Addressing Disaster Risks in Development Planning

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Nepal
Outline

1. Disasters Risks and Development
2. Mainstreaming of Disaster Risk Reduction
3. UNDAF in Nepal
4. Illustrations
   - DRR in Development Planning Process- Nepal
   - National Climate Change Support Programme
   - Climate Change Finance
   - Climate Risk Management
   - Seismic Resilience
‘Development’ if not planned well can lead to disasters

<table>
<thead>
<tr>
<th>DEVELOPMENT</th>
<th>DISASTERS</th>
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<tbody>
<tr>
<td>Can increase Vulnerability</td>
<td>Can decrease Vulnerability</td>
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<tr>
<td>Sets back Development</td>
<td>Provides Development</td>
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<tr>
<td>Opportunities</td>
<td>Opportunities</td>
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Coordinate System: UTM Zone 46N
Projection: Transverse Mercator
Datum: WGS 1984
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False Northing: 0.0000
Central Meridian: 93.0000
Scale Factor: 0.9996
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Unit: Meter
Dhaka Metropolitan Area
1989

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Units: Meter
Development contributes to Disaster Risk

Disaster Risk

Increasing Vulnerability
- Inappropriate land use
- Environmental degradation
- Unplanned urbanization
- Exposure of population & assets in hazardous locations
- Economic inequalities
- Weak social organization
- Deficient infrastructure

Multi-Hazard Context
- Seismic and volcanic activities
- Cyclones
- Floods
- Landslides
- Coastal Erosion
- Drought ...

Magnified by climate change

Flawed Development Process
Climate Change is a major driver...

- Natural Climate Variability
- Extreme weather and climate events
- Frequency and Intensity of Precipitation
- Climate Change impacts

**KEY CONSIDERATIONS!!**

- Risk Management
- Evidence-based planning
- Risk Informed Development
- Risk Reduction
- Resilience

- Climate change adaptation
- ... 
- ..... 
- More...
Solutions for disaster and climate resilient development...

- Pursuing disaster reduction, adaptation and sustainable development as **mutually supportive goals**
- Considering risk reduction as an **essential investment** in sustainable development, **not as an additional cost**
- Corrective development planning that ensures **development does not generate risks**

➔ ... in short: DRR Mainstreaming
Mainstreaming requires...

...assessing the implications of disasters & climate change on any planned development action:

i. in all sectors and thematic/practice areas and at all levels

ii. as an integral dimension of the design, implementation, and monitoring and evaluation

iii. of policies and programmes
Mainstreaming DRR/CCA Into Development Process

1. Identify Natural Hazard Risks
2. Evaluate Risks
3. Accept Risks?
   - Yes: Monitor & Review
   - No: Identify Ways to Prevent or Manage Risks (DRR/Adaptation Options)
     - Prioritise DRR/Adaptation Options

Incorporate DRR/CCA into:

- National Development Plans/Strategies
  - Policies
  - Regulations
  - Budget
  - Sector Plans
  - Programmes
  - Projects
DRR mainstreaming in Development - some considerations

- DRR mainstreaming for building resilience requires sustained engagement

- More appropriate and long-term funding mechanisms needed; i.e. development and climate change funds

- Use recovery as an opportunity and entry point for DRR mainstreaming

- Foster integrated solutions by working across disciplines to address complex issue of risk, especially DRR and adaptation
Some examples of effective risk informed development planning include:

- Nepal Earthquake Reconstruction - incorporation of seismic safety
- Nepal -Karnali region drought conditions in 2015 and 2016 - UN agencies provided support to enable households to restart agricultural livelihoods in water scarce environments climate-smart recovery

But...

- Focus is still largely on crisis response in the region
- Gaps remain significant e.g. UN relief agencies in Bangladesh and Nepal this summer appealed for a combined US$45m following monsoon floods.
- If development programmes are risk informed, lives and livelihoods can be protected- response costs reduced
UNDAF 2018-2022
Outcome 3: Resilience, DRR, Climate Change

Outcome Statement

By 2022, environmental management, sustainable recovery and reconstruction, and resilience to climate change and natural disaster are strengthened at all levels.
Key Challenges

State, society and community are vulnerable to the external shocks that derives from natural hazard and climate change.

