riels each. And, the broker might get also the brokerage fee from the land buyer. Moreover, each farmer contributed other 10,000 riels for the community box which established after selling land. All 99 farmers are members of the community box/caisse, and elected a box management committee composes of 5 members. The chief of village, a land broker, was elected as the chairman. Currently, all money were lent to its members with the monthly interest rate of 4 percent, and 1 percent of them is for management cost according to the internal regulation. Each member can borrow up to 150,000 riels/ time or cycle. The money from collected interest will be used for the village development project according to the participatory discussion.*

### 5.5.2. Legal brokerage

There are many stakeholder groups working on land issue. In KPT, they are the ministry of land management, the provincial governor, PDA, FiA, FA, PDE, PDLMUPC, DOWRAM, Parliamentarian, human right organizations such: ADHOC, Comfrel, LICAHDO, and development NGOs: GTZ, HAGAR. The National Authority on Land Dispute Resolution (NALDR) was established by the Royal Decree in February, 2006, and the composition of NALDR was issued by the sub decree in March, 2006 in order to resolve land disputes referred by the NCC. The NALDR has requested the provincial authorities to investigate illegal occupied land and repossess it for state land.

#### **Ministry of land management, urban planning and construction (MLMUPC) and GTZ**

Identifying the land registration process led us to understand the intervention of the government in preventing and resolving land dispute. LMAP of MLMUPC has conducted the systematic land registration (SLR). However, land registration and titling can be processed in two ways: sporadic land registration and systematic land registration.

##### Sporadic land registration:

Between 1992 and 2002, the department of cadastre, currently DLMUPC, conducted sporadic land registration. In particular, there was application for land possession in Stung Sen, the urban district, more than other districts. Around 30% of residential lands in Stung Sen district has certificate of land possession to be provided in the early 1990s.

##### Systematic land registration (SLR)

In 1997, the pilot project of SLR was conducted with the technical assistance and fund of GTZ in the commune of Kokoh, Santuk district. Lesson learned from this pilot project are based for implementing SLR project in 11 provinces for the first five years (2002-2007). DLMUPC in cooperation with LMAP and other program has conducted the SLR commune by commune (see also 5.3.1).

Most of rural land of succession and sale has changed hand without registration at OLMUPCC. Land sales have changed hand mostly at the commune office but not all. Land sales have also arranged without informing the commune authorities. All land right transfers were recently changed name to the successors or land buyers during the SLR. For example, in Chroab commune, 30 percent of the total registered plots (2992) of land, including DWR rice land changed hand to their successors through heritage and 1 percent to the land buyers during the SLR<sup>38</sup> in 2005. Similarly, in Sroyov commune, 30 % of the total registered plots, particularly DWR/floating rice lands

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<sup>38</sup> Interviewed with Mr Yin Phan, Chief of OLMUPCC and member of SLR team of LMAP.

changed hands to the new landowner through sale/purchase, heritance and gift. In 2004, in Tipou and Chroab communes of Santuk district, many people are reluctant to hold titles, and complained of the lack of money for contribution fee<sup>39</sup>.

### **Fishery administration (FiA)**

The FiA plays a main role in the facilitation of the establishment of FiC and flooded forest management. However, there are disputes occurred between the FiA and RR farmers because the flooded forest boundary is still not delineated, and there is different understanding between the flooded forest land and the former DWR/floating rice land with re-growing grass and shrub.

### **ADHOC, LICAHDO**

The two human right NGOs have tried to assist people by organizing the training on land law and workshop on land issue. They have assisted people involved with land dispute how file complaints, and monitored complaints that have been referred to the court or cadastral commissions. They also monitor land dispute process and help the project affected people.

### **Comfrel**

Comfrel, an NGO, in cooperation with ADHOC have organized the public forum between people and parliamentarians from all parties represented in KPT. In the forum, the farmers or their representatives have an opportunity to report, ask and complain on land disputes to parliamentarians. Usually, they promised to pass cases of disputes to the parliamentarian commission on human rights, protection and reception of complaints and to the prime minister.

### **HAGAR**

HAGAR is an NGO working on helping vulnerable women access to land since 1998 by providing land as SLC, and implementing Community Development Program by development of agriculture.

### **Local authorities**

The chief of village and commune persuaded villagers to loan or sell the flooded land to the concessionaires. They employ also local customs to resolve disputes between neighbors or within a family, while at the same time representing the legal authority of the government. The village chief help facilitate the negotiation and agreement when the parties themselves cannot reach agreement. If the parties involved in land dispute disagree or land dispute is unresolved they refer the complaint to the commune development councilors, but called the chief of commune. Sometimes, people

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<sup>39</sup> For new land policy, LMAP claims for people's contribution for land tilting, about 1 riel / m<sup>2</sup> for agricultural land, 10 Riels for rural residential land, and 20 Riels for urban residential land.

complained to the district cadastral commission (DCC) when the case was unresolved at the commune level or they do not agree the resolution.

### **Administrative Commission (AC)**

In the SLR zones, AC was set up, and has the roles and responsibility to resolve land dispute, as part of the SLR process; both AC and SLR will ended at the same time when the SLR will has ended. The AC was comprised of the vice director of DLMUPC, chief of OLMUPC, 3 commune councilors, chief of village and two village elders. Disputes not resolved by the AC has to be transferred to the national cadastral commission (NCC). However, many cases of land dispute remain unresolved, and lands remain without title.

