



# NEPAL NATIONAL DISASTER PREPAREDNESS BASELINE ASSESSMENT

**A DATA-DRIVEN TOOL FOR  
ASSESSING RISK AND BUILDING  
LASTING RESILIENCE**



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# LIST OF ABBREVIATIONS

<b>AAR:</b> After Action Report	<b>COG:</b> Continuity of Government	<b>DMF:</b> Disaster Management Fund
<b>ADB:</b> Asian Development Bank	<b>COOP:</b> Continuity of Operations	<b>DMG:</b> Department of Mines and Geology
<b>ADPC:</b> Asian Disaster Preparedness Centre	<b>COP:</b> Common Operating Picture	<b>DoHS:</b> Department of Health Services
<b>ADRA:</b> Adventist Development and Relief Agency	<b>COVID-19:</b> Corona Virus Disease 2019	<b>DR:</b> Department of Roads
<b>AIN:</b> Association of International NGOs in Nepal	<b>CSO:</b> Civil Society Organization	<b>DRC:</b> Danish Red Cross
<b>APF:</b> Armed Police Forces	<b>DANA:</b> Damage Assessment and Needs Analysis	<b>DREE:</b> Disaster Response Exercise and Exchange
<b>BIPAD:</b> Building Information Platform Against Disaster	<b>DDMC:</b> District Disaster Management Committees (See also local LDMC)	<b>DRF:</b> Disaster Risk Financing
<b>CAP:</b> Common Alerting Protocol	<b>DDRC:</b> District Disaster Relief Committee (See also CNDRC and LDRC)	<b>DRM:</b> Disaster Risk Management
<b>CBO:</b> Community-Based Organization	<b>DDRRMC:</b> District Disaster Risk Reduction and Management Committee (see also LDRRMC and PDRRMC)	<b>DRR:</b> Disaster Risk Reduction
<b>CBS:</b> Central Bureau of Statistics	<b>DEOC:</b> District Health Emergency Operation Center (see also PHEOC and LEOC)	<b>DRRM:</b> Disaster Risk Reduction and Management
<b>CCA:</b> Climate Change Action/Adaptation	<b>DHM:</b> Department of Hydrology and Meteorology	<b>DUDBC:</b> Department of Urban Development and Building Construction
<b>CDO:</b> Chief District Officer	<b>DHS:</b> Department of Health Services	<b>DWSS:</b> Department of Water Supply and Sewerage (under Ministry of Water Supply)
<b>CE:</b> Chief Executive	<b>DIMS:</b> Disaster Information Management System	<b>EMI:</b> Earthquakes and Megacities Initiative
<b>CECI:</b> Center for International Studies and Cooperation	<b>DM:</b> Disaster Management	<b>EOC:</b> Emergency Operations Center
<b>CENFRI:</b> Centre for Financial Regulation & Inclusion	<b>DMA:</b> Disaster Management Analysis	<b>EOP:</b> Emergency Operations Plan
<b>CFE-DM:</b> Center for Excellence in Disaster Management		<b>ESF:</b> Emergency Support Function
<b>CMC:</b> Center for Mental Health & Counseling		<b>EWS:</b> Early Warning System
<b>CNDRC:</b> Central Natural Disaster Relief Committee (See also DDRC and LDRC)		