Nepal’s vulnerability
- Climate change 4th
- Earthquakes prone 11th
- Flood prone 30th
- Landslides prone 30th

Kathmandu, one of 21 most vulnerable cities in the world
Key Challenges

Human Loss by Disaster 2014

- Fire: 26%
- Snow Storm: 20%
- Flood: 23%
- Thunderbolt: 13%
- Landslide: 12%
- Others: 6%

Photo: UNDP
2.3 million households lost livelihoods

\( \frac{1}{4} \) of households with destroyed or damaged houses are female headed

Risk of 700,000 people falling under the poverty line (2015-16)

Economic loss US$7 billion 1/3 of GDP of the country (FY2013-2014)

Almost 9,000 deaths

More than 22,000 people injured

One-third of the population impacted

Out of 75 districts, 33 affected of which 14 severely

More than 800,000 houses destroyed or damaged

Over 600 district and village government buildings totally destroyed

2,673 government buildings totally damaged

2015 Nepal earthquake

Increased risk of landslides due to the monsoon and earthquake

Key Challenges
How we addresses these challenges?

<table>
<thead>
<tr>
<th>Knowledge of hazards and Risks</th>
<th>• Scientific evidences of multi-hazard risks required for understanding risks and informing policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Governance</td>
<td>• Legal framework, policy and institutional arrangement augmented</td>
</tr>
<tr>
<td>Investment for mitigating risks</td>
<td>• Both public and private investment for risk reduction to be promoted</td>
</tr>
<tr>
<td>Preparedness for response and recovery</td>
<td>• Stronger capacity for response (life saving) and recovery (in reducing future recurrent damage)</td>
</tr>
</tbody>
</table>
**Theory of Change**

(IF) Government gives **priority to evidence based policy making** by better understanding vulnerabilities and risks; establish **priorities to integrate CCA/DRR**; develop mechanism to enable **investment from govt and private sector**; and strengthened capacities of institutions and communities.

(THEN) **risk informed development** strengthened and **resilience** at all level enhanced though improved governance mechanisms, harmonized systems, increased investments and vulnerable people empowered with improved capacities.

- To be better prepared, adapt and respond to disasters and CC, and sustainable management of environment and natural resources
- Sustainable Development and Poverty Reduction

Photo: UNDP
Relevance to 14th Three-Year Plan

Disaster Management:

- **Vision**: To develop Nepal as disaster resilient country through effective management of all kinds of disasters
- **Goal**: reduce human, physical, economic, social, cultural and environmental loss caused by disaster
- **Objective**: reduce human and physical loss caused by disaster by integrating disaster management in all phases and dimensions of development.
- There are four strategies, seven programmes and 11 actions (pages 211-213)

Environment and Climate Change:

- **Vision**: Sustainable development through clean and healthy environment
- **Goal**: To implement environment friendly and climate change adaptive development programme
- **Objective**: protect environment to achieve sustainable development goal
- There are three strategies, nine programmes 19 actions (pages 213 – 217)
Relevance to Sustainable Development Goals (SDGs)
Mainstreaming interventions in Nepal

- National Development Planning
- Sector Plan, Policies and Laws

- Policy and Laws
- Project/Program

- Projects
- Services
Addressing Disaster Risks in Development Planning - Perspective from Nepal

- National Periodic Plan - the development guiding document since 1956
- DRR first time introduced as priority in 10th 5 year plan: 2002-2007
  - stressed for DRR policy formulation
  - highlighted the need for institutional strengthening and coordination
  - but no significant progress at the end of implementation
- Subsequent three plans included separate chapters on DRR & M&E indicators included in the annexes to track progress
- 13th 3-year plan
  - highlighted DRM issues as components for development and without mainstreaming - no sustainability.
Disaster Risk Informed Planning in Nepal: Experiences

- LDRMPs/CBDMRMPs
  - useful tool to mainstream DRR at community/local level
  - harmonization with LAPA/CAPA required
- Study on DRR budgeting- shows
  - 4.85% allocation by key ministries
  - Allocation needs to be institutionalized at local (Rural municipality/municipality) and provincial level - vital for future planning
- Risk Informed Planning Guidelines- for NPC’s 14th plan development process
- Formation and capacitating of Focal Point System at key ministries and departments - useful but needs greater focus
National Climate Change Support Programme

- **Duration:** 2011 to July 2017
- **Funding:** DFID and EU
  - Total Budget £ 14.6 M. (2011- July 2016)
  - £ 3.0 M for Bridging phase (July 2016-July 2017)
- **Implementing Agency:** MoPE
- **Collaborating Partners:** MoFALD & AEPC
- **Technical Assistance:** UNDP

