Climate Change in Nepal: Domestic and Regional Perspectives

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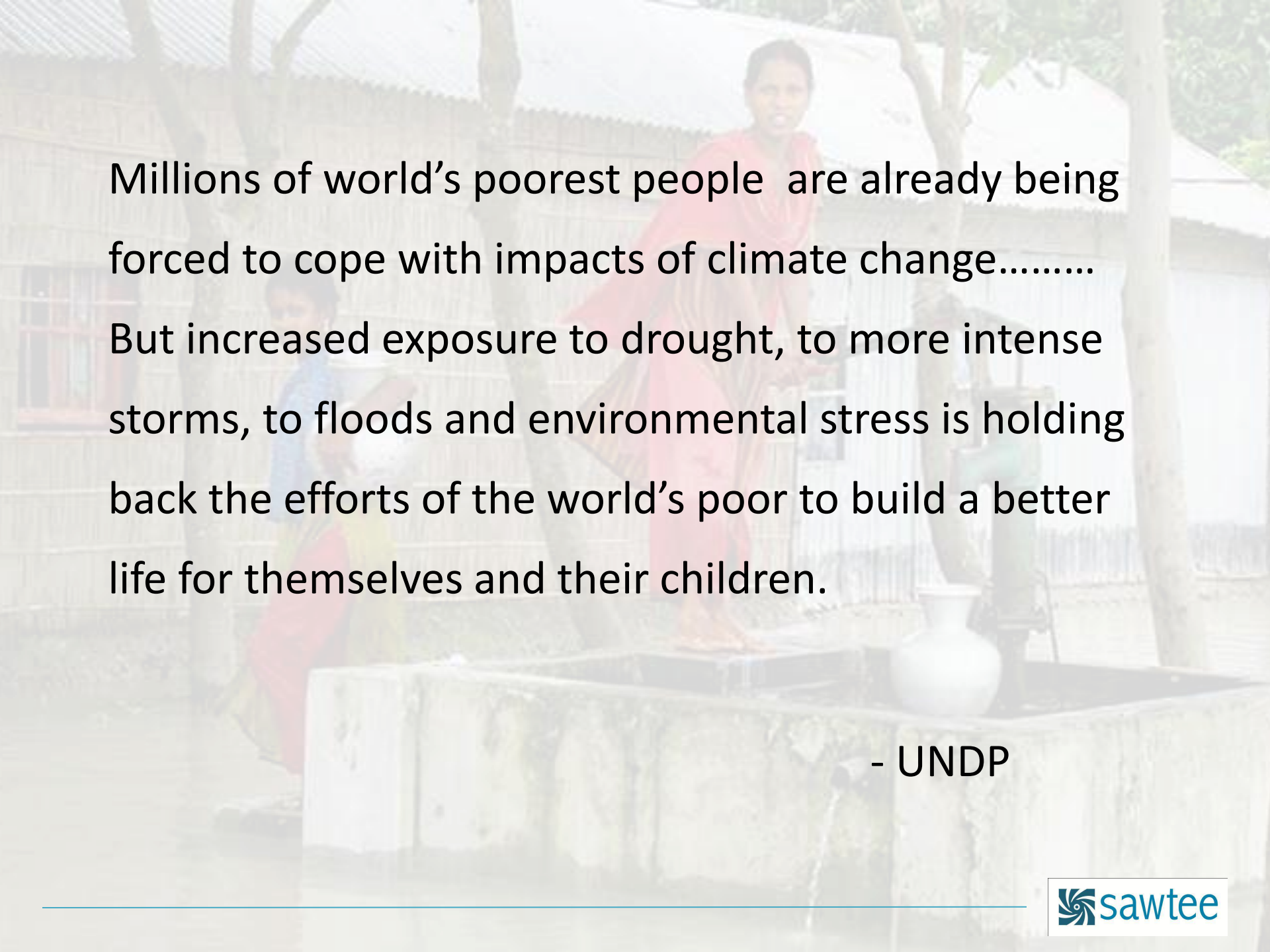
Presentation Outline

- Nepal's vulnerability to climate change
- Impacts of climate change
- Current efforts
- Need for regional cooperation
- How has SAARC addressed climate change
- Recommendations



Millions of world's poorest people are already being forced to cope with impacts of climate change……

But increased exposure to drought, to more intense storms, to floods and environmental stress is holding back the efforts of the world's poor to build a better life for themselves and their children.

