Disclaimer

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Disaster Risk Reduction and Management: A Country Report of Nepal

Feb, 2020
ADRC, Kobe, Japan

Nepal and Disasters

Key DRR Policies
- Constitutional Provision
- DRR and Management Act, 2017
- DRRM Regulations, 2019
- Local Government Operations Act, 2017
- DRR National Policy, 2018
- DRR National Strategic Action Plan, 2018-30
- National Periodic Plan
- Various Other Guidelines

Primary Functions of MoHA
- Maintain law and order,
- Maintain Peace and security
- Immigration and border control
- Disaster management
- Manage Local Administration
- Manage National ID, citizenship and civil registration

DRR Roles & Organizational Chart

Roles of MoHA for DRR
- Develop National DRR policies and plans
- Monitor the Implementation of DRR policies
- Preparing DRR Reports
- Cluster Coordination and Leads Logistic Cluster
- National/international DRR stakeholders coordination.

Ministry of Home Affairs (MoHA)

- National Disaster Risk Reduction and Management Authority (NDRRMA)
- Disaster and Conflict Management Division

- National Emergency Operation Center (NEOC)
- Disaster Study, Risk Reduction and Recovery Section
Coordination Mechanism

SFDRR Implementation
Nepal’s roadmap to implement SFDRR is Disaster Risk Reduction National Strategic Plan of Action (2018-2030)

4 Priority Areas, 18 Priority Actions and 271 Activities

Priority 1: Understanding Disaster Risk:

- Assessments and database
  - Initiate mapping and consolidate various multi-hazard risk assessments.
  - Comprehensive Disaster Information Management System (DIMS).

- Capacity Building
  - Capacity development of security forces for SAR.
  - Awareness program on DRM to government & non government stakeholders.

- Monitoring
  - Establish and expand Seismic stations, hydro-meteorological stations, lightning detection centers.
  - Prepare Kathmandu valley soil liquefaction map.
  - Major glacier lakes monitoring and regular assessment system in place.
  - Forest and bush fire monitoring
Priority 2: Strengthening Disaster Risk Governance at Federal, Provincial and Local Level:

- Institutional Arrangements
  - National DRRM Authority (9th December, 2019)
  - DRRM Councils at Federal and Provincial Level and DRM Committees at all levels.
  - Institutional structures, identify focal person (units)

- Policy backups
  - DRR policies, laws, action plans.
  - Localization of DRR policies and legal frameworks
  - DRR and CCA are incorporated in local levels planning (LDCRP)

- Engagements
  - Disaster preparedness and response activities
  - Mainstream DRR in development plans
  - EOCs established at all levels
  - DRM Funds at all levels

Priority 3: Promoting Comprehensive Risk-Informed Private and Public Investments in Disaster Risk Reduction for Resilience:

- DRRM investments
  - Public funds
  - Donors, Development partners, UN agencies, (I)NGOs
  - Private sector (Recovery and reconstruction)

- Recovery program undergoing (Public+Partners+Private)
  - 2015 Earthquake
  - 2017 Floods

- Partnership initiatives
  - Managed disaster funds at each level
  - Encourage private sectors to invest on DRR programs
  - Public and Private properties are identified as open space in Kathmandu Valley

- Risk Transfer models
  - Health Insurance, Livestock insurance, Social Security in place.
  - Karnali Province insured all its citizens for Disaster and Accidental incidents.
SFDRR Implementation....Contd

Priority 4: Enhancing Disaster Preparedness for Effective Response and to "Build Back Better" in Recovery, Rehabilitation and Reconstruction:

- Recovery, Rehabilitation and Reconstruction
  - National Reconstruction Authority leads reconstruction activities as per the Rehabilitation Policy and Post Disaster Recovery Framework.
  - NRA supports disasters-affected people with reconstruction needs
  - Apply "Build Back Better" principle in reconstruction
  - Enforcement of Building Code
  - Early warning system (Hydro-meteorological) disease surveillance system (EWARS)