**LAPA Coverage**
87 VDCs and 9 municipalities of 14 districts of Mid and Far Western Regions of Nepal

**NCCSP Districts**

<table>
<thead>
<tr>
<th>NCCSP Districts</th>
<th>Vulnerability ranking</th>
</tr>
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<tbody>
<tr>
<td>Mugu and Jajarkot</td>
<td>Very high (0.787-1.000)</td>
</tr>
<tr>
<td>Achham, Dolpa, Kalikot, and Dailekh</td>
<td>High (0.601-0.786)</td>
</tr>
<tr>
<td>Jumla, Rolpa, Rukum, Humla, and Bajura</td>
<td>Moderate (0.356-0.600)</td>
</tr>
<tr>
<td>Bardiya, Dang, and Kailali</td>
<td>Low (0.181-0.355)</td>
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</table>
## NCCSP Goal and Objective

### Goal
- Nepal's poorest and most vulnerable people are able to adapt well to the effects of Climate Change

### Ultimate Objective
- Enhanced capacity of GoN and Non government institutions to implement climate change policy, and adaptation actions; **mainstream CC in key development sectors** & implement CCA through PPP

### Key Outputs
- **Implementation of 100 LAPAs** in 87 VDCs and 9 Municipalities (14 mid and far western districts)
- To establish institutional mechanism to promote scalable adaptation and resilience measures (Regional, District, VDC/Municipality)
- To establish/ develop GoN institutional and funding mechanism for climate change activities
NCCSP: Key Approaches

NCCSP is guided by CC Policy, NAPA, LAPA framework

NCCSP emphasizes:

- strong commitment to women’s empowerment and the inclusion of the poor and socially disadvantaged groups
- good governance at all level
- twin track approach of linking bottom up (local) and top down (national) processes
- mainstreaming climate adaptation into local planning process
NCCSP: Thematic Areas of Adaptation

- Agriculture, Livestock and Food Security
- Forest & Biodiversity
- Alternative Energy
- Climate Induced Hazards and Physical Infrastructure
- Public Health
- Human Resource, Capacity Development and Livelihood

Cross-cutting sectors:
- Gender Equality and Social Inclusion and Livelihood
- Environmental Sustainability
NCCSP: Thematic Distribution of LAPA Actions

1. Agriculture, Livestock and Food Security
   - Irrigation Management like drip irrigation, rainwater, harvesting tanks, diversification of farming system, crop and livestock management
   - 40%

2. Forest Management and Biodiversity
   - Trainings on forest and fire management, plantation, nursery establishment, conservation of wetlands and integrated agroforestry
   - 9%

3. Alternative Energy
   - Improved Cooking Stoves, Biogas. Metal Stove, Solar, Improved Watermills
   - 5%

4. Climate Induced Hazards and Infrastructures
   - Gabion wall, Water Tanks, elevated tap, elevated toilets
   - 26%

5. Human Resource, Capacity Building and Livelihood
   - Capacity development, Skill development trainings, income generation activities
   - 11%

6. Human Health
   - Health camps, equipment supports, health awareness
   - 9%

Total Adaptation Actions: 2,303
**NCCSP** Successes....

- The Programme is delivered through GoN System (On Treasury and On Budget.)

- **Easier to mainstream CCA into local planning process.**

- **Translates policy into practice:** 80% budget at the community level. community.

However,

- Needs continuous capacity development at all levels, and strengthen financial management and reduce fiduciary risks.
Climate Finance in Nepal: Evolution

FUTURE OF CLIMATE FINANCE IN NEPAL
- Establish vision for climate finance in Nepal
- 11 Priority Action by 2020
- Recommend tracking public expenditure within the national budget system

CPEIR
- Central Level Flow Analysis (2007-2010)
- 2% GDP allocation
- 6% of total budget climate relevant allocation
- 55% of donors’ fund is off budget allocation

CLIMATE CHANGE BUDGET CODE
- National budget system allocation analysis
- 11 Criteria used to define climate relevant programme
  - Relevance: 1. Highly relevant (> 60% budget); 2. Relevant (20-60%) and 3. Neutral (less than 20%)
- Application review (11 of the 27 ministries have CC relevant programmes)
Effectiveness of Climate Finance Tools

**Climate Budget Code**
- Not A Mechanical Tool to Say “YES” and “NO”
  - Using Code for climate responsive planning budgeting
  - Setting priorities for climate investments

**Tracking Climate Expenditure**
- Not An Accounting Tool to Record Expenditure
  - Understanding actual impacts on development
  - Linking to accountability and performance
Climate Change Finance: Learnings-Strategic Issues