### **NALDR and the Provincial Governor**

Recently, the provincial governor issued 4 *Deikas* (decisions) in May, 2006 to repossess 1,200 ha of the state forest land in the communes of Kampong Thmor and Beung Lvea (Santuk district) and Mean Rith (Sandan districts) at the request of NALDR, and *refer to the Regulation No 01 Bor Bor issued in May 10, 2006 on the prevention of forest clearance to claim land ownership*. The repossessed state land will be used for reforestation and social land concession refer to the recommendation of the Prime Minister. However, up to the mid-June 2006, the authorities of KPT (Forest Administration and provincial deputy governor) found that other 12, 083 ha (3, 493 ha in Stoung district, 2,055 ha in Prasat Sambo, 327 ha in Sandan, 2679 ha in Prasat Ballang and 1,114 ha in Kampong Svay) were cleared for illegal ownership, and those land would be repossessed for the state land by the issuance of new *Deikas*<sup>40</sup>.

In Stung Treng, 4,755 ha were expropriated, and the province was selected by the government as the comprehensive model for implementing the SLC program.

### **Parliamentarian**

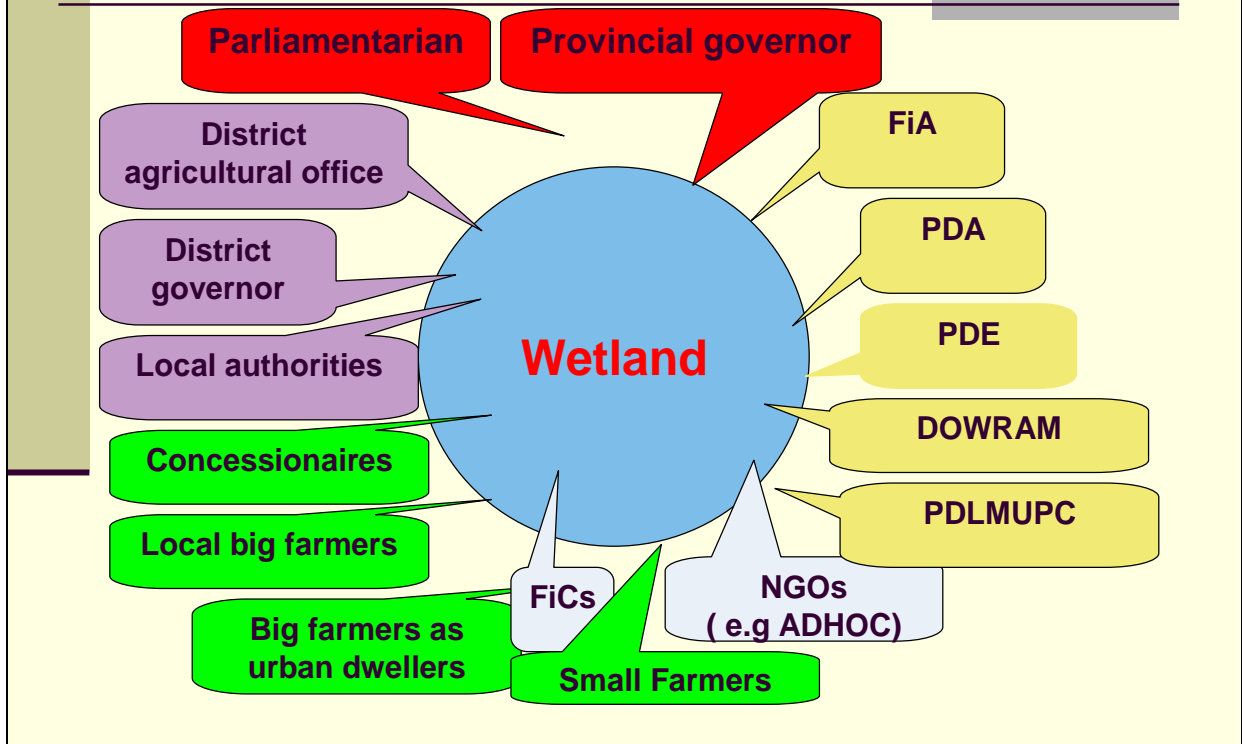
The parliamentarians play an important actor in resolving land dispute. Sometimes, they resolved land dispute easily by conciliation based on equity principle. For example, in KPT, the first president of National Assembly resolved dispute on right of DWR/floating rice land in Chamnar commune, Stung district, between the local authority and 100 farm-households with the allocation of 50% of land size to farmers and other for ELC offered by the local authorities (KSP, Aug.15, 2006).

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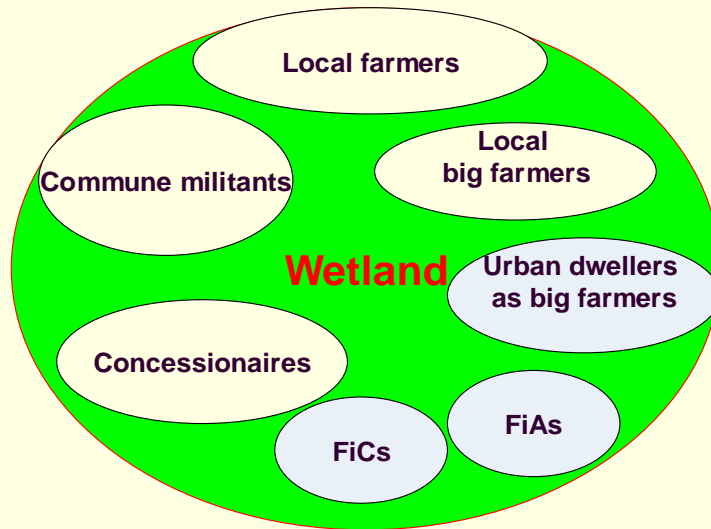
<sup>40</sup> Rasmei Kampuchea Daily, June 15,2006.