# LIST OF ABBREVIATIONS

**FAO:** Food and Agriculture Organization (of the United Nations)

**FEWS:** Flood Early Warning System

**FMTC:** Food Management and Trading Company

**FNCCI:** Federation of Nepalese Chamber of Commerce and Industries

**GDP:** Gross Domestic Product

**GESI:** Gender Equality and Social Inclusion

**GFDS:** Global Flood Detection System

**GIDC:** Government of Integrated Data Centre

**GloFAS:** Global Flood Awareness System

**GoN:** Government of Nepal

**GP:** Guiding Principle (of the Sendai Framework for Disaster Risk Reduction)

**GT:** Global Target (of the Sendai Framework for Disaster Risk Reduction)

**HAZMAT:** Hazardous Materials

**HCT:** Humanitarian Country Team

**HEOC:** Health Emergency Operation Center

**HEZ:** Himalayan Ecological Zone

**HRRP:** Housing Recovery and Reconstruction Platform

**HSA:** Humanitarian Staging Area

**HuMOCC:** Humanitarian Civil-Military Coordination

**HVR:** Hazard, Vulnerability and Risk

**ICRC:** International Committee of the Red Cross

**ICS:** Incident Command System

**IFRC(S):** International Federation of Red Cross and Red Crescent (Societies)

**IHC:** International Humanitarian Communities

**I/NGO:** International Nongovernmental Organization

**IOM:** International Organization for Migration

**JICA:** Japan International Cooperation Agency

**LDMC:** Local Disaster Management Committee (See also DDMC)

**LDRRMC:** Local Disaster Risk Reduction and Management Committee (see also DRRMC and PDRRMC)

**LGO:** Local Government Operationalization [Act]

**LWF/LWR:** Lutheran World Federation/Lutheran World Relief

**M&E:** Monitoring and Evaluation

**MDA:** Ministry, Department or Agency

**MFI:** Microfinance institution

**MNMCC:** Multinational Military Coordination Center

**MoAD:** Ministry of Agricultural Development (superseded by MoALD)

**MoALD:** Ministry of Agriculture and Livestock Development

**MoCIT:** Ministry of Communications and Information Technology

**MoE:** Ministry of Education

**MoEWRI:** Ministry of Energy, Water Resources and Irrigation

**MoF:** Ministry of Finance

**MoFA:** Ministry of Foreign Affairs

# LIST OF ABBREVIATIONS

**MoFAGA:** Ministry of Federal Affairs and General Administration (formerly MoFALD)

**MoFALD:** Ministry of Federal Affairs and Local Development (superseded by MoFAGA)

**MoFE:** Ministry of Forests and Environment

**MoH:** Ministry of Health (superseded by MoHP)

**MoHA:** Ministry of Home Affairs

**MoHP:** Ministry of Health and Population (formerly MoH)

**MoIC:** Ministry of Information and Communications (superseded by MoCIT)

**MoLCPA:** Ministry of Land Management, Cooperatives and Poverty Alleviation

**MoLESS:** Ministry of Labour, Employment and Social Security

**MOU:** Memorandum of Understanding

**MoUD:** Ministry of Urban Development

**MoWCSW:** Ministry of Women, Children, and Social Welfare

**MoWSS:** Ministry of Water Supply and Sanitation

**NACRIMAC:** Nepalese Army Crisis Management Center

**NAP:** National Adaptation Plan

**NASC:** Nepal Administrative Staff College

**NAST:** Nepal Academy of Science and Technology

**NBC:** National Building Code

**NCCP:** National Climate Change Policy

**UNITAR:** United Nations Institute for Training and Research

**NCDM:** National Centre for Disaster Management

**NDMA:** National Disaster Management Authority

**NDMO:** National Disaster Management Office

**NDPBA:** National Disaster Preparedness Baseline Assessment (of PDC)

**NDRF:** National Disaster Response Framework

**NDRRMA:** National Disaster Risk Reduction and Management Authority

**NDRRSAP:** National Disaster Risk Reduction Strategy Action Plan

**NEA:** Nepal Electricity Authority

**NEMRC:** National Earthquake Monitoring & Research Centre

**NEOC:** National Emergency Operations Center

**NA:** Nepali Army

**NEWSAP:** National Early Warning Strategic Action Plan

**NFN:** NGO Federation of Nepal

**NGI:** Norwegian Geotechnical Institute

**NGO:** Nongovernmental Organization (See also INGO)

**NHRC:** Nepal Human Rights Commission

**NMBA:** Nepal Microfinance Banker's Association

**NP:** Nepali Police

**NPC:** National Planning Commission

**NPSD:** National Platform on Sustainable Development

**NR:** Rupee (see also NPR)

**NRA:** National Reconstruction

# LIST OF ABBREVIATIONS

Authority

**NRCS:** Nepal Red Cross Society

**NSC:** National Seismological Centre

**NSS:** National Statistical System

**NTC:** Nepal Telecom Company

O&M: Operations and Maintenance

**OCHA:** [United Nations] Office for the Coordination of Humanitarian Affairs (See also UNOCHA)

**OSOCC:** On-Site Operations Coordination Centre (of UNDAC)

**PDC:** Pacific Disaster Center

**PDMEC:** Provincial Disaster Management Executive Committee

**PDNA:** Post-Disaster Needs Assessment

**PDRRMC:** Provincial Disaster Risk Reduction and Management Committee (see also LDRRMC and DRRMC)

**PFA:** Priorities for Action (of the Sendai Framework for Disaster Risk Reduction)

**PHCC:** Primary Healthcare Center

**PHEOC:** Provincial Health Emergency Operation Center (see also DEOC and LEOC)

**PHLMC:** Provincial Health Logistics Management Center

**PM:** Prime Minister

**PMNDRF:** Prime Minister Disaster Relief Fund

**PPP:** Public-Private-Partnership

**R&D:** Research and Development

**RCG:** Regional Consultative Group (on Humanitarian Civil-Military Coordination for Asia and the Pacific)

**REAP:** Risk-Informed Early Action Partnership

**RVA:** Risk and Vulnerability Assessment

**SAARC:** South Asian Association for Regional Cooperation

**SAG:** Strategic Advisory Group

**SAR:** Search and Rescue (Also S&R)

**SCT:** Shelter Cluster Coordination Team

**SD:** Sustainable Development

**SDG:** Sustainable Development Goal

**SDMC:** SAARC Disaster Management Centre

**SKBBL:** Sana kisan Bikas Laghubitta Bittyasanstha Ltd./ Small Farmers' Development Bank Microfinance Financial Institution Ltd

**SME:** Small and Medium Enterprise

**SOP:** Standard Operating Procedure

**STC:** Salt Trading Corporation

**SWC:** Social Welfare Council

**TEZ:** Terai Ecological Zone

**TIA:** Tribhuvan International Airport

**UGC:** University Grants Commission

**UN:** United Nations

**UN-CMCoord:** United Nations Civil-Military Coordination

**UNDAC:** United Nations Disaster Assessment and Coordination

**UNDP:** United Nations Development Programme

**UNDRR:** United Nations Office for Disaster Risk Reduction

**UNFCCC:** United Nations Framework Convention on Climate Change

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# LIST OF ABBREVIATIONS

**UNFPA:** United Nations Population Fund

**UNHCR:** United Nations High Commissioner for Refugees

**UNICEF:** United Nations Children’s Fund

**UN-INSARAG:** United Nations International Search and Rescue Advisory Group

**UNRCO:** United Nations Resident Coordinator’s Office

**U.S. or US:** United States

**USAID-OFDA:** United States Agency for International Development Office of U.S. Foreign Disaster Assistance

**USD:** United States Dollar

**USINDOPACOM:** United States Indo-Pacific Command

**VDC:** District Development Committee (see also DDC)

**WASH:** Water, Sanitation, and Hygiene

**WFP:** World Food Programme

**WHO:** World Health Organization

**YIL:** Youth Innovation Lab

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**NDPBA**

# **EXECUTIVE SUMMARY**

# EXECUTIVE SUMMARY

PDC's National Disaster Preparedness Baseline Assessment (NDPBA) is more than just an assessment; it's a sustainable system for understanding, updating, accessing, and applying critical risk information in decision making. The NDPBA provides the necessary tools, scientific data, and evidence-based practice to effectively reduce disaster risk – informing decisions at the national and sub jurisdictional levels. The NDPBA includes a Risk and Vulnerability Assessment (RVA) which examines several components of risk including hazard exposures, vulnerability, and coping capacity. These findings are further reviewed through the lens of PDC's unique Disaster Management Analysis (DMA). The DMA contextualizes the RVA and guides recommendations designed to increase resilience and reduce disaster risk.

PDC worked in partnership with the Nepal Ministry of Home Affairs – National Disaster Risk Reduction Management Agency (NDRRMA) to integrate national priorities and stakeholder feedback throughout the process. Findings of this analysis were compiled into a Disaster Risk Reduction (DRR) Plan offering practical actions to be taken over a five-year period. The NDPBA provides Nepal with the essential tools and data for disaster risk monitoring while aligning recommended actions with the United Nations Development Goals and the Sendai Framework for Disaster Risk Reduction 2015-2030.

The NDPBA was conducted while the Government of Nepal was challenged with the still ongoing recovery from the 2015 Gorkha Earthquake and the effects of climate change especially with torrential rains and associated floods and landslides, and the Global COVID Pandemic. These events presented challenges and opportunities in helping to understand and actively observe the capabilities of Nepal's disaster management structure. The NDPBA was funded by the United States Government through the United States Indo-Pacific Command (USINDOPACOM) and conducted in coordination with United States Embassy in Kathmandu. Although the NDRRMA was PDC's in-country partner during this project, PDC also developed relationships and data-sharing agreements with other agencies and organizations working in Nepal that supported the data gathering and vetting process.

To access all findings, recommendations, and data (tabular and spatial), developed for this analysis, please visit the PDC's DisasterAWARE platform at <https://disasteraware.pdc.org/>.



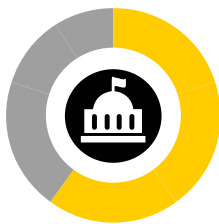
# SUMMARY OF FINDINGS (See page 47 for Nepal Resilience Map.)

## RESILIENCE BY DISTRICT

	RANK	DISTRICT	INDEX SCORE		RANK	DISTRICT	INDEX SCORE
VERY HIGH	1	Kathmandu	0.800	MODERATE	40	Baglung	0.487
	2	Kaski	0.764		41	Ramechhap	0.483
	3	Lalitpur	0.759		42	Panchthar	0.483
	4	Bhaktapur	0.709		43	Taplejung	0.474
	5	Chitawan	0.702		44	Surkhet	0.474
	6	Jhapa	0.668		45	Saptari	0.473
	7	Manang	0.644		46	Sankhuwasabha	0.472
	8	Nawalparasi East	0.641		47	Kapilvastu	0.464
	9	Rupandehi	0.635		48	Okhaldhunga	0.463
	10	Sunsari	0.633		49	Khotang	0.461
	11	Morang	0.619		50	Rasuwa	0.452
	12	Nawalparasi West	0.615		51	Bhojpur	0.448
	13	Kabhrepalanchok	0.609		52	Udayapur	0.448
	14	Banke	0.593		53	Argkhanchi	0.442
HIGH	15	Tanahu	0.591	LOW	54	Sarlahi	0.432
	16	Dhankuta	0.576		55	Siraha	0.431
	17	Parsa	0.568		56	Rautahat	0.418
	18	Mustang	0.568		57	Rukum East	0.408
	19	Syangja	0.560		58	Darchula	0.407
	20	Kanchanpur	0.559		59	Pyuthan	0.405
	21	Ilam	0.548		60	Sindhuli	0.399
	22	Dang	0.544		61	Mahottari	0.384
	23	Makawanpur	0.542		62	Dadeldhura	0.375
	24	Parbat	0.541		63	Mugu	0.365
	25	Palpa	0.540		64	Rukum West	0.355
	26	Bardiya	0.537		65	Dailekh	0.352
	27	Lamjung	0.534		66	Rolpa	0.343
	28	Kailali	0.532		67	Jumla	0.330
MODERATE	29	Sindhupalchok	0.532	VERY LOW	68	Baitadi	0.329
	30	Nuwakot	0.530		69	Doti	0.313
	31	Bara	0.530		70	Achham	0.305
	32	Gorkha	0.526		71	Salyan	0.303
	33	Dolakha	0.521		72	Kalikot	0.274
	34	Solukhumbu	0.516		73	Bajura	0.267
	35	Dhading	0.514		74	Dolpa	0.259
	36	Terhathum	0.511		75	Jajarkot	0.248
	37	Dhanusha	0.508		76	Bajhang	0.236
	38	Myagdi	0.501		77	Humla	0.182
	39	Gulmi	0.488				

