



# Climate Change and Bhutan

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**Dhaka, Bangladesh**  
**30-31 May 2010**

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# Outline

Climate change impacts on Bio-physical and socio-economic and variability

Current status of policies/programmes/projects undertaken

a) Adaptation including NAPA

b) Reducing Emission from Deforestation and Degradation (REDD)

c) Enhancing participation in Clean Development Mechanism (CDM),

d) Disaster Risk Reduction (DRR), and

e) Mainstreaming climate change into poverty reduction development strategies

3) Conclusion

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# BHUTAN



Map of Bhutan



# Salient features



Total land area; around 38,000 sq km

Topography 100% mountainous terrain

Forest cover; more than 72% of the country

Total population; around 700,000

State religion; Mahayana Buddhism

Administration; 20 districts



# *Bhutan's developmental philosophy*



Gross National Happiness (GNH)

Sustainable Development

Economic development

**Environment Conservation**

**Culture and spiritual conservation**

**Good governance**



## Article 5

1. Every Bhutanese is a trustee of the Kingdom's natural resources and environment for the benefit of the present and future generations and it is the fundamental duty of every citizen to contribute to the protection of the natural environment, conservation of the rich biodiversity of Bhutan and prevention of all forms of ecological degradation including noise, visual and physical pollution through the adoption and support of environment friendly practices and policies.



# Climate change- A Critical challenge



***CAN WE SAVE THE FOREST  
WHILE USING THE TREES?***

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# Potential Impacts



## Bio-physical

**Glacial receding**

**GLOF**

**Loss of water resources**

**Global warming – increase in vector borne diseases, heatstress**

**Agriculture – crop diversity and shift of habitat**

**Forest - degradation and loss of biodiversity**

**Erratic weather pattern – disaster risk**

**Flash floods**

**Drought**

**Land slides**

**Soil erosion**

**Loss of infrastructure and lives**



# Potential Impacts



## Socio-economic

### Loss of water resources

Hydropower generation revenue

Agriculture productivity – food security (poverty)

Drinking water

Vector borne disease - Increase in health cost

Forest degradation - loss of biodiversity, forest resources and shelter

Erratic weather pattern – livelihood

Loss of Habitat

Loss of life and property

Loss of economic development opportunities



# Climate Variability



## Temperature

**Health and habitat (especially southern belt)**

**Crop diversity and habitat change - Food security (poverty)**

**Water quality and quantity – monsoon runoff and low winter flow**

## Erratic monsoon

**Water quality**

**Unprecedented flooding**

**Agriculture practices**

**Forest degradation**

**Soil erosion, landslides and floods**

## Drought

**Winter cropping**

**Low water flow for hydropower generation, irrigation and drinking water supply**

**High monsoon runoff and low winter flow**



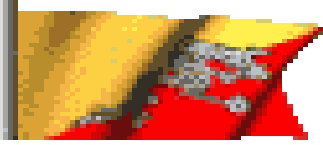


# Bhutan & climate change process



- ▶ United Nations Framework Convention on Climate Change (UNFCCC)
  - ▶ Signed at Rio 1992
  - ▶ Ratified by 73<sup>rd</sup> National Assembly in 1995
- ▶ Kyoto Protocol to the UNFCCC
  - ▶ Acceded on 26 August 2002
- ▶ Initial National Communication submitted in Sept. 2000
- ▶ National Adaptation Plan of Action (NAPA) submitted in 2006
- ▶ First NAPA Project implementation since 2008
- ▶ Second National Communication ongoing





# Adaptation including NAPA

- ▶ No specific Adaptation strategy developed
- ▶ Five year development plans (10<sup>th</sup> FYP) – Adaptation strategy
- ▶ NAPA
  - ▶ LDFC-GEF funded Project (approx UDS 4 million)
  - ▶ Lowering of Thorthromi Galcial Lake (86 cms in 2009), Hazard zonation and early warning systems in Punatsang Chu and Chamkahr Chu valley
  - ▶ Health base project approved by GEF in Nov. '09
  - ▶ Water resources, forest fire and land degradation (in pipeline)
- ▶ Revision of NAPA





# REDD



- ▶ **REDD Plus and not REDD**
- ▶ **UN-REDD Programme for REDD Readiness**  
(RGOB joins UNDP - REDD)

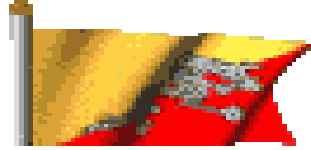


# CDM



- ▶ Major beneficiary – bigger developing countries like China and India
  - ▶
  - ▶ Project development and fund accessing process is cumbersome for LDCs
  
  - ▶ Bhutan's opportunity
    - ▶ Hydropower, Forest and Land Management
  
  - ▶ Bhutan's CDM
    - ▶ Chendebji (70 KW) mini hydroelectricity – e7 pilot project
    - ▶ Dagachu hydropower approved by CDM Board recently – Indian baseline
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# Disaster Risk Reduction



- ▶ Initial stage of understanding
- ▶ Department of Disaster Management (DRM) instituted
  - ▶ Capacity development
  - ▶ Legislation (draft)
  - ▶ Mainstreaming effort



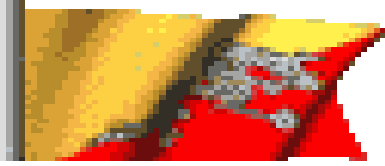


# Climate change and poverty mainstreaming



- ▶ Gross National Happiness concept is inclusive
- ▶ Environment mainstreaming, poverty mainstreaming and disaster mainstreaming – activities at the peak
  - ▶ Parallel Workshops/seminars – risking duplication and overlap
  - ▶ Legislation amendments and drafting
  - ▶ Media programmes





# Conclusion – Half full FUND BASKETS



## ▶ Copenhagen Funds (Copenhagen Accord)

### ▶ Promises

- ▶ Fast Start to US\$30b by 2012
- ▶ Copenhagen Green Climate Change Fund for \$100b/year by 2020



### ▶ Reality

- ▶ “Take note of” only, language is intentionally vague
- ▶ depends on outcome of UNFCCC negotiations
- ▶ UN Secretary General has formed a Panel to identify resources required for new climate deal

## ▶ Hatoyama Initiative (Cool Earth Partnership) – Japan





# *Copenhagen Accord possible opportunities - Bhutan*

## **Reducing Emissions from Deforestation and Degradation**

*This decision enables developing countries to identify drivers of deforestation, stabilization and increase of forests using IPCC guidelines for such processes. **Developing countries are also invited to set up national monitoring programmes within their capacities. This mainly enable countries to continue collecting information that will be useful once a final decision on REDD Plus is adopted.***

## **Adaptation Fund**

*The CMP endorsed the decision of the Adaptation Fund Board to be legally hosted in Germany. The Adaptation Fund Board, already operational at GEF in Washington DC since 2007 has developed policies and procedures for access to funds, which was set up under the KP with 2% share of CDM Proceeds. **Parties to the KP have been invited to nominate National Implementing Entities for accreditation to implement adaptation activities within developing countries –GNH Commission in Bhutan.***





## *Status of the Copenhagen Accord*

**The status of the Accord is a political agreement and not a legally binding instrument. As part of the UNFCCC process, it is still not clear since parties only “takes note of”.**

**The Accord is “operational immediately” as per a preambular paragraph.**

### *Parties to the Accord*

**Parties that wish to be associated with the Copenhagen Accord will need to communicate their intent to the UNFCCC by 31 January 2010, and will be named in a list under a chapeau of the accord – **Bhutan has communicated its intention.****





*Tashi Delek!*  
Thank you