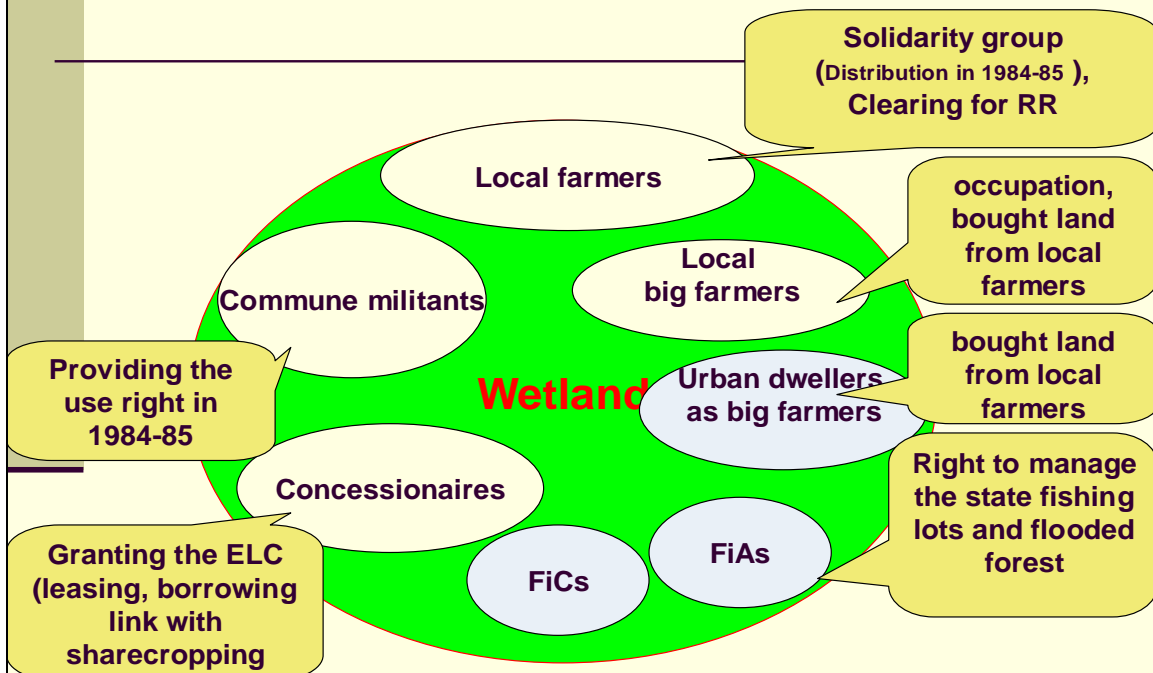
# Stakeholders involved in wetland issue



# Land Owners in wetland



# Land Owners in wetland





A reservoir in Kampong Svay D., KPT



For Acacia plantation in Sralau C., Baray D., KPT



Settlement of fishermen in Sralau C., Baray D., KPT



For Acacia plantation in Sralau C., Baray D., KPT

## **6. Conclusion and Recommendation**

### **6.1. Conclusion**

Based on the sectoral policy review on agriculture, land/land use and irrigation and findings obtained the field study in the three selected provinces, the conclusion could be drawn as the following:

#### **Agriculture**

- Refer to the food security policy and at the request of both leaders; the Prime Minister and Minister of MAFF, the rice production has rapidly increased particularly receding rice (RR) or dry season rice. Actually, RR production has increased at the expense of flooded area such as the expansion in the flooded land, and has significantly correlated with the increasing use of chemical fertilizer and pesticides. However, the use of agro-chemicals is still incorrect. Pesticides banned remain use by RR farmers in the flooded area. The intensive RR lead to indiscreet and risky application of pesticides and fertilizers with insufficient experience, lack of proper knowledge and poor information. Overuse fertilizer and pesticide will cause adverse effects in the wetland. Disposal of empty pesticide containers at the edges of rice fields, is also very concern.
- Also, the government tries to increase the agricultural productivity by promoting agricultural intensification and distribution of fertilizers and rural credit. This strategy is likely to increase use of agro-chemicals that will cause adverse effects in the wetlands.
- The ecological agriculture development contributes to sustainable natural resources management and conservation but the practice is still limited for small farmers. The strategic SRI likely do not appropriate for RR in the flooded area of Tonle Sap basin due to big rice land/big farmer, fast water receding and lack of labor. RR intensification is likely need more and more agro chemicals use, which could cause ecological and social problems.

#### **Land/ land use**

- Land use was very dynamics in both wetland and upland, and has correlated with the change of land right as well. Banning of the forest exploitation and offering the ELCs have caused pressure on wetlands with the expansion of cultivated land and rehabilitation of DWR/floating land, increasing of fishing and fuel wood collection for selling. However, many natural lakes become reservoir, whereas access to family fishing and cattle raising are prohibited.
- Since the end of 1990s, many urban dwellers show their interest in buying the flooded land for development. Many big land buyers are interested in RR production and integrated farming, particularly, in KPT on the former DWR land, as the results of

limited potentials to run off-farm business. The agricultural production development has an effect on change of land right, in which the modalities of access to flooded land are: encroachment, purchase, granting the ELC and sharecropping. However, the improper process of these land transaction modalities led to dispute as land right had been not clear before investment started. However, sharecropping would be changed to renting and selling water for easy management.

