

# **15<sup>th</sup> Workshop on GHG Inventories in Asia (WGIA15)**

**Capacity building for Measurement,  
Reporting and Verification**

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## **Cambodia's Second National Communication**

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# Content

- 1. Background;**
- 2. Vulnerability and Adaptation to Climate Change;**
- 3. National Greenhouse Gas Inventory for 2000;**
- 4. Cambodia's INDC.**

# 1. Background

- The Kingdom of Cambodia ratified, as a Non-Annex I Party, the UN Framework Convention on Climate Change (UNFCCC) in 1995 and acceded to the Kyoto Protocol in 2002. The Initial National Communication (INC) was officially submitted to the UNFCCC in 2002;
- In 2006, the Royal Government of Cambodia (RGC) established the National Climate Change Committee (NCCC), a cross-sectoral and multi-disciplinary body with the mandate to prepare, coordinate and monitor the implementation of policies, strategies, legal instruments, plans and programmes related to climate change;
- The national GHG inventory for the year 2000 is the second national inventory submitted by Cambodia to the UNFCCC. Cambodia's Inventory of Greenhouse Gas for the Year 2000 was developed following the Revised 1996 IPCC Guidelines and the UNFCCC software for use in calculating and estimating emissions;
- In accordance with the IPCC Guidelines, Parties may use different methods, also known as tiers. There are four sectors covered in inventory: Energy, Agriculture, Land Use Change and Forestry, and Waste.

## 2. Vulnerability and Adaptation to Climate Change

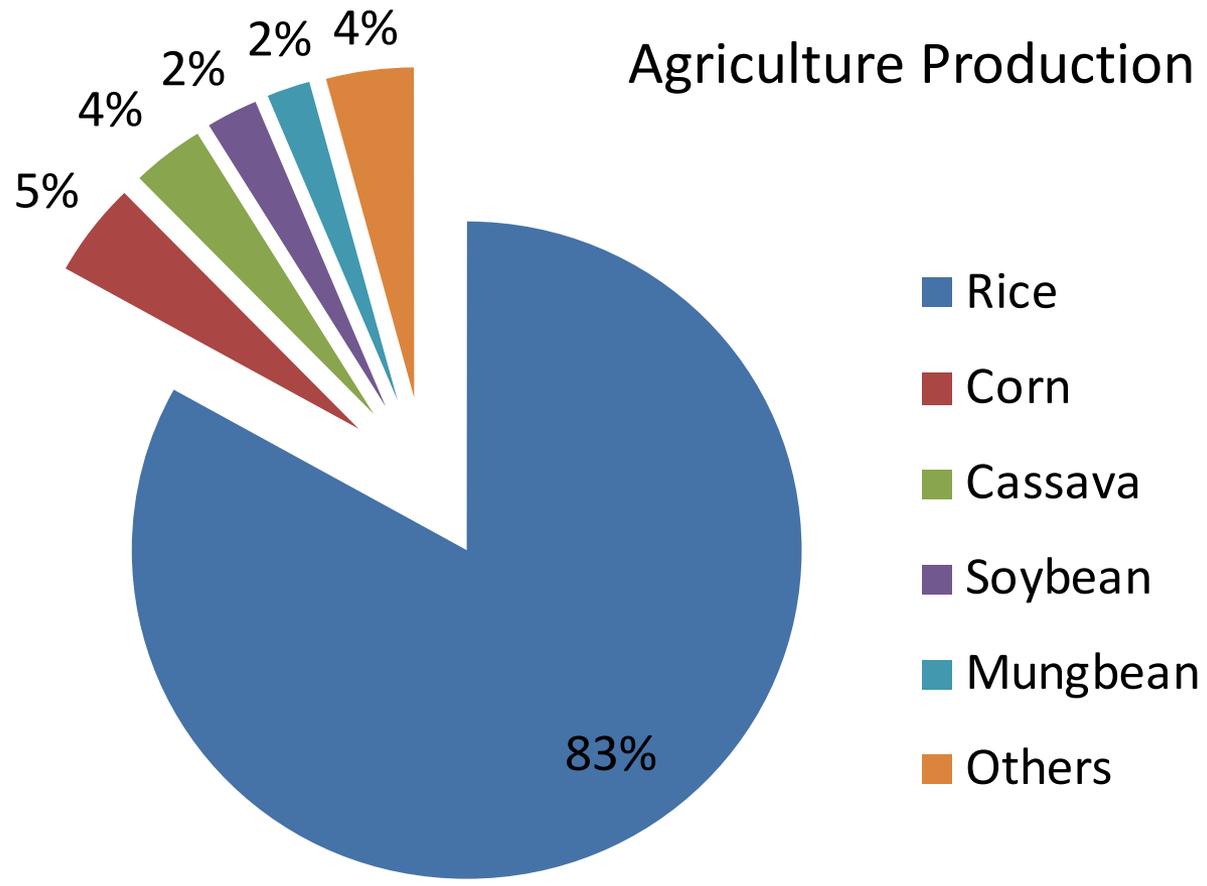
### Overview on Vulnerability and Adaptation Assessment

- ✓ Cambodia is a developing country dependent on agriculture and highly vulnerable to the impact of climate change;
- ✓ SNC covers an assessment of historical and future CC in Cambodia, CC vulnerability mapping, and CC impact on key sectors (agriculture, water resources, forestry, the coastal zone and health) using a regional climate model (PRECIS) in combination with a number of GCM models.