- Preparedness for Response (Resource and Capacity)
  - DPRP LDCRP plans and simulation exercises
  - Enhanced SAR capacity of security forces, each of them have DRR school
  - Community-based disaster activities on mitigation and prevention
  - Regular updates of heavy equipment located in the strategic locations
  - HSA at the center, FLBs at Province & MLHs strategic locations
  - Warehouse at federal, provincial and local levels
  - Trauma centers at strategic Locations

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### Multi-hazard scenario of Nepal by its socio-economic loss, 1971-2018

<table>
<thead>
<tr>
<th>Type of Disaster</th>
<th>No. of Incidents</th>
<th>Death</th>
<th>Missing</th>
<th>Injured</th>
<th>Affected Family</th>
<th>Houses Damaged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire</td>
<td>12694</td>
<td>1755</td>
<td>2176</td>
<td>265962</td>
<td>90044</td>
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<tr>
<td>Lightning</td>
<td>2143</td>
<td>1780</td>
<td>3235</td>
<td>7758</td>
<td>1000</td>
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<tr>
<td>Landslide</td>
<td>3729</td>
<td>5141</td>
<td>191</td>
<td>2053</td>
<td>559347</td>
<td>34094</td>
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<tr>
<td>Wind storm</td>
<td>298</td>
<td>21</td>
<td>95</td>
<td>1718</td>
<td>1279</td>
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<tr>
<td>Flood</td>
<td>4368</td>
<td>4628</td>
<td>87</td>
<td>615</td>
<td>3726261</td>
<td>230900</td>
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<tr>
<td>Epidemic</td>
<td>3474</td>
<td>16598</td>
<td>44992</td>
<td>513409</td>
<td>0</td>
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<tr>
<td>Avalanche</td>
<td>3</td>
<td>17</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>0</td>
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<tr>
<td>Snow Storm</td>
<td>7</td>
<td>97</td>
<td>7</td>
<td>0</td>
<td>10</td>
<td>0</td>
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<tr>
<td>Hallstorms</td>
<td>134</td>
<td>9</td>
<td>24</td>
<td>3407</td>
<td>157</td>
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<tr>
<td>Earthquakes</td>
<td>175</td>
<td>9771</td>
<td>29142</td>
<td>890955</td>
<td>982855</td>
<td></td>
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<tr>
<td>Cold Waves</td>
<td>438</td>
<td>563</td>
<td>83</td>
<td>2441</td>
<td>0</td>
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</tr>
<tr>
<td>Others*</td>
<td>1134</td>
<td>626</td>
<td>13</td>
<td>919</td>
<td>3214</td>
<td>2461</td>
</tr>
<tr>
<td>Total</td>
<td>28597</td>
<td>41006</td>
<td>302</td>
<td>83341</td>
<td>5974523</td>
<td>1342790</td>
</tr>
</tbody>
</table>

(Average) 608 872 7 1773 127118 28570

Source: NEOC, MoHA, 2018 *Structure Collapse, drowning, boat capsize, animal attack and others
Loss and Damage by 2015, Gorkha ML7.6 EQ