- Need to strengthen criteria for climate budget allocation in each sector
- Going beyond the mechanics of the budget code to understand the actual impact and effectiveness of climate related expenditures
- How can financial system capture climate related resources coming from outside government sources (DPs, NGOs, private sector)?
- How does the CCFF link with the local governance structure?
- How to strengthen Engagement with parliament and civil societies on effectiveness of climate finance
Climate Investment and Expenditure: Agriculture

Allocations in Agriculture

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<tr>
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<th>Total</th>
<th>Recurrent</th>
<th>Capital</th>
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<tr>
<td>2013/14</td>
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<td>3 millions</td>
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<tr>
<td>2014/15</td>
<td>12 millions</td>
<td>10 millions</td>
<td>22 millions</td>
<td>6 millions</td>
<td>4 millions</td>
<td>10 millions</td>
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<tr>
<td>2015/16</td>
<td>14 millions</td>
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<td>26 millions</td>
<td>7 millions</td>
<td>5 millions</td>
<td>12 millions</td>
</tr>
<tr>
<td>2016/17</td>
<td>16 millions</td>
<td>14 millions</td>
<td>30 millions</td>
<td>8 millions</td>
<td>6 millions</td>
<td>14 millions</td>
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Highly Relevant

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Climate Investment and Expenditure

1. The climate related expenditure in agriculture as a percentage of proposed budgets has declined from 97 percent to 87 percent during FY 2012/13 - FY 2015/16.

2. Climate public expenditure tracking system is virtually absent in the district level.

3. The recurrent expenditures through DADO have been mostly used for subsidies and capital expenditures in office buildings and equipment.
Learnings- climate expenditure

1. Working on budgetary guidelines and mid-term review of the quarterly budget by the District Agriculture offices would improve climate expenditure performance.

2. Local (district level) authorities of the government should be more involved in the preparation and integration of the climate change budget.

3. Current tracking system using Line Ministry Budget Information System (LMBIS) at national level should also be accessible to local government.

4. Capital expenditure must be streamlined to promote productive investment.
Learnings: Socio-economic

1. Productivity enhanced in the project locations as compared to district
2. Income has increased (*in some income has been increased up to 5 fold*)
3. Empowerment of farmers
4. Resilience increased
   - multiple crops, drought resilience, local water management skills, soil health secured, tunnel farming, etc.
Learnings: Socio-economic

Shanta Rani Chaudhary of Guleria-5, Bardiya. Her income has increased up to 5 fold. Supported by the Raising Incomes of Small and Medium Farmers Project (RISMFP)

Women empowered, but unequal pay issues

Market linkages to be strengthened
Learnings: Vulnerability Assessment

1. Agricultural data is not properly analyzed
2. Vulnerability information is scattered. E.g. LAPA, LDRMP/HVCA,
3. Vulnerability information is not used in planning at the local level
4. Information on impact of climate change in agriculture at local level (e.g. DADO) is not available
5. Database: Demographic make up and varying levels of exposure to climate hazards, list of crop varieties, soil profile, and how it has changed due to climate related hazards (diseases, flood, drought, landslide, storm, etc.) is not available
6. Landless or nearly landless and ultra-poor unable to organize into groups (formal & informal networks supporting climate hazard reduction & adaptation)
7. Participatory assessment of vulnerable groups is not practiced at the local level
Learnings: Vulnerability Assessment

1. The technicians and officials at the local level should receive orientation on using the vulnerability assessment tools and reports to improve the budget proposals.

2. Vulnerability tools should be utilized during planning in order to prioritize the climate related programs and target the vulnerable groups (e.g. poor, women, etc.).

3. District Agriculture Office should create a platform where different sources of information related to demographic makeup, an updated list of crop varieties, soil profile, vulnerability profile and how it has changed due to climate related hazards (diseases, floods, droughts, storms, etc.).

4. The vulnerability information should be used in the planning and resource allocation.
Climate Risk Management

Multi-Hazards RISK ASSESSMENT and Integrated Watershed Mgmt. Planning

CAPACITY BUILDING (Community and Local Govt. Official Empowerment)

CB DRR Preparedness, Adaptation and Mitigation Measures

Coordination, Linkages and Networking

Mainstreaming CRM in the regular planning process

Knowledge Sharing and Replication

Resilient Communities
FOCUS of Intervention

Watershed as a unit for intervention

INTEGRATED WATERSHED MGMT.