- Since 2005, those investors who want to invest in RR production have to buy the use rights of former DWR/floating rice land before submit the proposal for getting ELC. Land would be repossessed as state land when the contract will terminate. *The provincial authority intend to preserve those lands as the state property refers to the 1992 land law even though it was un-validated since the issuance of 2001 land law.* Also, this intension may confront complaints of those (big) farmers who have consecutively possessed land since the end 1980s. However, the process should be consistent for all flooded rice lands whilst other land buyer can get ownership right. Thus, it should be a model of secure/peacefully repossession of state land from illegal occupants through economic expropriation, and roles of private sector in repossession of state land.
- The type of land dispute changed from dispute over boundaries to unclear land right. Also, the private investment in flooded land and former DWR/floating rice land, and granting ELC to concessionaires led/confronted to many cases of land disputes. Those farmers who abandoned DWR/floating rice land more than three years tried to claim their land back from new occupants or concessionaire and to repossess their land. Both; farmers and land buyers claimed to protect their right on flooded land occupied before the issuance of the 2001 land law. Moreover, ignoring the right of *chamka chas*, fallow land of the indigenous farmers led also to dispute and land lost. Lack of land and declining of NTFP collection area have caused increasing of fishing activity, and the pressure on wetlands.
- The rehabilitation of long un-used DWR land, clearing flooded shrub / forest often confronts the fishery administration due to different interpretations of “flooded forest” and “former DWR/floating rice land with re-generating shrub/forest”.
- There are many legal instruments (policy, law, sub-decree,...) issued, aim to manage land and water for use in a sustainable way. But, the enforcement of these instruments is limited due to many causes, including political pressure, lack of coordination between government institutions, overlapping the rules and responsibility and lack of information. Land grabbing and encroachment into both forest and flooded forest land were serious issues since the mid of 1990s when Cambodia is pushing for more privatization, paved road, tourism and plantation development whilst land right had been not clear and without demarcation of state land before investment started.

## **Irrigation**

- The re-and constructed reservoirs have given a good potential for increasing the RR production, as providing another new activity instead of NTFP collection and selling labor for wood exploitation. But, many natural lakes become reservoirs, and the re-and constructed reservoir/dams without technical assistance have impeded the water flow naturally from upper land, affected the livelihood of others small farmers, and have caused many types of conflicts, including between reservoir owner and farmers/fishers. More and more, the new settlements in the flooded/fishery area have increased, causing more and more flooded forest encroachment and fuel wood cutting, causing the change of wetland quality.
- Reservoirs in the floodplain of Tonle Sap have made the wetland increase in quantity in the dry season, as a main strategic for irrigated water development and fish fattening/aquaculture activities but the use right of natural lakes changed from people/small fishers to the concessionaires.

## **6.2. Policy recommendations**

### **Pesticide use**

- Identify the cause of decline in fish catches, cattle disease and increase protection of fish stocks by implementing existing regulations and/or reducing pesticide use. It is needed to enforce the Article 11 and 14 of the sub decree No 69, and Article 22 of the 2006 Fishery Law.
- Providing of micro credit to rice farmers should be link with training/education on how to use pesticides correctly and safety.

### **Receding rice production**

- Promote more input-efficient methods of growing dry season rice or recession rice, such as encouraging farmers to follow 12 principles of System of Rice Intensification (SRI), but SRI principles should be developed according to different agro-ecosystem/growing condition such as the floodplain/wetland area, aims to reduce the use of seed and agro-chemicals Also, guidelines for sustainable agriculture practices according to agricultural system in the flooded area or wetland should be developed.
- Promote establishment and empowerment of fisheries community and water user community, and a good coordination between both communities on water sharing.



## **Land encroachment**

- The term of flooded forest should be clear defined and the flooded areas should be clear demarcated. Between former DWR/floating rice land with re-growing tree and shrub-grass and flooded forest should be clear differentiated, aim to prevent land dispute and land loss.
- Strategy and master plan for floodplain or flooded area in the Tonle Sap basin should be rapidly established with regards to holistic/system management including the wetlands and environmental protection. (also one of six objectives of land management policy is improve management of the Tonle Sap ecosystem). Then, land use planning with people's participation in the flooded area/floodplain should be accelerated.
- New settlement (temporary or permanent) in the flooded areas should be well monitored, and the affect on wetlands should be furthermore researched.