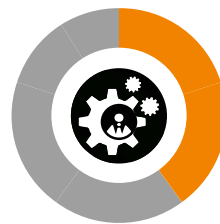
# DISASTER MANAGEMENT ANALYSIS

- Limited or No Capacity
- Early Capacity Development
- Achievement with Significant Limitation
- Substantial Progress with Some Limitation
- Advanced Capacity



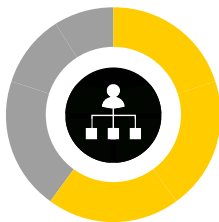
## Enabling Environment

- Legal Instruments
- Financial Resources
- Strategies
- Public Confidence and Political Support
- Attitudes and Experience



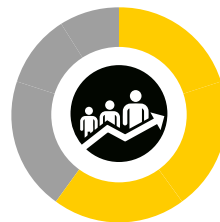
## Capabilities and Resources

- Dedicated Facilities and Equipment
- Human Resources
- Inventory of Commodities and Supplies
- Targeted Functional Capabilities



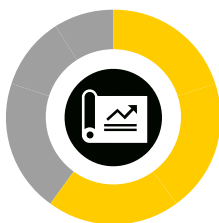
## Institutional Arrangements

- Organizational Structures
- Leadership Arrangements
- Mechanisms for Stakeholder Engagement



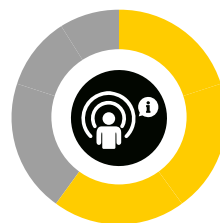
## Capacity Development

- Capacity Development Plans and Strategies
- Training and Education Programs and Facilities
- Certification Programs
- After-Action Reporting
- Monitoring and Evaluation Processes and Systems



## Disaster Governance Mechanisms

- Plans
- Standard Operating Procedures
- Emergency Operations Centers
- Command, Control, and Coordination Systems



## Communication and Information Management

- Hazard and Risk Analysis Systems
- Disaster Assessment
- Media and Public Affairs
- Information Collection, Management, and Distribution
- Monitoring and Notifications

---

# RECOMMENDATIONS



The recommendations are included in greater detail in the body of the report. Our hope is that the Government of Nepal and key development and disaster management partners will leverage the results of this comprehensive assessment to enable a more robust and sustainable disaster risk reduction effort in Nepal that will contribute to saving lives and property.

## IN LIGHT OF OUR FINDINGS, PDC MAKES THE FOLLOWING RECOMMENDATIONS:

---

# 1

**Operationalize the legal disaster management framework to better support strategic and tactical implementation in Nepal.**

---

# 2

**Strengthen the institutional capacity of the National Disaster Risk Management Authority (NDRRMA).**

---

# 3

**Strengthen support for the National DRR/DM Fund.**

---

# 4

**Apply a whole-of-government approach to resilience building.**

---

**5** Leverage existing partnerships with international governments and organizations.

---

**6** Enhance the National Disaster Response Framework (NDRF).

---

**7** Engage the private sector, NGOs, academia, and media in the government DRM framework.

---

**8** Develop resilience/COOP/COG plans for the country's critical infrastructure sectors and integrate plans across the sectors and regional plans.

---

**9** Build human resource capacity across the nation to support DM efforts.

---

**10** Implement a standard incident management system at all levels of government.

---

**11** Develop/upgrade early warning systems for hydrometeorological events.

---

**12** Develop a national risk transfer strategy for natural hazards, including national and household-level insurance programs.

---

**13** Maintain inventories of disaster warehouses and maintain inventories locally and at the HSAs.

---

**14** Develop a nationwide evacuation and shelter plan.

---

**15** Standardize data collection and storage for the National Statistical System.

---

**16** Increase information access and sharing among all DM stakeholders.

---

**17** Engage the public in efforts to reduce vulnerability and increase coping capacity.

---

**18** Promote data gathering for continued comprehensive risk monitoring across Nepal.

---

**19** Develop sustainable land use planning policies by taking into consideration primary hazards.

---

**20** Reduce marginalization and promote gender equality; actively engage marginalized groups in DRR and promote policies to support economic and educational opportunities for women and other underserved communities.

---

**21** Adopt a comprehensive, evidence-based plan to address disparities in education, health care, and economic opportunities.

---

**22** Build policies and partnerships to address food security.

---

**23** Plan for an increasing population to promote sustainable development.

---

**24** Reassess progress made toward disaster risk reduction and resilience goals.

---

**25** Develop a formal mechanism to assess progress toward achieving DRR (Sendai), Climate Adaptation, and SDGs.



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**NDPBA**

# **COUNTRY BACKGROUND**

# GEOGRAPHY

**56,827 mi<sup>2</sup>**

Land Area (147,181 km<sup>2</sup>)

**95<sup>th</sup>**

Largest in the World

**Kathmandu**

Capital City

**3**

Geographic Regions  
(Terai, Hill, Mountain)

**77**

Districts

**753**

Municipalities

**7**

## Provinces

- Bagmati
- Gandaki
- Karnali
- Lumbini
- Koshi (formerly Province No. 1)
- Madhesh
- Sudurpaschim

## Neighboring Countries

- India
- China (Tibet)

# DEMOGRAPHICS

**29,192,480**

Total population (2021)

**198.3 per km<sup>2</sup>**

Population density (2021)

**49<sup>th</sup> (of 235)**

most populous country in the world (2021)

**125**

Ethnic groups

**44.6%**

of the population speak Nepali as the mother tongue and official language

## Religious Affiliation

**81.3%** Hindu

**9%** Buddhist

**4.4%** Muslim

**3.1%** Kirant

**1.4%** Christian

**1,472,000**

Kathmandu's population (5% of total population)



**1.02%**

Average annual population growth (2000-2020)



## HEALTH



**96.3%**

Net enrollment in primary school (2019)



**9.3%**

Post-secondary education completion rate (2011)



**34%**

Internet users (2019)



**68%**

Adult literacy (2018)

## ACCESS TO INFORMATION



**8**

Physicians per 10k people (2019)



**33**

Nurses per 10k people (2019)



**5**

Hospital beds per 1k people (2006)



**71 years**

Life expectancy at birth (2020)



**24**

Infant mortality rate per 1k live births (2020)

# ECONOMY

**\$36.3 billion**

Gross domestic product (GDP) (2021)

**\$1,208**

GDP per capita (2021)

**4.3%**

Average annual GDP growth (2010-2020)

**42.2%**

GDP to debt ratio (2020)

**22.6% of GDP**

Government remittances (2021)

**23.5%**

Poverty Headcount Ratio (2011)

## Sectors (% of GDP):

**23.1%**

Agriculture

**11.8%**

Industry

**53.3%**

Services

## Major Exports



Palm Oil,  
Soybean Oil



Tea



Carpets



Beverages



Clothing and  
Apparel



Plastic

## Top Export Partners:

- India
- United States
- Bangladesh
- Germany

## Top Import Partners:

- India (65%)
- China (13.5%)
- France (2.3%)
- UAE (2%)

