

# Climate Change and Water Resources Management in Cambodia



1<sup>st</sup> Rhine-Mekong Symposium

"Climate change and its influence on water and related sectors"

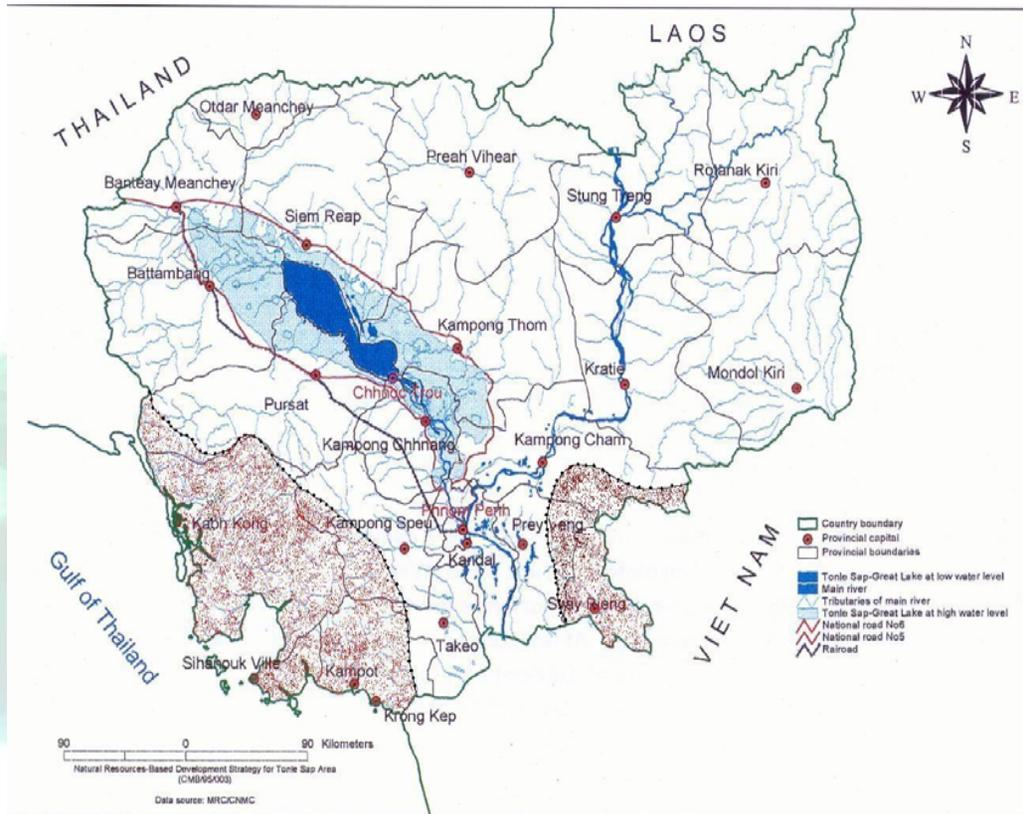
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Mr. Kol Vathana, DSG, CNMC

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# 1. Introduction



- Approximately 5/6 Cambodian territory is land and 1/6 is coastal.
- 86% of Cambodia's land is located in the catchment of the Lower Mekong Basin.
- Mekong River – the world's 12<sup>th</sup> longest river system. It lengths across Cambodia for 468 km.

□ Tonalé Sap Great Lake is expanded from 2,500 km<sup>2</sup> in dry season to 13,000 km<sup>2</sup> in the wet season.

# 1. Introduction (cont.)

- ❑ The tremendous water and related natural resources provide more opportunities to Cambodia for the socio-economic development including human uses.

☞ *“Water is life”*.

- ❑ The Cambodian National Adaptation Program of Action (NAPA) in 2006 concluded that the frequency and intensity of floods and droughts may increase with changing climate conditions.