- UNDP

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Nepal: 4th most vulnerable country in the world

- Maplecroft Climate Change Risk Atlas, 2011

More than 1.9 million people estimated to be highly vulnerable, another 10 million exposed to increasing risks

- MoSTE

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What makes Nepal vulnerable to climate change?

- Geo-climatic conditions – 23% of the country's area above permanent snowline (5000m); 3.6% of the country's total area covered by glaciers
- Poverty - 57% population below international poverty line ($2/day)
- One of the most food insecure country in Asia
- Natural resource based livelihood and economy – agriculture, tourism
- Political conflicts
- Low adaptation potential

Impacts

- High intensity rainfall - Heavy floods, landslides, soil erosion, sedimentation
- Droughts – forest fires, water scarcity, soil degradation
- Melting of glaciers – increased river flow (warm season), lower flow (long term), GLOFs

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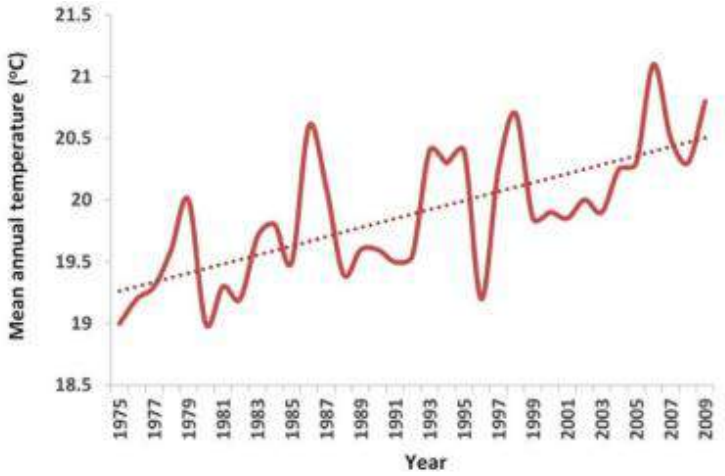
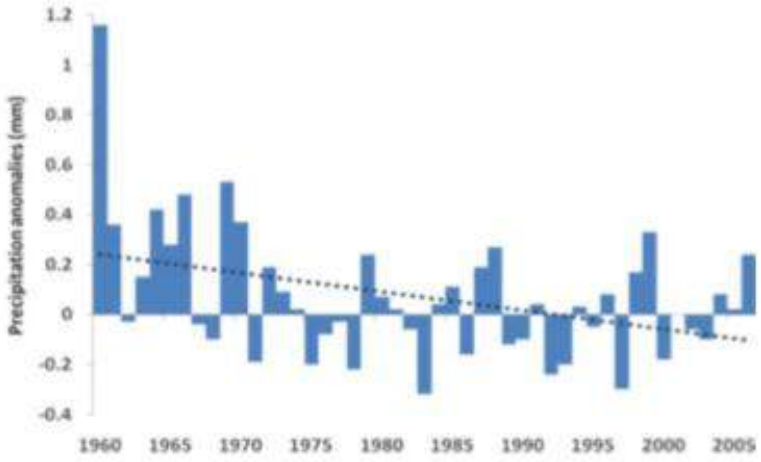
Climate change in the context of Nepal

- Increase in temp trends across Nepal from 1975-2009
  - More pronounced during the dry season and least during the height of monsoon
  - Greater warming at higher elevation in northern part of the country
- Precipitation trends
  - Rainfall has decreased since 1960
  - High inter-annual variability