## KEY INFRASTRUCTURE


### Logistics

 **49**  
Airports

 **5**  
Dry Ports

 **4,500**  
Schools

 **2,015**  
Bridges

 **21,076**  
Cell Towers

 **69**  
Dams and  
Hydropower Stations

### Emergency Services

**236**   
Hospitals

**432**   
Police Stations

**112**   
Warehouses

**9**   
EOCs  
(National, Provincial, Municipal)

## DISASTER MANAGEMENT

### Major Capacity Improvements/Milestones (Past Ten Years)

- National Strategy for Disaster Risk Management was formulated in 2009 (with legal provisions pending at the time the Gorkha Earthquake struck in 2015).
- Nepal Risk Reduction Consortium (NRRRC) was launched in 2011 under the leadership of MoHA, enabling the GoN and NGOs to work together to fill gaps through five flagship programs with funding from international organizations (IFRC, UN).
- National Disaster Response Framework (NDRF) was created in 2014 and activated during the Gorkha Earthquake.
- Nepal signed the Sendai Framework for Risk Reduction in 2015 and the Paris Agreement in 2016.
- Disaster Risk Reduction and Management (DRRM) Act was issued in 2017, which:
  - Repealed the National Calamity Relief Act 1982, emphasizing all phases of disaster management as opposed to just the response phase
  - Established the National Disaster Risk Reduction and Management Authority (NDRRMA), giving it broad powers to act as the central resource body
  - Provisioned a National Disaster Fund
  - Addressed hazard risks at the local level, decentralizing the decision-making authority
  - Formed the legal basis for all DRR and DM activities
- Local Government Operation Act (repealing the Local Self Governance Act, 1999) paved the way for decentralized DRR/DM decision making.
- National Policy for DRR was updated in 2018, emphasizing the DRR Goals and the 2017 DRR Act.
- Under the leadership of NDRRMA, the Building Information Platform Against Disaster (BIPAD), a government-owned integrated and comprehensive Disaster Information Management System (DIMS), has been initiated through the Global Platform for DRR and funded by external donors. The BIPAD platform is a step towards informed decision-making for the national and sub-national governments.



**THE RVA**

# **RISK AND VULNERABILITY ASSESSMENT RESULTS**



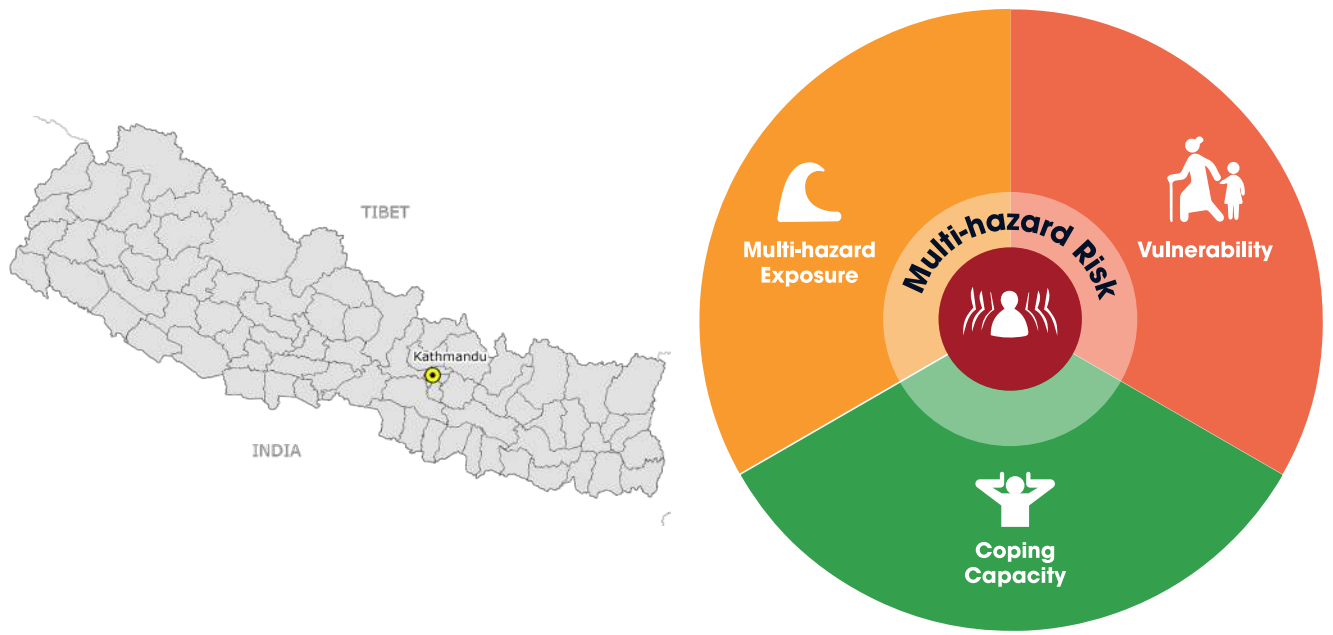
# RISK AND VULNERABILITY

## ASSESSMENT RESULTS

Provided in this section are the results of the Risk and Vulnerability Assessment (RVA) conducted by the Pacific Disaster Center as part of the National Disaster Preparedness Baseline Assessment. For more information about PDC’s NDPBA Methodology, please visit:

<https://pdc.org/wp-content/uploads/2019/05/NDPBA-Data-Sharing-Guide-Screen.pdf>

### NEPAL



### COMPONENTS OF RISK





**THE RVA**

# **MULTI-HAZARD EXPOSURE**

# MULTI-HAZARD EXPOSURE

The following hazards were assessed by PDC as part of the National Disaster Preparedness Baseline Assessment:

## Global Multi-hazard Exposure Rank (PDC Global RVA)

**37** OUT OF 216 COUNTRIES / TERRITORIES ASSESSED

## Multi-hazard Exposure Rank within South Asia Region

**3** OUT OF 7 COUNTRIES / TERRITORIES ASSESSED

### NEPAL HAZARD ZONES

Note: Population exposure values for Nepal are estimated using PDC's AIM model. Values may differ from Census population estimates.

#### EARTHQUAKE

 **100%** Population Exposure  
**31.3 Million** Raw Population Exposure  
**\$54.89 Billion (USD)** Raw Economic Exposure

#### PLUVIAL FLOODING

 **27%** Population Exposure  
**8.74 Million** Raw Population Exposure  
**\$16.82 Billion (USD)** Raw Economic Exposure

#### EXTREME HEAT

 **66%** Population Exposure  
**20.8 Million** Raw Population Exposure  
**\$36.29 Billion (USD)** Raw Economic Exposure

#### FLUVIAL FLOODING

 **17%** Population Exposure  
**5.57 Million** Raw Population Exposure  
**\$10.58 Billion (USD)** Raw Economic Exposure

#### LANDSLIDE

 **33%** Population Exposure  
**10.5 Million** Raw Population Exposure  
**\$18.49 Billion (USD)** Raw Economic Exposure

#### WILDFIRE

 **25%** Population Exposure  
**7.83 Million** Raw Population Exposure  
**\$11.40 Billion (USD)** Raw Economic Exposure

# Nepal: Earthquake Hazard Exposure



VIEW IN DISASTERAWARE

## POTENTIAL POPULATION EXPOSURE

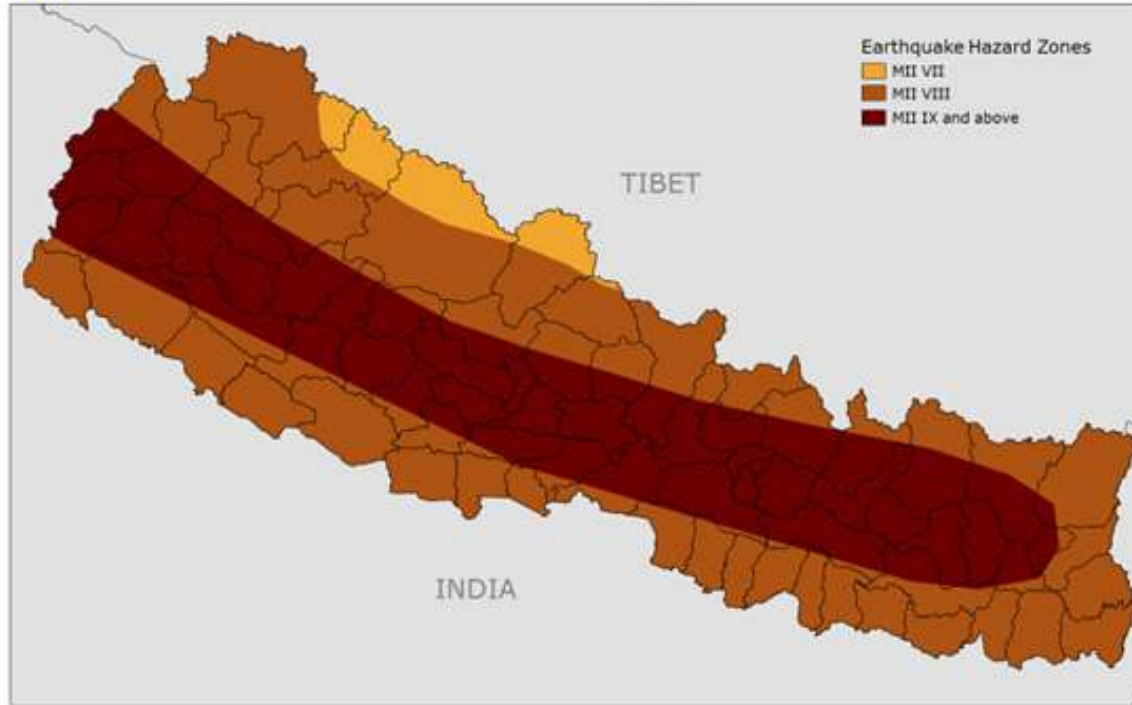
**31.3 Million (100%)**  
People exposed to earthquake