CLIMATE RISKs

RESILIENT DEVELOPMENT

Science and Local Knowledge based Risk Assessment and planning for Resilient Development
Integrated Climate Risk Management initiatives

Integration of CCA and DRR actions in planning, implementation and monitoring

Reduction of Climate Impacts on lives and livelihoods of the most vulnerable population in Nepal
Approach

Promote an integrated approach of watershed management for sustainable use of natural resources, reducing poverty and addressing climatic risks.

- **Climate Risk Management**
  - Climate Risks Assessment and Watershed Management Planning, EWS, Mitigation and Adaptation measures.

- **Sustainable Natural Resource Management (NRM)**
  - Plantation and bio engineering, Wetland restoration, land productivity conservation, alternative energy...

- **Sustaining development gain**
  - (Building resilience against climatic risks)

- **Capacity building**
  - Community, district and national level GoN agencies

- **Livelihoods improvement**
  - IGAs, business linkages development, climate smart agriculture
CRM interventions in Nepal

1. Promote convergence & mainstreaming of CRM
   - Support formulation of National DRR-CCA frameworks
   - Mainstreaming of CRM into dev plans and policies
   - Sector-specific or community level CRM interventions

2. Strengthen and expand evidence-base for CRM at national and sub-national levels
   - Climate Risks Assessment Tool for watershed prioritization
   - Improve hydro-met data collection & monitoring
   - CB EWS connectivity (local --> nat)

3. Promote institutional, sectoral and community risk reduction and adaptive capacity developed and knowledge management on CRM issues
   - Practice Sharing (knowledge)
   - Community of Practice on CRM
   - Capacity Building (local --> nat)
Risk Sensitive Land-Use Planning (RSLUP)
National Building Codes (NBC)
Risk Sensitive Land Use Plan (RSLUP): Nepal

Mainstreaming Process
- Mobilization of stakeholders agencies
- Participatory planning
- Sensitization and outreach
- Awareness and education campaign
- Training and capacity buildings
- Embedding into integrated planning process

Legislative and Administrative Process
- Formulation/amendments in land policies, legislations to support RSLUP
- Plan evaluation, review and adoption
- Plan implementation and enforcement
- Plan Monitoring and evaluation

Risk Sensitive Land Use Planning
- Data collection and situation analysis
- Setting RSLUP vision, goals and objectives
- Alternative development strategies and selection of preferred strategies
- Detailing of preferred strategies
- Formulation of policies and implementing tools

Disaster Risk Management Parameters
- Multi-hazard Assessment
- Vulnerability assessment
- Risk and Capacity Assessment
- Disaster Risk Management Requirements Assessment

Integrated Infrastructure, Environment and Social Development
- Transportation masterplan/Transit Oriented Development
- Heritage conservation
- Ecosystem and Environment
- Urban redevelopment and regeneration
- Private sector participation
- Urban poverty reduction

Institutional Reforms and Setup
- Setup of RSLUP implementation and enforcement authority
- Institutional strengthening of the authority
Urban Growth Trend

Risk Sensitive Land Use Planning in KV

Evaluation of Existing building by-laws with respect to current growth trend and future forecasting

Strategic recommendation for KV-RSLUP

Development of KV-RSLUP and implementable action plans/by-laws

Land use change and trend
- 1970-2010, 2012

Driving Factors
- Seismic Hazard
- Flood
- Landslide
- Industrial
- Environment

Multi-Hazard Assessment

Land use Projection 2020/2030
- Business as usual model
- LTDP 2020
- Revision to LTDP (considering multi-hazard scenario)
Seismic resilience through National Building Codes and RSLUP

NBC implementation: A governance issue

Building Permit System
- Governance tool, legal process, accountability, revenue

- Safety of Buildings, structural designs and details

Building Bye - Laws
- Standards of buildings with space, roadways, height and density
Long, Sustained Engagement Needed…

Measuring progress in NBC

➢ Wider stakeholder engagement

Kathmandu Valley Building Stock

- Total building stock
- Resilient buildings

<table>
<thead>
<tr>
<th>Period</th>
<th>Current Buildings</th>
<th>10 years Buildings</th>
<th>20 years Buildings</th>
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<tbody>
<tr>
<td>20%</td>
<td></td>
<td>32%</td>
<td>41%</td>
</tr>
</tbody>
</table>

Graph showing the growth of building stock over time with a percentage increase each decade.
References


- Singh, V.; Governance of Climate Change Finance To benefit the poor and vulnerable in Asia and Pacific. www.cfade.org

- National Disaster Risk Reduction Centre (NDRC) Nepal. “Impact of Climate Change Finance on the Poor who are Climate Vulnerable”. Collaborative Research with Ministry of Agricultural Development (MoAD), UNDP