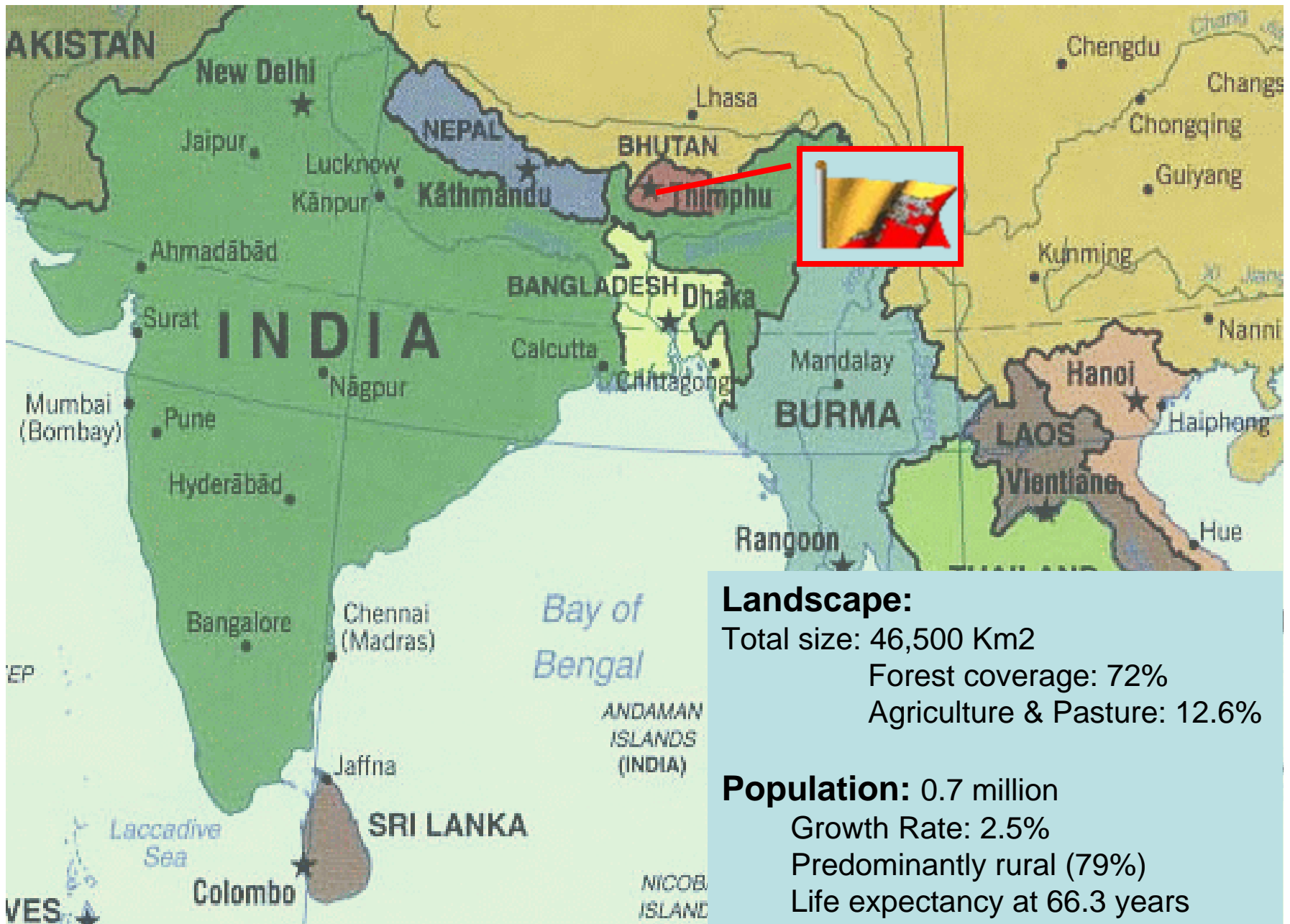


Disaster Management in Bhutan

Courtesy: Department of Disaster Management,
Ministry of Home and Cultural Affairs

Bhutan- The Land of Thunder Dragon





Profile

- Government: Constitutional Democracy
- Development Philosophy: Gross National Happiness
- Economy:
 - Per Capital GDP: US\$ 758
 - Agriculture still dominant sector
 - Hydropower (45% of domestic revenue)



Disaster Hazards in Bhutan

- Earthquakes
- Glacial Lake Outburst Flood (GLOF)
- Floods in monsoon
- Natural Dam formation and dam bursts
- Landslides
- Fires
- Windstorms/hail storms etc
- Droughts
- Epidemics, Pests, Diseases
- Accidents

Glacial Lake Outburst Flood (GLOF)



- ❖ GLOFs: the most serious natural hazard potentials with 24 lakes potentially dangerous.
- ❖ Hazards due to GLOF flash floods are likely to increase in intensity with the impacts of climate change.

Floods



- **Recurrent phenomena in Bhutan especially during the monsoon season**

Natural Dam formation and dam bursts

- Such hazards will continue to prevail in Bhutan's rivers placing many of the hydropower plants, farmland and human settlements at risk.
- There are also trans-boundary threats due to such dam formations



Landslides



- Slopes in the country highly susceptible to landslides during rainy season.
- Most occur in the eastern and southern foothills belt where the terrain is steep and rocks underlying the soil cover are highly fractured, allowing easy seepage of water.

Fires on forest and human settlements:



- ❖ A total of 6 forest fires damaging 1221.70 acres of forest were recorded in 2007 (Thimphu).

Institutional Set up

- National Committee for Disaster Management,
- Inter- Ministerial Working Committee,
- District Disaster Management Committee,
- City/municipal Disaster Management Committee,
- Block Disaster Management Committee.