# 2. Vulnerability and Adaptation to Climate Change

## Agriculture

Agriculture Production in Cambodia



## 2. Vulnerability and Adaptation to Climate Change

### Some Proposed Adaptation Options for Agriculture

1. Increase capacity to use climate info;
2. Water use efficiency technologies, SRI;
3. Additional source of income from carbon credit (from biogas for cooking, biomass energy in rice mills, composting, etc.);
4. Institutionalizing the use of climate information in agriculture management and development;
5. Prioritizing structural intervention programs (where and when a particular intervention should be in place to minimize the impact of increasing climate risk such as constructing dam, irrigation facilities);
6. Expanding agriculture areas to regions with lower climate risk;
7. Creating climate insurance for vulnerable communities;
8. Generating more varieties resistant to drought, flood and high salinity;
9. Developing and implementing long term research on climate modeling, mitigation and adaptation technologies.

## 2. Vulnerability and Adaptation to Climate Change

### Some Proposed Adaptation Options for Forest

- ✓ Adaptation measures include creation of protected forests in the most vulnerable areas in the northeast and southwest of Cambodia, creation of forest plantations, adoption of sustainable practices by forest concession holders, strengthening of legal and policy frameworks, protected area management plans and effective monitoring systems.

## 2. Vulnerability and Adaptation to Climate Change

### Some Proposed Adaptation Options for Coastal Zone

- ✓ Adaptation measures include – factoring in climate change into the **design** of infrastructure, new **building codes**, **wind breakers** to protect against strong winds and sea level rise.

### Some Proposed Adaptation Options for Health

- ✓ Adaptation measures include those aimed at reducing the number of malaria cases – such as **fogging** and dissemination of **mosquito nets**, and measures aimed at reducing the number of deaths caused by malaria - such improving health treatment and access.

### 3. National Greenhouse Gas Inventory for 2000

<b>GHG Source and Sink Categories</b>	<b>CO<sub>2</sub> Emissions</b>	<b>CO<sub>2</sub> Removals</b>	<b>CH<sub>4</sub></b>	<b>N<sub>2</sub>O</b>	<b>Total Gg CO<sub>2</sub>e.</b>
<b>Energy</b>	2,047.66		55.38	0.75	3,443.14
<b>Agriculture</b>			875.52	8.79	21,110.82
<b>Land Use Change &amp; Forestry</b>	22,858.73	-48,165.86	32.06	0.22	-24,565.67
<b>Waste</b>			10.18	0.05	229.24
<b>Total</b>	<b>24,906.39</b>	<b>-48,165.86</b>	<b>973.14</b>	<b>9.81</b>	<b>217.57</b>

# 3. National Greenhouse Gas Inventory for 2000

## Potential sectors for GHG mitigation

### Energy and Transport

- ✓ General view - potential mitigation options include: energy efficiency measures, hydro, solar power, gasification & cogeneration, electric vehicles, efficient cookstoves, biogas digesters, ceramic water filters, etc.

### 3. National Greenhouse Gas Inventory for 2000

#### Potential sectors for GHG mitigation

##### Agriculture, Forestry and Land Use

General view - potential mitigation options include: manure management, biogas, fertilizer switch to sulfated fertilizer, drainage in rainy season, compost/bio-slurry, organic input, crop management, agro-forestry, REDD+, etc.,

# 3. National Greenhouse Gas Inventory for 2000

## Potential sectors for GHG mitigation

### Waste

- ✓ Only the urban population is used for estimating methane emissions from wastewater handling, as wastewater produced in rural Cambodia is assumed to receive little or no treatment;
- ✓ Net methane emissions from the selected industrial wastewater were negligible and amounted to less than one Gg in the year 2000.

# 4. Cambodia's INDC

- Cambodia recognized the need for respecting the principles of the UNFCCC in particular the principle of common but differentiated responsibilities and respective capabilities along with the right to the sustainable development of developing countries;
- Cambodia is confident that through INDCs, which is a new, 'bottom-up' approach to addressing climate change, the impasse in the negotiations that have been experienced in the past years will be overcome. Cambodia also hopes that the new agreement to be finalised at COP 21 will be successful in limiting temperatures to a level that would prevent dangerous anthropogenic interference with the global climate system, and at the same time contribute to global poverty reduction and promote economic growth efforts;
- The Royal Government of Cambodia through the Ministry of Environment, climate change department as a focal point of UNFCCC get the support from UK embassy and under the collaborative support of the British Embassy in Cambodia and the Global Environment Facility (GEF) through United Nations Environmental Programme (UNEP).

# 4. Cambodia's INDC

## Who is involved in the process?

### National Government

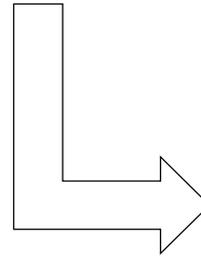
- The document is owned by the national government
- The Climate Change Department (CCD) is the Focal Point
- A specific INDC Preparation Team, composed of representatives from different ministries, has been proposed.

### Project consultant team

- International Team
- Thematic Expert Team
- Legal review team (proposed?)

### Development partner

- British Embassy for TA support through Ricardo-AEA
- UNEP/GEF for both Financial and Technical support



- CCD/Ministry of Environment
- Ministry of Agriculture, Forestry, and Fisheries (MAFF)
- Ministry of Mines and Energy (MME)
- Ministry of Industry and Handicrafts (MIH)
- Ministry of Public Works and Transport (MPWT)
- Ministry of Water Resources and Meteorology (MWRAM)

# Thank You !

Further information:

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