Source CCAFS 2013

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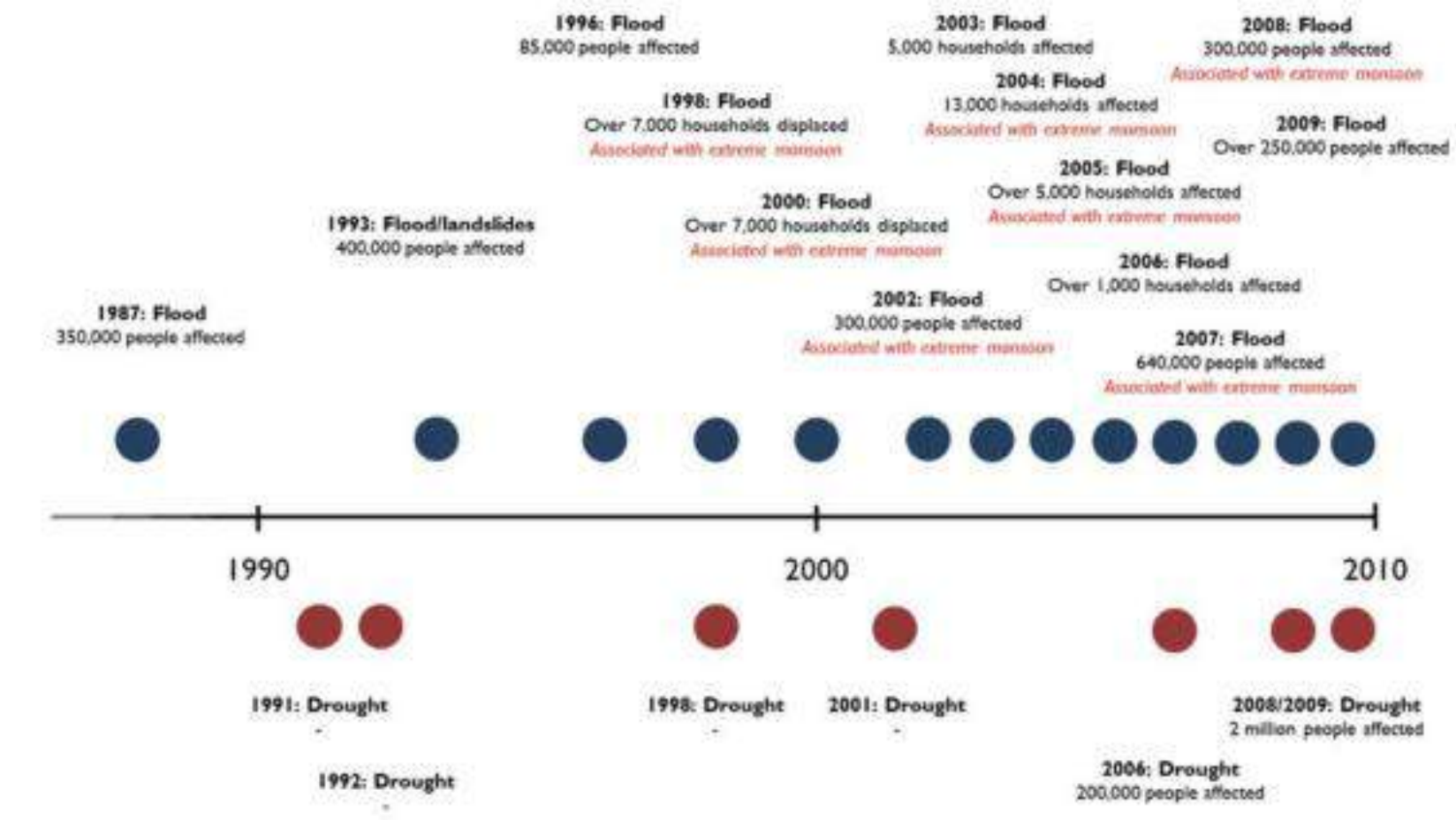
Frequency of floods and droughts (1990-2010)



Source CCAFS 2013

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Importance of glaciers

- Water towers of Asia and source of fresh water for billions
- 3,252 glaciers covering area of 5,322 km^2
- Glaciers are main river systems of the country – Koshi, Gandaki, Karnali and Mahakali river system



Melting of glaciers

- Average increase by 2.1^{o}C since 1970; annual increase rate 0.12 ^{o}C
- Reduction in snow and ice cover – increase in frequency of climate induced disasters – floods and droughts
- Declining discharge in snow fed rivers
- Glacial AX010 (1978-2008)