<table>
<thead>
<tr>
<th>Disaster Effects (NPR million)</th>
<th>Distribution of Disaster Effects (NPR million)</th>
<th>Losses in personal income (NPR million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Sectors</td>
<td>Damages: 315,638</td>
<td>Losses: 315,197</td>
</tr>
<tr>
<td>Housing and Human Settlements</td>
<td>335,622</td>
<td>45,908</td>
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<tr>
<td>Health</td>
<td>6,422</td>
<td>1,122</td>
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<tr>
<td>Education</td>
<td>28,064</td>
<td>3,356</td>
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<tr>
<td>Cultural Heritage</td>
<td>16,910</td>
<td>2,313</td>
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<tr>
<td>Productive Sectors</td>
<td>38,074</td>
<td>120,046</td>
</tr>
<tr>
<td>Agriculture</td>
<td>16,406</td>
<td>11,062</td>
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<tr>
<td>Irrigation</td>
<td>363</td>
<td>-</td>
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<tr>
<td>Commerce</td>
<td>9,013</td>
<td>7,938</td>
</tr>
<tr>
<td>Industry</td>
<td>8,394</td>
<td>10,077</td>
</tr>
<tr>
<td>Tourism</td>
<td>18,662</td>
<td>42,379</td>
</tr>
<tr>
<td>Finance</td>
<td>5,175</td>
<td>26,890</td>
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<tr>
<td>Infrastructure Sectors</td>
<td>22,460</td>
<td>14,523</td>
</tr>
<tr>
<td>Electricity</td>
<td>20,697</td>
<td>3,425</td>
</tr>
<tr>
<td>Communications</td>
<td>3,610</td>
<td>5,865</td>
</tr>
<tr>
<td>Community Infrastructure</td>
<td>3,349</td>
<td>-</td>
</tr>
<tr>
<td>Transport</td>
<td>17,198</td>
<td>4,930</td>
</tr>
<tr>
<td>Water and Sanitation</td>
<td>10,166</td>
<td>4,930</td>
</tr>
<tr>
<td>Cross-Cutting Issues</td>
<td>51,872</td>
<td>1,061</td>
</tr>
<tr>
<td>Governance</td>
<td>18,757</td>
<td>-</td>
</tr>
<tr>
<td>Disaster Risk Reduction</td>
<td>155</td>
<td>-</td>
</tr>
<tr>
<td>Environment and Forestry</td>
<td>32,060</td>
<td>1,061</td>
</tr>
<tr>
<td>Total</td>
<td>317,434</td>
<td>100,827</td>
</tr>
<tr>
<td>Total (US$ million)</td>
<td>$5,174</td>
<td>$1,890</td>
</tr>
</tbody>
</table>

Source: Post Disaster Need Assessment Report 2015; National Planning Commission, Nepal

Trend of Disaster Events

After 2015, the numbers of disaster incidents is increasing significantly.
## Disasters Incidents

Disaster incidents and its impact in Nepal

(Year 2019)

<table>
<thead>
<tr>
<th>No. of Incidents</th>
<th>Dead</th>
<th>Missing</th>
<th>Injured</th>
<th>Affected Family</th>
<th>Estimated Loss (NPRs)</th>
<th>No. of House Damaged</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,538</td>
<td>489</td>
<td>41</td>
<td>2,452</td>
<td>25,264</td>
<td>4,709,510,265</td>
<td>4,939</td>
</tr>
</tbody>
</table>

### Top 5 Disaster claiming Human lives
- Thunderbolt - 94
- Landslide - 86
- Fire - 78
- Flood - 73
- Windstorm - 40

### Top 5 Disaster causing Financial loss in NPRs.
- Fire - 3,069,627,416
- Flood - 1,063,495,249
- Landslide - 405,186,000
- Windstorm - 77,473,200
- Snowstorm - 53,085,000

Source: National Emergency Operation Center, MOHA; www.drrportal.gov.np

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## Reconstruction after 2015

Gorkha Earthquake M7.6

![Diagram of reconstruction progress]

- 68% of 13,056 houses have been reconstructed
- 95% of 2,489 houses have been inspected
- 80% of affected households have received financial support
- 99% of surveyed houses have been completed

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![Diagram of government agencies and projects]

- Public Buildings
- Health Institutions
- Cultural Heritage
- Educational Institutions
- Security Buildings

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![Survey and Verification process]

- 100% of households have been surveyed
- 98% of households have received financial aid
- 95% of households have been verified
- 80% of households have received legal aid

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![Relocation of vulnerable population]

- 100% of families have been relocated
- 95% of families have received relocation grants
- 90% of families have been provided land for relocation
- 80% of families have received legal assistance
### Response Policies and Frameworks