Strategy for DRR

- Multisectoral
- Decentralized, Empowerment
- VIII components –
 - Establish appropriate institutional and legislative framework
 - Hazard Vulnerability and Risk Management
 - Early Warning System
 - Disaster Preparedness Plans
 - Mitigation and Integration of Disaster Risk Reduction in Development Sectors
 - Public Awareness and Education
 - Capacity Development
 - Communication and Transportation

Activities undertaken:

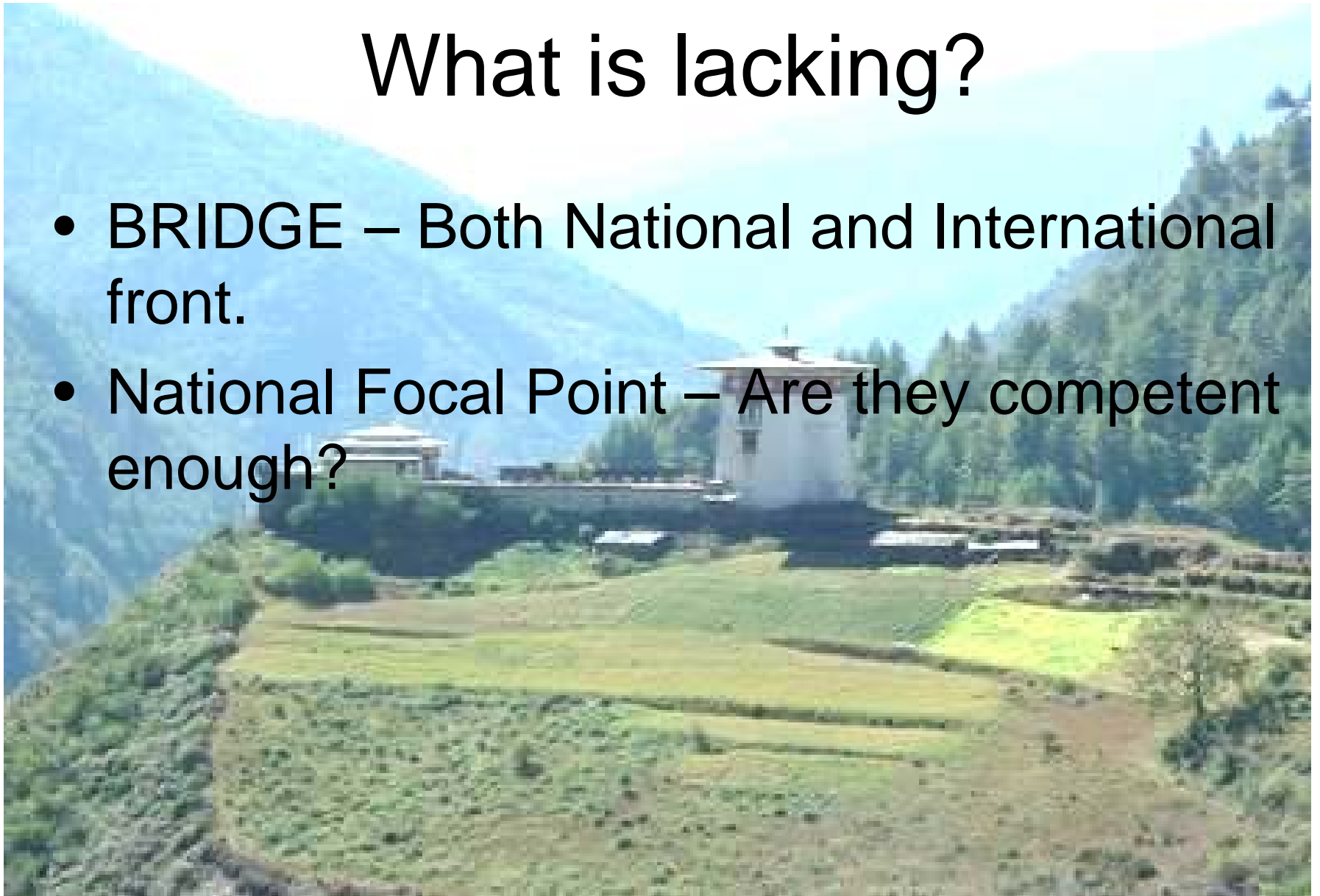
- Operationalization of the NDRMF
 - Enabling environment
 - Legislation, guidelines (NDRMF, NDM Bill, NDMPG)
 - ▣ Awareness
 - Conducted sensitization awareness for the GLOF threat in near future.
 - Fire safety awareness on both forest fire and fire on human settlement
 - Forest fire volunteers
 - School disaster management plans
 - ▣ Projects
 - GLOFs – GEF funded project to lower the volume of lakes artificially.
 - GLOF
 - Three years
 - DGM/MEA, DMD/MoHCA
 - 3 pilot dzongkhags
 - Hazard zonation map for the GLOF along with Punatshang chhu from Khuruthang to Lhamoizingkha was done by the DGM.
 - ERRRP
 - Two years
 - SQCA/MoWHS, DMD/MoHCA
 - 3 pilot dzongkhags

Underlying vulnerabilities/ challenges

- Multi-Sector Coordination
- Lack of Awareness
- Capacities
- Preparedness Planning
- Unsafe construction practices
- Regulatory/ enforcement issues
- Rapid Urbanization
- Socio-economic factors

What is lacking?

- BRIDGE – Both National and International front.
- National Focal Point – Are they competent enough?



Possible Cooperation

- SDMC/ADPC/ADRC
- Resources (technical, guidelines, literature, best practices, knowledge networks, IEC materials)
- Technical expertise
- Implementation of pilot and research projects
- Capacity building – UN-SPIDER can facilitate – AIT/ADPC/ITC

Tashi Delek