## **Economic land concession (ELC)**

At a minimum, all ELC should be developed within the bounds of Cambodian Law, including the 2001 Land Law, the 1996 Law on Environmental Protection and Natural Resource Management, 2006 Fishery Law, and relevant sub-decrees as they are passed. This includes:

- An instruction concerning the formalities and procedures for Environmental and Social Impact Assessment (ESIA) should be issued, and not only focus on land right, aims to assess the impact on water resources and wetland, properly. And, the roles of Ministry of Environment should be fair recognized in conducting ESIA in order to get a balance between environment, social and economics.
- Submission and approval by the appropriate ministries/department of an ESIA should occur before any economic concession commences activity. The ESIA should, furthermore, be made available to stakeholder and in particular the affected communities, to allow meaningful participation in the approval process. (Strategic Environmental Assessment needs to be in place before the development or economic concession activity)
- ELC should only be granted on legally registered as private property of the state. The article 4 of the sub decree No 146 on ELC (2005) should be enforced, and the linkages and mutual support between SLC and ELC shall be considered.
- The government should recognize the right of farmers on former DWR/floating rice land even though they abandoned due to many reasons. Community chamkar land in the upland area and former DWR/floating rice land that people possessed should be registered in a communal land titling, collective ownership, aims to reserve for

long-term population growth , avoid land selling, and at least people could lease together to the investor..

- Plantation, as monoculture, should be established but the natural forest/shrub or flooded forest/shrub area need to be conserve between plantations as well in order to reduce damage of natural eco-system.

### **Reservoir and irrigation development**

- The dam of reservoir should be built on flat land, not crossing the lowland of water course, not to impede the water flow naturally from upper land or upstream, by enforcement of the article 69 of the 2001 land law.
- The natural lakes, which are enclosed by the dam of reservoir, should be allowed people to fish (Art.15 of 2001 land law).
- Shrub and grass in the reservoir should be well preserved in order to keep fresh water with quality for irrigating and aquatic lives.
- Reservoir and receding rice field should be constructed with an optimum distance one by one in order to keep balance between farm land and flooded shrub/grass land.

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		449364	1419963		449369	1419963			
		448764	1419049		448764	1419049			
		450140	1418127		450140	1418127			
					449510	1417023			
					447904	1417874			
					448798	1419273			
					448843	1419235			
					449026	1419464			
					448966	1419408			
Chea Kimhov	Samproach	447079	1422802	120.394	447957	1424050	128.244		16
		447657	1422977		447797	1424545			
		448348	1423229		446357	1424063			
		447957	1424050		446007	1423452			
		446722	1423628		446380	1422553			
					446722	1423628			
Kong Vong	Samproach	447911	1418687	179.394	447911	1418687	360.533		17

		448576	1419483		446919	1420166				
		447997	1420455		445681	1419315				
		448020	1420547		445643	1418392				
		447902	1420786		447286	1417524				
		446919	1420166		447911	1418687				
		447476	1419135							
		447911	1418687							
Som Korn	Samproach	450480	1421646	71.759	449861	1420728	255.034	1	18	
		450445	1421560		448871	1421933				
		449861	1420728		448473	1421538				
		449374	1421328		447883	1420839				
		450113	1422079	447945	1420719					
		449374	1421328	71.704	448545	1419568		2	19	
		450033	1422003		448698	1419742				
		449521	1422571		448946	1419615				
		448871	1421933							
		448826	1421995	71.86	448826	1421995		128.603	3	20
		449608	1422765		448312	1422596				
		449119	1423120		447195	1421996				
		449021	1423128		447965	1421019				
		449011	1423081							
448312	1422596									
Chun Chheng Pom	Samproach	448060	1422467	43.391	448060	1422467	147.618		21	
		448753	1422868		447654	1422975				
		448344	1423228		445818	1322409				
		447654	1422975		446527	1421629				
Horn Ol	Samproach	453614	1420952	206.28			173.723		22	
		452708	1421568							
		451740	1420240							
		452833	1419414							
Tuok Bunthorn	Samproach and Msar Krong	446904	1424708	122.602	446904	1424708	128.946		23	
		446475	1425650		445243	1423760				
		447561	1426091		445011	1424048				
		447851	1425118		445650	1424567				
					445634	1424637				
					445699	1424761				
					445933	1424955				
					445909	1425020				
					445936	1425226				
					446262	1425289				
					446454	1425327				
					446383	1425440				

					446373	1425516							
					446475	1425650							
					443832	1423166							
					443826	1423173							
					444391	1423563	13.401						
					444691	1423802							
					444853	1423600							
Heng SeayTha	Msar Krong	445566	1424512	44.213	444565	1424708	70.996	1	24				
		444940	1424050		444573	1424673							
		444597	1424669		444988	1424042							
		445123	1424941		444760	1423883							
					444567	1423798							
					444042	1424186							
					443772	1423994							
					443689	1424624							
					443934	1424698							
					443962	1424562							
		443970	1424575		16.708	444557				1424675	20.83	2	25
		443922	1424796			444511				1425045			
		444502	1425036			445050				1427275			
		444558	1424719			445123				1424941			
Lao Bunthan	Msar Krong	440922	1425410	30.713	441395	1425588	26.855		26				
		441395	1425588		441096	1426219							
		441096	1426219		441281	1426402							
		440714	1425952		441826	1425718							
Keo Savin	Pralay	439259	1429571	53.623	438989	1429592	115.904		27				
		439264	1429549		439259	1429571							
		439330	1429449		439264	1429549							
		438925	1428970		439330	1429449							
		438625	1428656		439406	1429706							
		438277	1429019		438965	1430035							
		438989	1429792		438934	1430021							
					438873	1430047							
					438768	1430053							
					438718	1430151							
					438769	1430191							
					438737	1430383							
					437662	1428936							
					438276	1428290							
					438625	1428656							
					438277	1429019							