#### National Disaster Response Framework, 2019 (Revised)

**Cluster Approach**

<table>
<thead>
<tr>
<th>Cluster Approach</th>
<th>lead/co-lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAR and Logistics Cluster</td>
<td>MoHA/WFP</td>
</tr>
<tr>
<td>Health Cluster</td>
<td>MoHP/WHO</td>
</tr>
<tr>
<td>WASH</td>
<td>MoUD/Unicef</td>
</tr>
<tr>
<td>Nutrition Cluster</td>
<td>MoHP/Unicef</td>
</tr>
<tr>
<td>Emergency Shelter Cluster</td>
<td>MoUD/IFRC</td>
</tr>
<tr>
<td>CCCM Cluster</td>
<td>MoUD/IOM</td>
</tr>
<tr>
<td>Food Security Cluster</td>
<td>MoALSD/WFP</td>
</tr>
<tr>
<td>Education Cluster</td>
<td>MoEST/Unicef, Save the Children</td>
</tr>
<tr>
<td>Protection Cluster</td>
<td>MoWCSC/UNFPA</td>
</tr>
<tr>
<td>Emergency Telecommunication Cluster</td>
<td>MOCIT/WFP</td>
</tr>
<tr>
<td>Early Recovery Network Cluster</td>
<td>MOFAGA/UNDP</td>
</tr>
</tbody>
</table>

#### Framework for Assistance/Coordination

![Diagram showing the framework for assistance/coordination](image)
Framework for Assistance and Coordination

Response Mechanism in case of beyond National Capacity

Assistance and Coordination

Response Mechanism within the National Capacity
Challenges:

- **Mainstreaming DRRM**
  - Plans and activities of governments reflected and underscored in the for DRR are not substantiated in their annual programs and budgets.
  - Lack of tools to assess contribution of an investment in development sectors towards DRR.
  - Understanding risk of different geographies, different communities, different hazards and different economic activities while scientific risk assessments are very limited.
  - Lack of common understanding between and within the new governance system stands as another challenge.

- **Institutional strengthening and capacity building**
  - DRR approach has not come in front on the institutions. New policies are gearing up the concept.
  - Scope and O&M of new NDRRMA is yet to be confirmed.
  - SOPs and standards have not been fully developed
  - Overlapping, lack of uniformity and common understanding
  - Lack of adequate coherence in different national and international instruments

Challenges...

- **Other challenges**
  - Information, technology and knowledge gap on the practical aspects of the DRRM
  - Prevalence of new forms disaster, urbanization, unprecedented disaster.
  - Aligning DRRM landscape with political transformation
  - Uncertainty of risk due to climate change.

- **Trans-boundary nature of hazards and need of bilateral and international efforts.**
  - Proper utilization of financial and other resources and the capacity available internally and externally with transparency.
  - Disaster Information and Management System is developed and launched. The information and its continuity.
  - Ensuring Inclusiveness.
Way forward:

- Better understanding of disaster risk through scientific research and comprehensive risk assessment
- Formulation of additional necessary DRR policy measures, strategies, guidelines by 2020. (Land use plan, Early warning System etc.)
- Institutional arrangements and set up of institutional structures (such as NDRRMA, EOCs).
- Implement actions of Strategic Action Plan - complete short-term, and initiate and complete long term as appropriate.(Building code)
- Bilateral and international cooperation regarding our priorities. (International support for technological transfer, knowledge management)
- Empowering province and local governments for effective leadership role in disaster risk management
- Ensure meaningful participation of persons with disability, minority and vulnerable groups in the overall DRR program decisions and implementation.
- Develop international fund for DRR in developing countries
- Provide and share more data and evidence on the benefits of investing in preparedness.
- Effective and integrated implementation of DIMS.
- The disaster resilient livelihood options need to be promoted to strengthen community resilience
- Ensure appropriate technologies and innovations are in place to have the biggest impact on overall DRRM of the country
- Develop multi hazard SAR capacity at all levels.

My Research:


- Nepal has new governance system with new laws
- There are DRR related acts, policies, plan and some guidelines at the Federal level
- Province and local level are issuing new laws under the national umbrella
- The guiding instruments for technical aspects is lacking
- Many other things may lack

Expected Results:

- I. Identification of policy gaps in disaster risk management in Nepal
- II. Prescribing the policy needs for emergency management and disaster risk reduction in Nepal
- III. Enhance personal skill to work for DRR in Nepal
Thank You
Dhanyabad
Arigato Gozaimasu

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