## POTENTIAL ECONOMIC EXPOSURE

**\$54.89 Billion (100%)**  
Capital stock exposed to earthquake

## CRITICAL INFRASTRUCTURE EXPOSED

- 49 (100%)**  
Airports
- 5 (100%)**  
Dry Ports
- 4,500 (100%)**  
Schools
- 236 (100%)**  
Hospitals
- 432 (100%)**  
Police Stations
- 9 (100%)**  
EOC
- 112 (100%)**  
Warehouses
- 21,076 (100%)**  
Cell Towers
- 2,015 (100%)**  
Bridges
- 69 (100%)**  
Dams and Hydropower



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# Nepal: Extreme Heat Hazard Exposure



VIEW IN DISASTERAWARE

## POTENTIAL POPULATION EXPOSURE



**20.8 Million (66%)**

People exposed to extreme heat hazard (moderate/high and above)

## POTENTIAL ECONOMIC EXPOSURE



**\$36.29 Billion (66%)**

Capital stock exposed to extreme heat hazard (moderate/high and above)

## CRITICAL INFRASTRUCTURE EXPOSED



**21 (42%)**  
Airports



**4 (80%)**  
Dry Ports



**2,142 (47%)**  
Schools



**108 (45%)**  
Hospitals



**221 (51%)**  
Police Stations



**3 (33%)**  
EOC



**49 (43%)**  
Warehouses



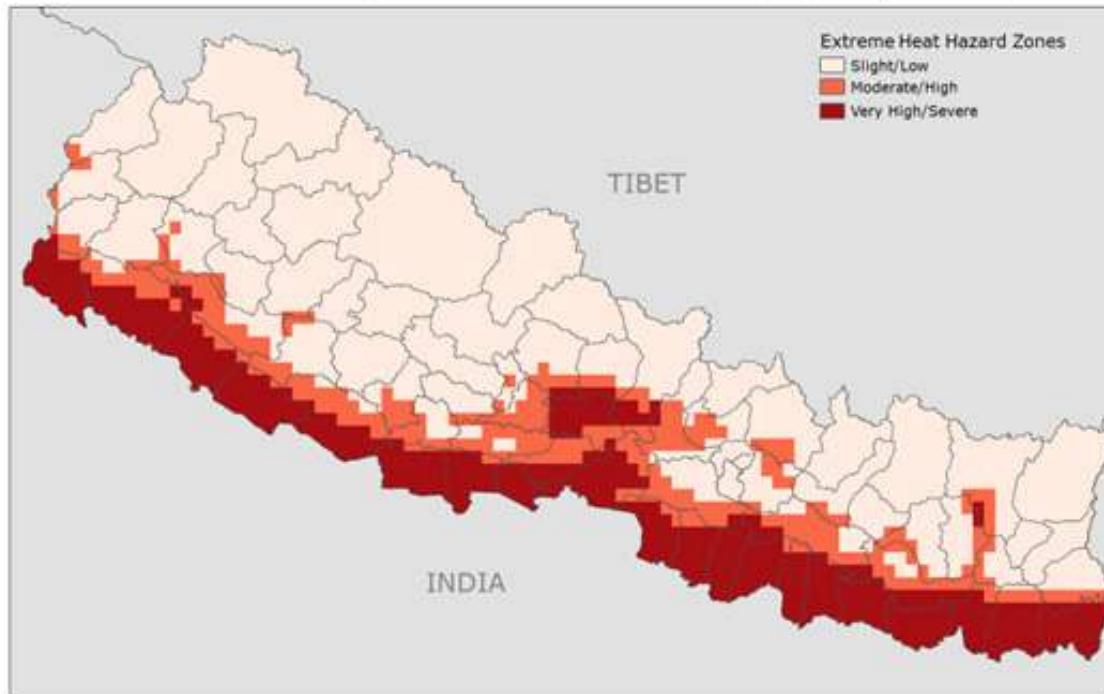
**9,706 (46%)**  
Cell Towers



**1,519 (79%)**  
Bridges



**28 (40%)**  
Dams and Hydropower



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# Nepal: Landslide Hazard Exposure



VIEW IN DISASTERAWARE

## POTENTIAL POPULATION EXPOSURE



**10.5 Million (33%)**

People exposed to landslide hazard (high, very high)

## POTENTIAL ECONOMIC EXPOSURE



**\$18.49 Billion (33%)**

Capital stock exposed to landslide hazard (high, very high)

## CRITICAL INFRASTRUCTURE EXPOSED



**32 (65%)**  
Airports



**1 (20%)**  
Dry Ports



**3,145 (69%)**  
Schools



**73 (31%)**  
Hospitals



**178 (41%)**  
Police Stations



**4 (44%)**  
EOC



**58 (51%)**  
Warehouses



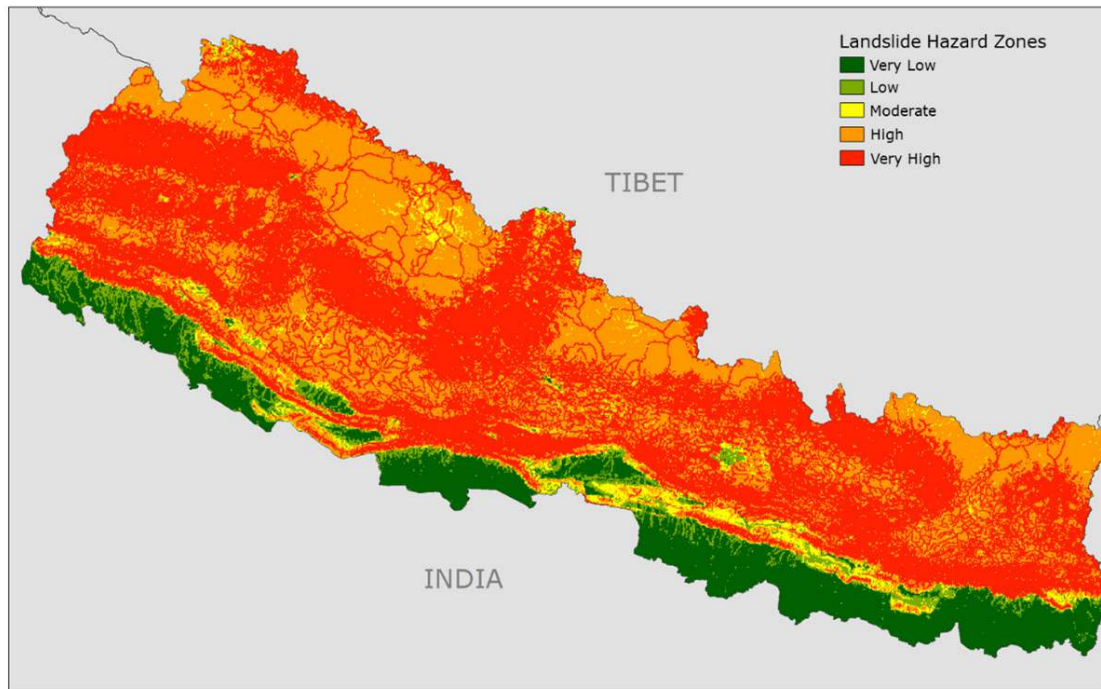
**4,833 (23%)**  
Cell Towers



**799 (39%)**  
Bridges



**62 (89%)**  
Dams and Hydropower



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# Nepal: Pluvial Flood Hazard Exposure