## 2. Climate Change Effects

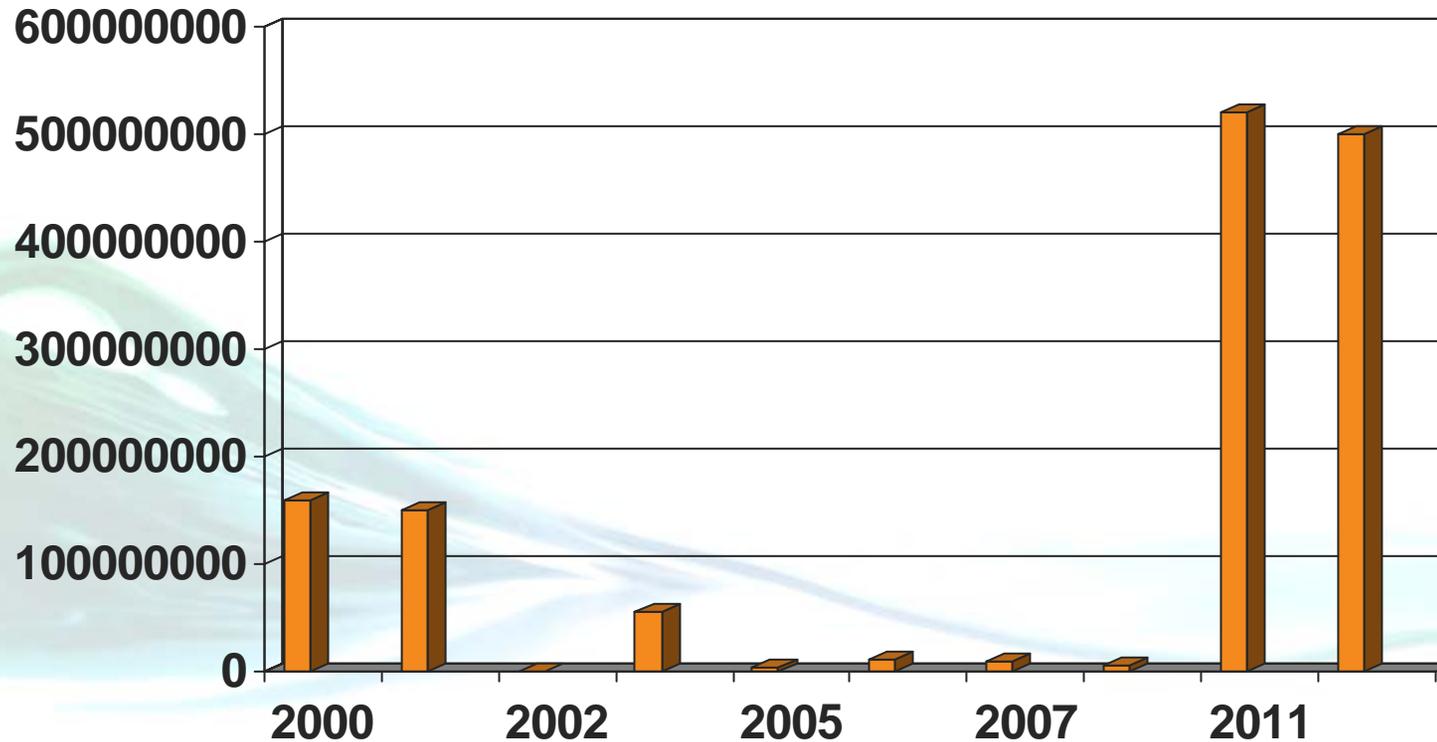


❑ Like other countries in the region, Cambodia confronts to natural phenomena – the climate change including droughts, floods, etc.

☞ It causes severely damage the socio-economy at both national and local levels including infrastructures.

☞ The poor is more suffered than others due to some main reasons.