Tuk Buntorn	Pralay	437771	1435291	79.419			1	28	
		437244	1434519						
		437976	1433969						
		438411	1434744						
Tuk Buntorn	Pralay	437244	1434519	225.707	436812	1433876	390.393	2	29
		436812	1433876		439244	1432095			
		439244	1432095		439655	1432678			
		439665	1432678		439851	1432531			
		437976	1433969		439039	1430780			
					437432	1432134			
					436287	1433091			
	Pralay	436287	1433091	249.698	435367	1431728	473.859	3	30
		435374	1431729		434495	1430317			
		435827	1431309		435238	1430108			
		436299	1430609		435529	1430514			
		437432	1432134		435709	1430566			
					436214	1430294			
					436537	1430182			
					436953	1430648			
					437230	1430438			
					437730	1430096			
					437998	1429739			
					438154	1429617			
		439039	1430780						
		437432	1432134						
		436299	1430609						
		435827	1431309						

## Annex 2: Economic Land Concession (ELC) and Land sale led to dispute

No	Company/ Individual Name	ELC Size (ha)	Duration of Contract (Years)	Date of Signing Contract	Location	Sources
<b>1. Stung Treng Province</b>						
1	GREEN SEA INDUSTRY CO., Ltd (Mong Rithy; the company governor)	100,852	70	23.11.2001	Seam Pang and Stung Treng districts	MAFF, RK, July 18, 2006
2	G.G World Group (Cambodia) Development; Ltd	5,000	70	18.05. 2005	Stung Treng district	MAFF
3	Tapioca Starch Production Co.,Ltd (Company of Cassava Powder Production)	7,400		13.11.1999	Ou Svay commune (Thala Barivat), and Sammaki commune (Stun Treng distict)	Interview with Ou Svay commune Chief, Application, field observat. MAFF
4	Sal Sophea Peanich Co.;Ltd	9,917	Both companies are believed to be owned by <i>oknha</i> Na Marady.	08. 08.2005 (for both)	Communes (3): Kbal Romeas, Kom Phun and Phluk, Sesan district, 57 km from Stung Treng town, straddling the NR 78.	PPP, Oct. 23 , 2005. RK, April 19 2006, Field study, MAFF
5	Sopheak Nika Investment Agro-Industrial plants Co.,Ltd	10,000				
<b>New Application for ELC in Stung Treng, in 2005</b>						
6	Sok Heng company Ltd.	9,345			Sdov commune, Se San district.	Application form of ELC' s company, PDE
7	Phu Mardy Investment Group	18,519			Srea Kor, Talat commune, Sesan district.	Application of the company, PDE
8	Sy Gak Investment	15,918			Kbal Romeas commune, Sesan district.	Application of the company, PDE
9	GRAND LAND AGRICULTUR AL DEVELOPME NT (Cambodia)	9,854	Conducting the ESIA for application		Khbal Romeas, Kamphun and Phluk commune, Sesan district, about 57 km from provincial town	Document of ESIA, PDE



	Co; Ltd					
10	Cambodia Farm Investment	13,993		Conducting the ESIA for application	Communes (6): Stung Treng, Ou Ruessei Kandal, Preah Bat, Kaoh Sampeay, Sre Krasaing and Ou Mreah (Stung Treng and Siem Bouk)	Document of ESIA, PDE
	<b>Total</b>	<b>200,798</b>				
<b>2-Kompong Thom Province</b>						
1	Cambodia Eversky	10,000	70	03/01/1998		MAFF, Document
2	Cam Chi International Agriculture Development	26,500	70	03/03/2000	<i>Is requesting to cancel</i>	<i>Application form of ELC's company</i>
3	State Rubber Company of Tumring	4,325 (929)	legal	Sub-decree in Aug.2001	Tom Ring commune, Sandan district. (929; it is family rubber)	Sub decree, NGO Forum on Cambodia, 2005
4	AN Mardy Group	9,863	legal	09/05/2005		MAFF, Field interview
5	HMH Co,Ltd	Over 5,000		?	Krayea commune, Santuk district, for wood fast growing tree (acacia..)	RK, 02/11/2006
6	Mean Rith Group	9,900		?	Communes: Beung Lvea, Krayea (Santuk)	RK, 02/11/2006
7	Gold Svay Sen (Cambodia) Asia Import Export Constuction company	8,328		?	Krayea commune (santuk), for cultivation of acacia, cassava, animal raising	RK, 02/11/2006
8	HKP Co, Lt.	2,100		?	Sralau commune (Baray district), for cultivation of acacia	RK, 02/11/2006
9	Khmer Association of Ou Chhlang	2,100		Provincial deika, 10 April 2006	Sralau commune (Baray)	Provincial deika
10	Mr. Prak Sovann (association will be set up)	1250		New, submit proposal to governor in March 2006		Proposal
11	Granting former DWR/floating rice lands (with			21 (30%) reservoirs with	In 5 districts: Baray, Santuk, Steung Sen, Kampong Svay,	Deikas, Survey, GPS using with