VIEW IN DISASTERWARE

## POTENTIAL POPULATION EXPOSURE



**8.74 Million (27%)**

People exposed to pluvial flooding (all areas)

## POTENTIAL ECONOMIC EXPOSURE



**\$16.82 Billion (30%)**

Capital stock exposed to pluvial flooding (all areas)

## CRITICAL INFRASTRUCTURE EXPOSED



**14 (28%)**  
Airports



**2 (40%)**  
Dry Ports



**699 (15%)**  
Schools



**72 (30%)**  
Hospitals



**144 (33%)**  
Police Stations



**3 (33%)**  
EOC



**30 (26%)**  
Warehouses



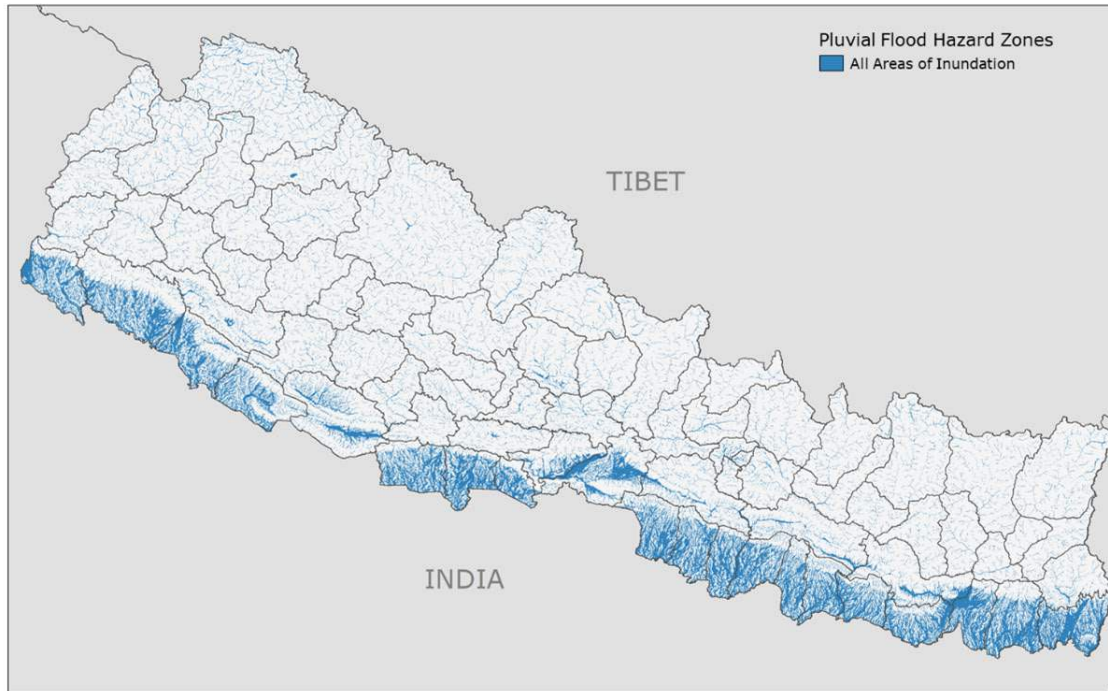
**6,411 (30%)**  
Cell Towers



**1,201 (59%)**  
Bridges



**38 (55%)**  
Dams and Hydropower



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# Nepal: Fluvial Flood Hazard Exposure



## POTENTIAL POPULATION EXPOSURE



**5.57 Million (17%)**

People exposed to fluvial flood (all areas)

## POTENTIAL ECONOMIC EXPOSURE



**\$10.58 Billion (19%)**

Capital stock exposed to fluvial flood (all areas)

## CRITICAL INFRASTRUCTURE EXPOSED



**5 (10%)**  
Airports



**2 (40%)**  
Dry Ports



**265 (5%)**  
Schools



**29 (12%)**  
Hospitals



**65 (15%)**  
Police Stations



**0 (0%)**  
EOC



**13 (11%)**  
Warehouses



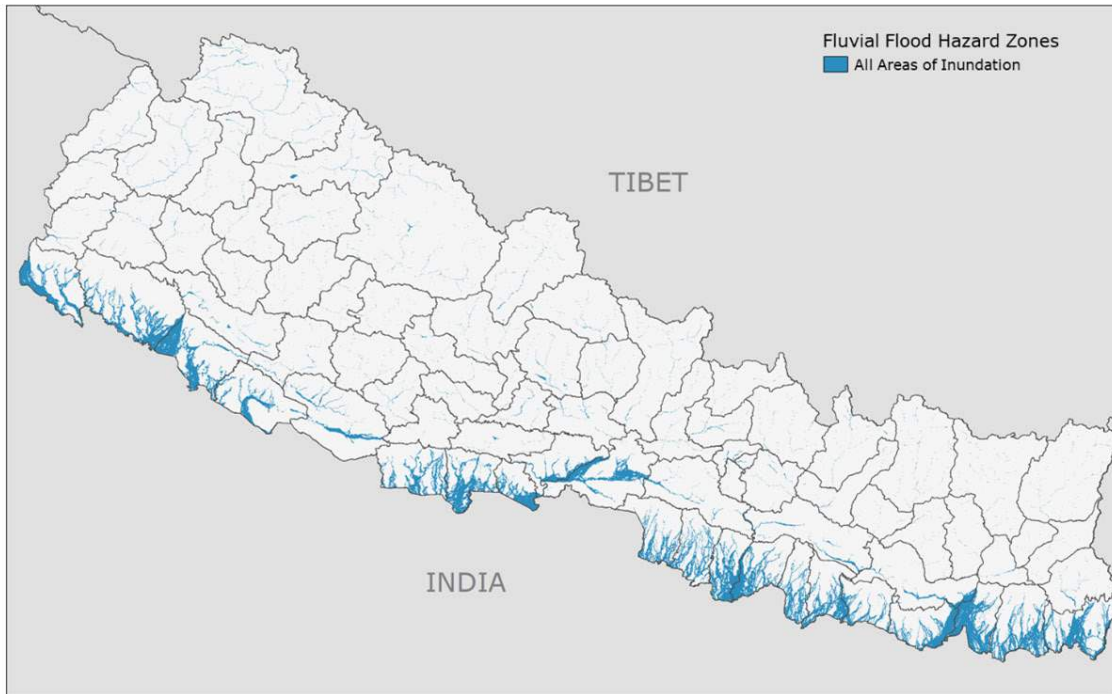
**3,365 (16%)**  
Cell Towers



**538 (26%)**  
Bridges



**23 (33%)**  
Dams and Hydropower



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# Nepal: Wildfire Hazard Exposure



VIEW IN DISASTERAWARE

## POTENTIAL POPULATION EXPOSURE



**7.83 Million (25%)**

People exposed to wildfire (moderate, high, very high)

## POTENTIAL ECONOMIC EXPOSURE



**\$11.40 Billion (20%)**

Capital stock exposed to wildfire (moderate, high, very high)