1978

1989

1998

2008

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GLOFs

- 7 well recorded GLOFs from 1977-2004
- 20 of Nepal's glacial lakes are potentially dangerous and 6 critically dangerous.
- Tsho Rolpa – largest glacier lake in Nepal
- Growth of Tsho Rolpa Glacier Lake (1957-2000)

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Consequences of climate change in Nepal

- Food insecurity
- Water shortage
- Soil erosion
- Increased incidence of diseases, mainly vector-borne
- Agriculture productivity/ production
- Damage of infrastructure
- Extreme weather events
- Loss of endemic species

National initiatives

Establishment of the Climate Change Management Division (2010)

National Adaptation Programme of Action (2010)

Local Adaptation Plan of Action (2011)

National Climate Change Policy (2011)

National recommendation

- Incorporate impacts of climate change in Nepal's planning documents
- Strengthening NAPA, LAPA and implementing on the ground projects
- Strengthening capacity of people and institutions to cope with climate change with appropriate financial support and inter-sectoral linkages
- Prioritize regional areas
- Government, NGO, private sector partnership

Need for regional cooperation

- Combination of geography and socio –political factors makes South Asia most vulnerable to climate change.
- South Asia's climate is already changing and the impacts are already being felt , further climate change is inevitable in the coming decades and will posses a challenge to the growth and development of the region.
- Entire region is vulnerable to the impact of environmental degradation. Regional collaborative efforts to mitigate impact of climate change are, thus, crucial.

SAARC and climate change

3rd SAARC Summit, Kathmandu, 1987

Natural disasters – causes and consequences

4th SAARC Summit, Islamabad, 1988

Effects of GHGs and its impact on the region

13th SAARC Summit, Dhaka, 2005

SAARC Disaster Management Centre

14th SAARC Summit, 2007, New Delhi

"Year of Green South Asia"

Deep concern over climate change

15th SAARC Summit, Colombo, 2008

"Partnership for our people"
Dhaka Declaration and SAARC Action Plan on Climate Change

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Dhaka Declaration

- Commit to promoting programmes on advocacy and awareness that lead to a low carbon society
- Resolve to cooperate on climate change issues
- Agree to initiate and implement programmes and measures
- Adopt the SAARC Action Plan on Climate Change

SAARC Action Plan on Climate Change

- Adaptation
- Mitigation
- Technology transfer
- Finance and investment
- Education and awareness
- Impact management
- Capacity building for international negotiation

16th SAARC Summit, Thimpu, 2010

"Towards a Green and Happy South Asia“
Thimpu Statement on Climate Change

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Thimpu Statement

- **Disaster Initiative**
  - Integrate adaptation with disaster risk reduction
  - SAARC Disaster Management Centre (SDMC), 2006, New Delhi
- **Monsoon Initiative**
  - Access vulnerability of monsoon to climate change
  - SAARC Meteorological Research Center (SMRC), 2005, Dhaka
- **Mountain Initiative**
  - Contributing to mountain ecosystem to sustainable development
  - SAARC Forestry Center (SFC), 2008, Taba
- **Marine Initiative**
  - Understanding of shared oceans and crucial roles in sustainable living
  - SAARC Coastal Zone Management Center (SCZMC), 2005, Male

17th SAARC Summit , Addu City, 2011

"Building bridges"
Recognizing the vulnerability of the region to the impacts of climate change, stressed the timely implementation of the Thimpu Statement

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Is SAARC working?

- Environmental issues have occupied an important position in SAARC summits but no commensurate outcomes
- Timely implementation of the 2008 Dhaka Declaration and SAARC Action Plan on Climate Change
- Projects have been identified, but implementation is slow - visible outputs are yet to be seen from the Coastal Zone management Centre in Maldives (2005) and the Forestry centre in Bhutan (2008)

Way forward

- SAARC needs to challenge its current framework and structure
- Member state accountability - effective implementation of national laws and policies
- Willing to engage with civil society and solicit their engagement
- Sharing of best practices across the region
- Strengthening bilateral cooperation - Non political networks more effective for implementation of CC initiatives?
- Regional cooperation in addressing knowledge gaps and capacity development
- Regional climate funds and south-south technology transfer
- SA stands to benefit from integrated climate adaptation, mitigation and development approaches

Thank you