	71 reservoirs)			permission of the provincial deikas	Stoung)	observation
<b>3- Kandal Province: Land buying/investment in the wetland, and involved with disputes (dispute between people and fishery official, between people and company, and between people and local leaders.</b>						
No	Reason of dispute	Land size involved (ha)	Parties involved with land dispute			
1	Land grabbing (buying by installment, encroachment into dry season rice land nearby that farmers did not agree to sell).	200	Between Phan Emix company and people of 3 communes (Kampong Luong, Phsar Deak and Preak Tatean), Ponnhea Leu district		Popular Magazine	
	The Phan Emix Company want to buy land up to 1,000 ha, including over many hundreds hectares of flooded land, but farmers refuse to sell land		Between Phan Emix and 100 people living in Po Touch village, as representatives of 7 households involved with land dispute, Kampong Luong commune, Ponhea Leu district.		RK, April 19 2006, Field survey	
			Between Phan Emix Company and villagers of 3 villages of Kampong Luong commune, Ponhea Leu district, on 78ha of 200ha		RK, 14-15. May, 2006, Field survey	
2	Sales of DSR land to outsiders without informing the people by the local leaders (accused)	200	Between the chiefs of village and commune and 300 farm-households in Prek Sleng village, Ta Lon commune, Saang district		RK, 12 May 2006, Field survey	
3	Dispute on administrative boundary.	100	Between people of Koki Thom commune, Kean Svay district and people of village No 5 or Ta Yo village of Ta Lon commune, Saang district. Ta Yo villagers occupied flooded land for RR since 1980s but land under the administration of Koki commune. Also, people claim their right on flooded land, located in their commune and district administration.		RK, 12. May, 2006, Field survey	
4	Buying the flooded land of DSR in the community fishing lots with intension to encroach in flooded forest land nearby for integrated faming	1,690	Mr Dy Po, a rich man who bought flooded land from people for investment in farming but he accused of grabbing the community fishing lots and flooded forest land by MAFF, in Kampong Os commune, Ponhea Leu district. Also, people confused that they have right to sell the community fishing area released by the MAFF.		Field survey , KSP, 02 March, 2006	
5	Dispute on un-clear right	200	Between Phan Emix and 200		Field survey,	

	of flooded land		households in Veal Sbov village Prek Eng commune, Kean Svay district,	RK, 09 May, 2006
6	Dispute on Filling-in the natural lake (5000 m* 1000 m) (by protest dated 16 June 2006 in the district)	20	Dispute between an unknown company and 1,000 households living in 3 villages (Samrong Khang Cheung, S. Kandal and S. Khang Thboung) Samrong commune, Ponhea Leu district.	Field survey KSP,17-18 June, 2006
7	Dispute on right of wetland in the flooded land	4	Dispute between Phan Emix Company and Sovann Koma Organization in Veal Sbov commune, Kean Svay district. . Sovann Koma accused the company of grabbing its land.	RK,01 June 2006
8	Dispute between Kamfit, a NGO and local authorities and 1,082 families living in two communes (Banteay Deak and Somrong Thom), of Kean Svay district.	Over 2,000	Peoples accused the local authorities and Kamfit organization, a NGO, of grabbing their land that they occupied since 1980s for cultivation of DSR. Kamfit transferred land to a rich and powerful man for the cultivation of DSR trough reservoir. The investor plans to make sharecropping with farmers.	RK,17 June 2006, Field survey
9	Illegal selling the natural lake of fishing lot by the local leaders	Natural lake in fishing lot No 13	Dispute between 71 people and 7 local leaders on sale of natural lake with the fake document in Bakkheng village, Bakkheng commune, Muk Kampoul district. People complained to the provincial court, and the court ruled in favor of the people.	RK, 01 Aug. 2006,

### Annex 3: Name of Key persons

Date	Name	Function	Telephone
<b>Phnom Penh</b>			
	Am Sokha	Senior Program Officer of CLEC, <a href="mailto:amokha@clec.org.kh">amokha@clec.org.kh</a> <a href="mailto:sokhaam2004@yahoo.com">sokhaam2004@yahoo.com</a>	012 837 554 Tel/Fax (855) 23 211 723
	Chan Sophal	Poverty specialist of WB	023 217 304
	Franz Volker Muller	Leader of working group GTZ/LMAP/LASED	
	Hong Chamnan	Project Manager, Bengal Florican Conservation Project (WCS)	012 922 429
	Katrin Seidel (Mis)	Land and livelihoods programme adviser of NGO forum on Cambodia	
	Latt Ky (Mr.)	Responsible for land issues of ADHOC	012 828 411 <a href="mailto:Latt-ky@yahoo.com">Latt-ky@yahoo.com</a>
	Lay Khim (Mr)	Environment and energy cluster team leader and assistant resident representative, UNDP	012 808 199 023 216 167
	Meach Sam Ell, PhD.	Local Participation and Gender Advisor of LMAP of MLMUPC	
	Mech Sokhan	Land Issue Project Officer	011 852 712 <a href="mailto:sokhan@ngoforum.org.kh">sokhan@ngoforum.org.kh</a>
	Nhek Sarin	Executive Director of STAR KAMPUCHEA, Non-Governmental Organization	011 725 873
	Prak Thaveak Amida	Deputy director general of MAFF <a href="mailto:amida@mobitel.com.kh">amida@mobitel.com.kh</a> <a href="mailto:amidaau@yahoo.co.uk">amidaau@yahoo.co.uk</a>	012 615 120 016 615 120
	Sebastien Balmisse	Technical assistant in participatory irrigation management, MOWRAM	012 330 164 023 986 201
	Song Vannsin (Mr.)	Program officer, livelihood study project, OXFAM GB	012 783 539 023 720 036
	Suon Sipha	Secretariat chief of National Cadastral Commission of MLMUPC, Director of Department of Cadastral Commission	
	Sy Rathmony	Vice chief of public relation office, MLMUPC, Administrator of LMAP	012 995 946
	Tek Vannara	Environment researcher, CEPA	
	Tep Bunnarith	Executive Director CEPA	012 895 624
	Tom Evans	Technical advisor natural resource management, WCS (Wildlife Conservation Society)	012 274 156 023 219 343
	Touch Sokha	Land and livelihood program coordinator of NGO forum	016 820 385 023 994 063 <a href="mailto:sokha@ngoforum.org.kh">sokha@ngoforum.org.kh</a>
<b>Kampong Thom</b>			
20.03	U Bosophorn	Director of PDA	012 907 091
21.03	Long Be	Deputy director of PDLMUPCC	012 935 313
21.03	Uth Seng	Chief of office of irrigation of DOWRAM	012 708 573
21.03	Pich Nan	Planning, ME and HRD of CBRDP (community based rural development program)	012 531 963 062 962 238
22.03	Bich Chea	Chief of Moneav village, Sroyov commune, Steung Sen district	
22.03	Chheng Phally	Private investor of reservoir and producer of RR	012 893 688