## CRITICAL INFRASTRUCTURE EXPOSED



**8 (16%)**  
Airports



**0 (0%)**  
Dry Ports



**792 (17%)**  
Schools



**40 (16%)**  
Hospitals



**85 (19%)**  
Police Stations



**1 (11%)**  
EOC



**31 (27%)**  
Warehouses



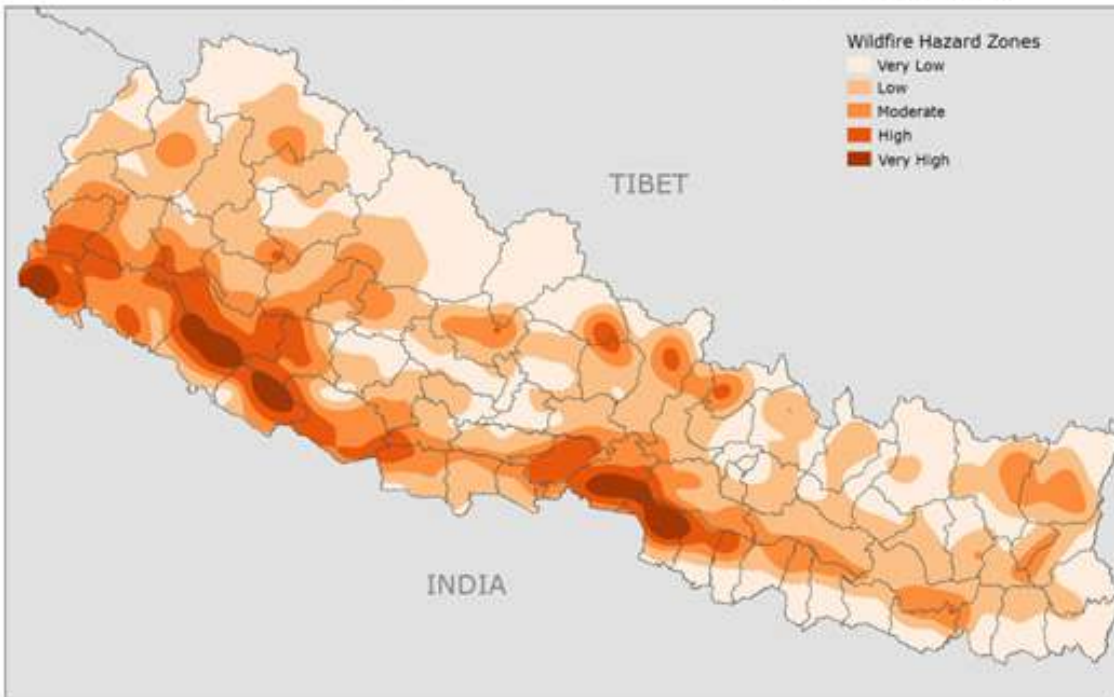
**3,438 (16%)**  
Cell Towers



**797 (39%)**  
Bridges



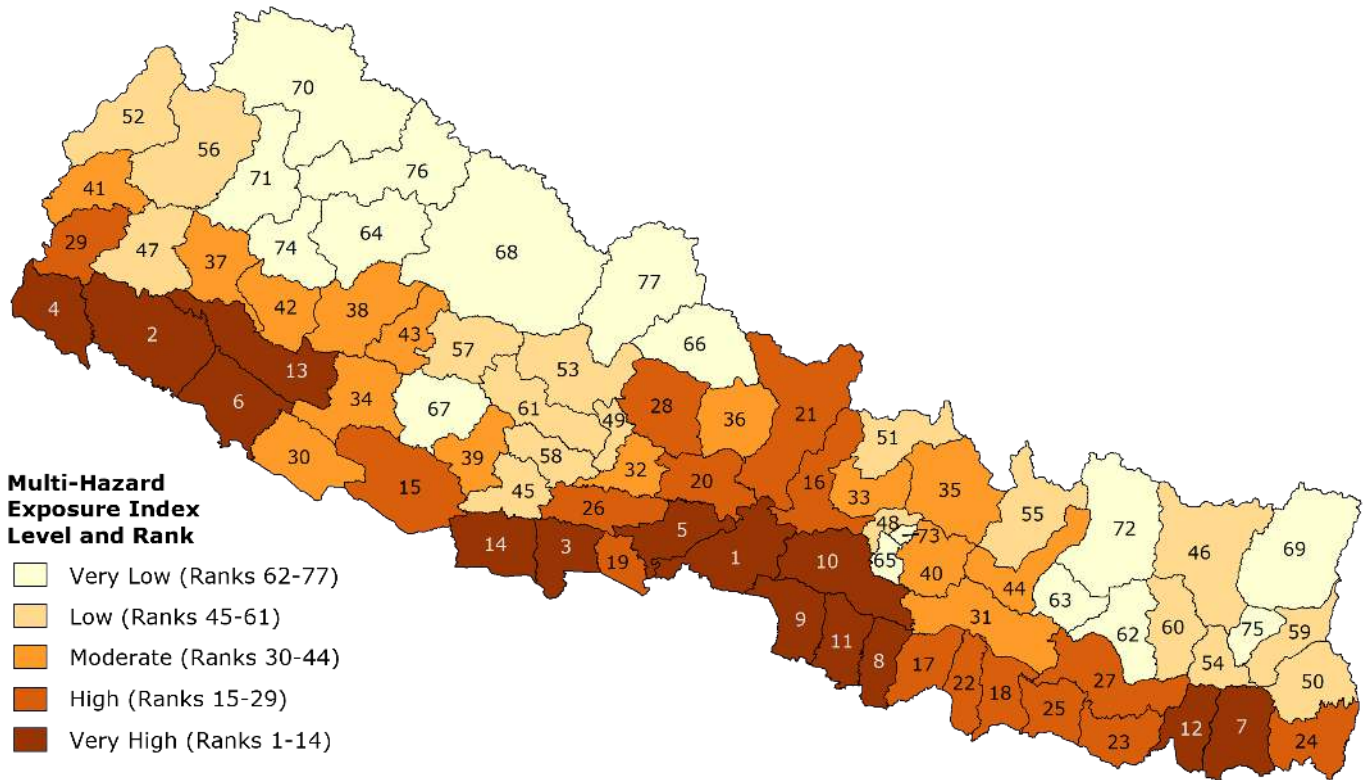
**7 (10%)**  
Dams and Hydropower



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### MULTI-HAZARD EXPOSURE BY DISTRICT

	RANK	DISTRICT	INDEX SCORE		RANK	DISTRICT	INDEX SCORE
VERY HIGH	1	Chitawan	0.928	MODERATE	40	Kabhrepalanchok	0.530
	2	Kailali	0.902		41	Baitadi	0.527
	3	Rupandehi	0.839		42	Dailekh	0.511
	4	Kanchanpur	0.836		43	Rukum West	0.505
	5	Nawalparasi East	0.827		44	Ramechhap	0.504
	6	Bardiya	0.815		45	Arghakhanchi	0.501
	7	Morang	0.774		46	Sankhuwasabha	0.501
	8	Rautahat	0.764		47	Doti	0.496
	9	Parsa	0.758		48	Kathmandu	0.490
	10	Makawanpur	0.736		49	Parbat	0.471
	11	Bara	0.723		50	Ilam	0.457
	12	Sunsari	0.717		51	Rasuwa	0.454
	13	Surkhet	0.713		52	Darchula	0.446
	14	Kapilvastu	0.712		53	Myagdi	0.442
HIGH	15	Dang	0.710	LOW	54	Dhankuta	0.442
	16	Dhading	0.708		55	Dolakha	0.437
	17	Sarlahi	0.704		56	Bajhang	0.437
	18	Dhanusha	0.695		57	Rukum East	0.432
	19	Nawalparasi West	0.694		58	Gulmi	0.419
	20	Tanahu	0.691		59	Panchthar	0.406
	21	Gorkha	0.685		60	Bhojpur	0.402
	22	Mahottari	0.684		61	Baglung	0.398
	23	Saptari	0.662		62	Khotang	0.397
	24	Jhapa	0.661		63	Okhaldhunga	0.395
	25	Siraha	0.660		64	Jumla	0.395
	26	Palpa	0.660		65	Lalitpur	0.385
	27	Udayapur	0.656		66	Manang	0.383
	28	Kaski	0.652		67	Rolpa	0.381
29	Dadeldhura	0.643	VERY LOW	68	Dolpa	0.358	
30	Banke	0.642		69	Taplejung	0.356	
31	Sindhuli	0.635		70	Humla	0.349	
32	Syangja	0.623		71	Bajura	0.349	
33	Nuwakot	0.611		72	Solukhumbu	0.330	
34	Salyan	0.609		73	Bhaktapur	0.329	
35	Sindhupalchok	0.569		74	Kalikot	0.325	
36	Lamjung	0.564		75	Terhathum	0.324	
37	Achham	0.562		76	Mugu	0.319	
38	Jajarkot	0.555		77	Mustang	0.310	
39	Pyuthan	0.550					
MODERATE							