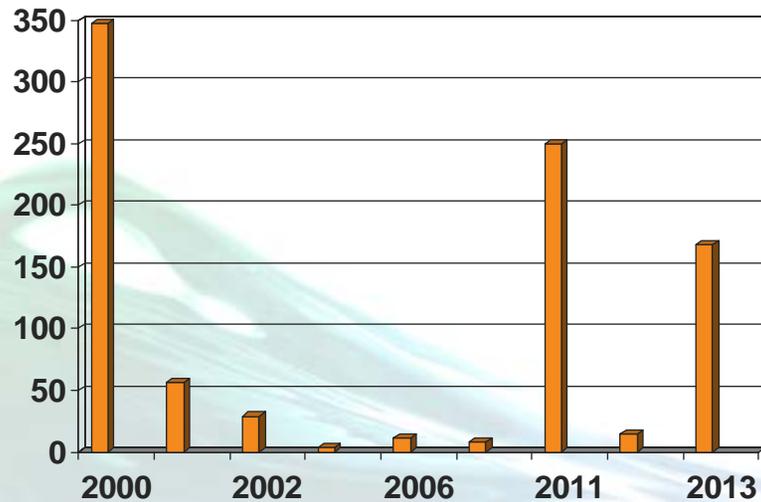
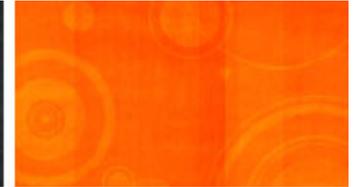
## 2. Climate Change Effects (cont.)



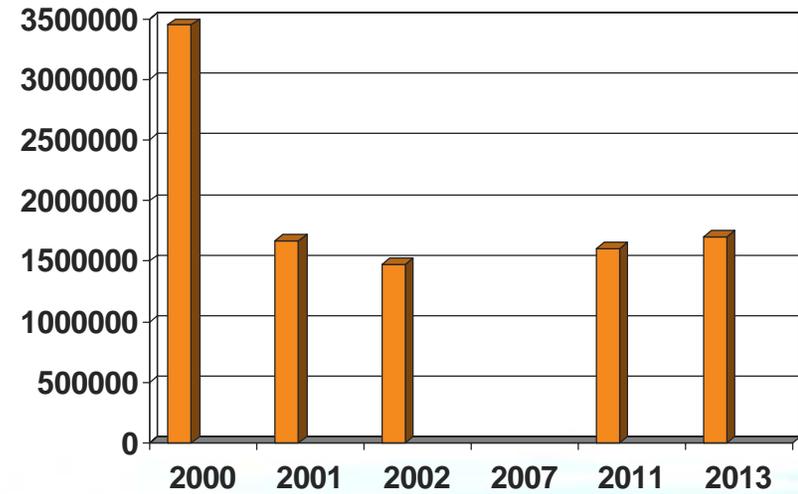
*Flood affects to economy, ref. to records 2000 – 2013*



## 2. Climate Change Effects (cont.)



*Killed people by floods  
2000 - 2013*



*Affected people by floods  
2000 - 2013*



### 3. Water Resources Management Policies Respond to Climate Change

- ❑ The Cambodian National Adaptation Program of Action (NAPA) was launched in October 2006. The 1st Cambodian Action Plan to respond climate change.
  - ☞ It consists of 39 adaptation projects engaging key sectors of: agriculture, water resources, human health and coastal zone.
    - ✓ Cross-sectoral: 5 projects
    - ✓ Water resources/agriculture: 20 projects
    - ✓ Coastal zone: 8 projects
    - ✓ Human health (Malaria): 6 projects

### 3. Water Resources Management Policies Respond to Climate Change (cont.)

- ❑ The National Strategic Development Plan (NSDP) 2014 - 2018 emphasizes that *'to effectively deal with the implications of climate change, the capacity of institution needs to be strengthened to identify and develop a strategy to deal with the anticipated impact of the climate change, and strengthen disaster management capabilities'*.