22.03	J. Christophe Diepart	GTZ advisor of natural resource management project, CBRDP	012 598 402
22.03	Em Vichet	Vice chief of CWS Project in Kampong Thom	011 877 091
22.03	Kann Salorn	Chief of office of agricultural extension	012 620 012
22.03	Keat Peng Kun	Assistant of natural resource management project, CBRDP	012 734 473
22.03	Thou Vannak	Senior Advisor of PLG	012 940 333
23.03	Iv Vanna	Private investor of reservoir and producer of RR	012 766 264
23.03	Kou Pouch	Keeper of Iv Vanna's reservoir and water distributor	
23.03	Sros Sarun	Deputy director of PDLMUPCC	012 921 452
24.03	Cheat Syvutha	Director of DOWRAM	012 555 971
27.03	Chhar Beang Kong	Chief of administration office of PDA	012 866 449
27.03	Pen Don	Owner of reservoir and producer of RR	012 956 115
27.03	Heng Hout	Deputy director of Department of Environment	012917544
28.03	Srey Chhoeung	Chief of Sralau commune, Baray district	
28.03	Chhem Mao	Vice chief of WUC of Koh Reah	
28.03	Sar Navy	Farmer/sharecropper of RR with Mr Som Korn & Mr Buth Be, joint reservoir owners	016 996 113
28.03	Seng Sok	Broker of labor for RR production	
28.03	Som Korn & Buth Be (Mr)	Concessionaire of land, producer of RR Joint investors of reservoir and producers of RR	012 869 851 012 675 908
29.03	Thuok Bunthorn Chheng Khoung	Joint investors with others 5 of reservoir, and make sharecropping with 550 farmers, Kampong Chen Thboung commune, Stoung district	012 524 070 012 325 638
29.03	Touch Vicheth	Chief of office of agriculture of Stoung district	012 772 733
25.05	Chal Thach	Chief of Fishery Community Section	012 985 354
<b>Steung Treng (STR)</b>			
04.04	Touch Thea (Mr)	Director of provincial department of agriculture	012 875 612 074 973 937
04.04	Chim Saren	Senior Provincial Program Advisor PLG,	012 530 305, 016 622 144
04.04	Sum Sochea	Administration and Finance Officer of Mekong Wetlands Biodiversity Conservation and Sustainable Use Program (MWBP in Stung treng)	012 411 044
04.04	Chun Boreth	Key-Active person of ADHOC-STR	012 945 455
04.04	Ung Ry	Investigator of ADHOC-STR	012 343 403
04.04	Noy Sokphirom	Chief of Agronomy & Agriculture Land Improvement	
05.04	Chhun Delux (Mr)	Forestry Community Project Officer, CEPA	
05.04	Sous Sivutha	IUCN Wetlands Outreach Officer	012 974 931
05.04	Om Maktheary	Chief of Forestry Administration-STR	012 958 383
05.04	Keut Putvorun	Director of DOWRAM	012 773 379
05.04	Puy Chandara	Deputy director of DOWRAM	016 868 050
06.04	Hak Vimean (Mr)	Deputy director of department of environment	

06.04	Hak Vimean	Deputy director of Department of Environment	092 740 109 074 973 849
06.04	Sok Kosal (Mr.)	Director of PDLMUPC	012 934 164, 011 728 594
06.04	Hi Chantha	Deputy director of PDLMUPCC	012 934 164, 011 728 594
06.04	Sok Kosol	Deputy director of PDLMUPCC	
06.04	Sem Mov (chief of Koh Kenden village)	Land broker in Kilo 25, Samaki commune	012 9878 213
<b>Kandal</b>			
02.05	Tea Leang Hort (Mr)	Deputy director of PDA	016 804 373
02.05	Chun Peng Long (Mr)	Director of DOWRAM	012 804 373
02.05	Dem Dorn (Mr)	Investigator of ADHOC	012 628 363
02.05	Kea Sophal	Investigator of ADHOC	012 552 542
03.05	Thach Sovann (Mr)	Director of DoE	011 871 926
03.05	Ngorn Sar (Mr)	Director of DLMUPCC <a href="mailto:Lmap-kandal@camnet.com.kh">Lmap-kandal@camnet.com.kh</a>	011 596 599
03. and 08.05	Khling Vanthul (Mr)	Chief of fishery office, PDA	012 727 199 011 870 494