## 3. Water Resources Management Policies Respond to Climate Change (cont.)

- ❑ Strategy for Agriculture and Water Resources 2010-2013, developed via participatory approach of working group of MAFF, MOWRAM and other key stakeholders.
  - ☞ The Program aimed to respond jointly of MAFF and MOWRAM to an urgent need for rapidly improving food security and reducing people poverty.
- ❑ Climate Change Strategic Plan for Water Resources and Meteorology.
  - ☞ Its' vision is sustainable water resources uses in adapting to climate change, and timely trusted weather, climatic information, for better livelihoods of the Cambodian people.

### 3. Water Resources Management Policies Respond to Climate Change (cont.)

#### ☐ Climate Change Strategic Plan

☞ Its' vision to develop Cambodia towards a green, low-carbon, climate-resilient, equitable, sustainable and knowledge-based society.

☐ IWRM is addressed in the Article 4 of the Law on Water Resources Management in the Kingdom of Cambodia. Its application will be done under the line agencies' cooperation framework.

☞ IWRM will be applied to:

- All aspects of water resources
- Relation between water resources and natural environment
- Water use demands for human, environment, and other sectors in sustainable and effective ways

### 3. Water Resources Management Policies Respond to Climate Change (cont.)

□ One of the main targets of the National Green Growth Roadmap, 2010 focused on the low carbon emission initiative.

☞ The National Policy on Green Growth and the National Strategic Plan on Green Growth 2013-2030, both approved in early 2013.

## 4. Water Resources Management Activities Respond to Climate Change

- ❑ *"Water, Electricity and Infrastructure"* the 03 principal concepts of which the Royal Government understands and recognizes the core catalysts to effectively develop socio-economy, including poverty alleviation.

## 4. Water Resources Management Activities Respond to Climate Change (cont.)



- ❑ Relevant activities of water resource management to respond climate change:
  - ☞ Agriculture (irrigation)
    - ✓ maintain, preserve, diversify water resources in rainy season (dam, canal, sluice, drain, etc.).
    - ✓ provide water for irrigation during the dry season in parallel to the use of agricultural diversification system.

## 4. Water Resources Management Activities Respond to Climate Change (cont.)



- ➡ Enhancing the water supply system in urban and rural areas in order to provide water for consumption adapting to climate change (both quantity and quality)
- ➡ Aquaculture
- ➡ Other development purposes, etc.

## 5. The Challenges

- ❑ There isn't sufficient information/data towards climate change including several natural disasters, which less concrete evidence to civil society and communities in affecting areas (in consideration).
- ❑ Insufficiency of accurate prediction/ evaluation of such crisis
- ❑ Update data/information is limited, and fragmented by institutions.

## 5. The Challenges (cont.)

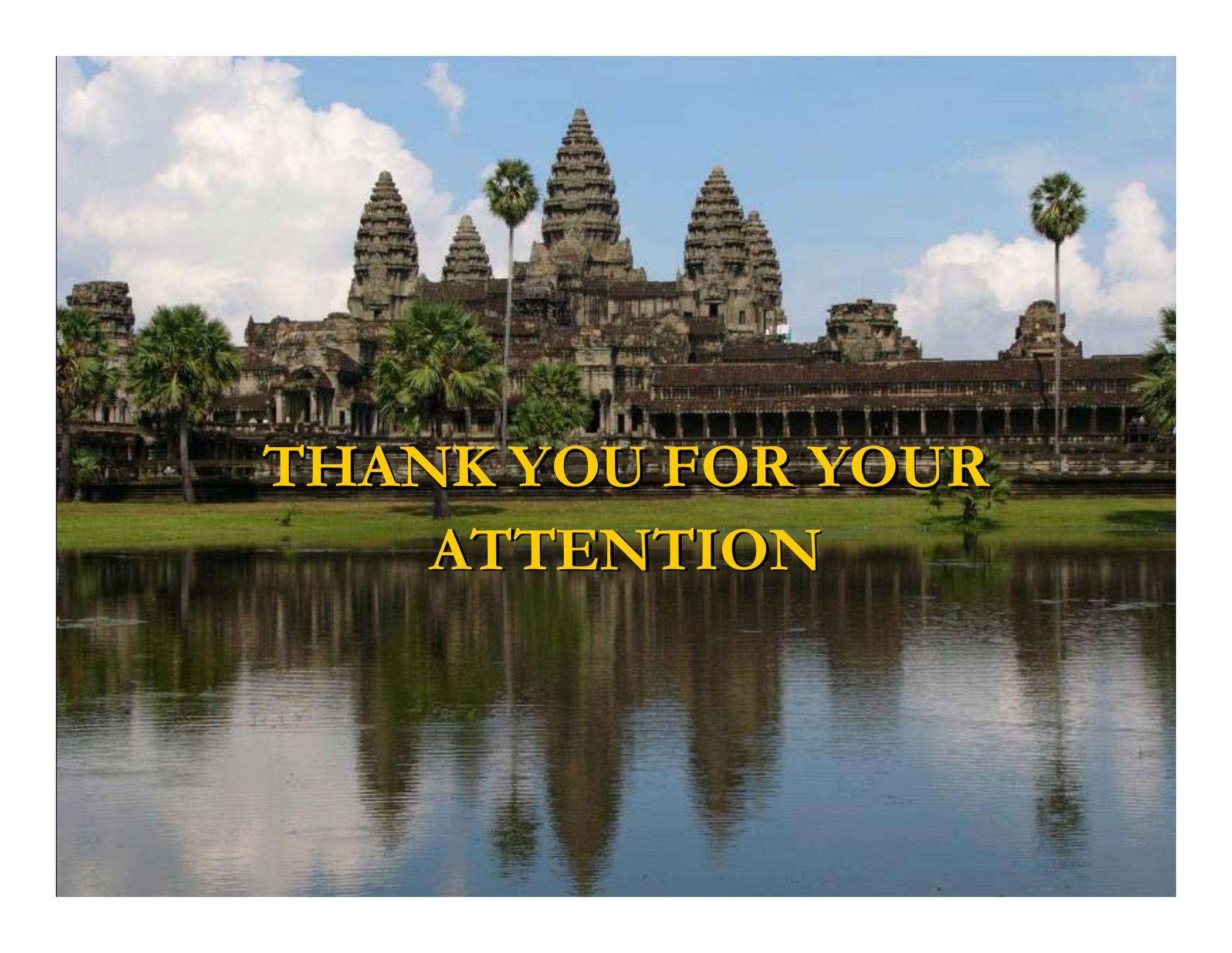
- ❑ The system of early warning, networking and communication is limited.
  - ☞ It can process merely from central office to provincial level.
- ❑ Serious emergency event is recognized to be occurred, but there is not enough capacity and capability to desirably minimize such serious crisis (e.g. lacking of operational budget, facilities and technology, etc.).

## 6. Conclusion

- ❑ Adaptation mechanisms may provide immediate solution for minimizing climate change effects to the national development including human health.
- ❑ Policy and legal instrument – both are very important to ensure some activities respond appropriately and effectively to climate change, e.g. low carbon emission.
- ❑ Climate change is a cross sectoral issues which require to mainstream/integrate into relevant sectors, including the stakeholder's participation.

## 6. Conclusion (cont.)

- ❑ It is required to Increase and strengthen the networking at national, trans-boundary and regional levels, in order to:
  - ☞ Get enough either information or experiences.
  - ☞ Do a preparedness of timely emergency response to the Climate Change.
- ❑ There is a need to mobilize finances from international communities and donor countries to prevent, solve and restore impact areas, resulting from climate change.
- ❑ It is required to increase and improve scientific and technological capacity and capability to responsible institutions towards the climate change and other disasters prediction, evaluation and forecasting.

A photograph of the Angkor Wat temple complex in Cambodia, featuring several prominent stone towers and a long gallery, reflected in a body of water. The scene is set against a blue sky with scattered white clouds. The text "THANK YOU FOR YOUR ATTENTION" is overlaid in the center in a bold, yellow, serif font.

**THANK YOU FOR YOUR  
ATTENTION**