**THE RVA**

# **VULNERABILITY**

# VULNERABILITY

Vulnerability measures the physical, environmental, social, and economic conditions and processes that increase susceptibility of communities and systems to the damaging effects of hazards. Vulnerability data is designed to capture the multi-dimensional nature of poverty, the inequality in access to resources due to gender, and the ability of a given area to adequately support the population. In coordination with stakeholders, the following indicators were selected to measure vulnerability subcomponents in the country. Breaking down each vulnerability subcomponent to the indicator level allows users to identify the key drivers of vulnerability to support risk reduction efforts and policy decisions.

## Global Vulnerability Rank (PDC Global RVA)

**55** OUT OF 204 COUNTRIES /  
TERRITORIES ASSESSED

## Vulnerability Rank within South Asia Region

**4** OUT OF 8 COUNTRIES /  
TERRITORIES ASSESSED

### VULNERABILITY SUBCOMPONENTS AND INDICATORS



#### Information Access Vulnerability

- Adult Literacy Rate
- Mean Years of Schooling
- Net Enrollment in Primary School
- Student to Teacher Ratio



#### Food Insecurity

- Food Poverty Prevalence
- Low kcal Intake Prevalence
- Agricultural Insufficiency



#### Clean Water Access Vulnerability

- Percent of Population with Access to Safe Drinking Water
- Percent of Households without a Toilet
- Percent of Water Schemes in Disrepair
- Cholera Incidence per 100,000 persons
- Typhoid Incidence per 10,000 persons



#### Gender Inequality

- Female to Male Literacy Ratio
- Female to Male Secondary Enrollment Ratio
- Female Home and Land Ownership



#### Economic Constraints

- Income per Capita
- Poverty Headcount Ratio
- Age Dependency Ratio
- Poverty Gap



#### Vulnerable Health Status

- Life Expectancy
- Disabled Population

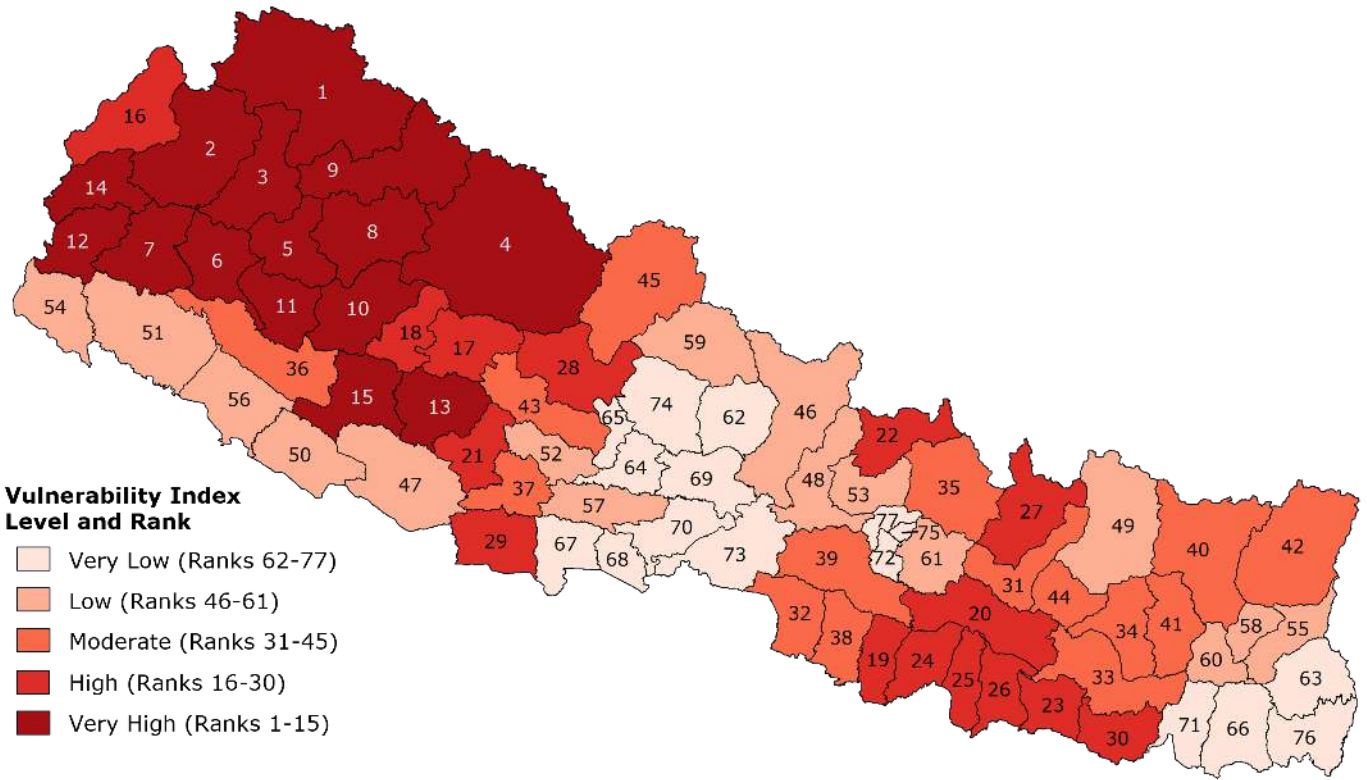


#### Child Health

- Child Malnutrition
- Infant Mortality Rate
- Child ARI Incidence
- Child Diarrhea Incidence
- Child Pneumonia Incidence

## VULNERABILITY BY DISTRICT

	RANK	DISTRICT	INDEX SCORE		RANK	DISTRICT	INDEX SCORE
VERY HIGH	1	Chitawan	0.928	MODERATE	40	Kabhrepalanchok	0.530
	2	Kailali	0.902		41	Baitadi	0.527
	3	Rupandehi	0.839		42	Dailekh	0.511
	4	Kanchanpur	0.836		43	Rukum West	0.505
	5	Nawalparasi East	0.827		44	Ramechhap	0.504
	6	Bardiya	0.815		45	Arghakhanchi	0.501
	7	Morang	0.774		46	Sankhuwasabha	0.501
	8	Rautahat	0.764		47	Doti	0.496
	9	Parsa	0.758		48	Kathmandu	0.490
	10	Makawanpur	0.736		49	Parbat	0.471
	11	Bara	0.723		50	Ilam	0.457
	12	Sunsari	0.717		51	Rasuwa	0.454
	13	Surkhet	0.713		52	Darchula	0.446
	14	Kapilvastu	0.712		53	Myagdi	0.442
	HIGH	15	Dang		0.710	54	Dhankuta
16		Dhading	0.708	55	Dolakha	0.437	
17		Sarlahi	0.704	56	Bajhang	0.437	
18		Dhanusha	0.695	57	Rukum East	0.432	
19		Nawalparasi West	0.694	58	Gulmi	0.419	
20		Tanahu	0.691	59	Panchthar	0.406	
21		Gorkha	0.685	60	Bhojpur	0.402	
22		Mahottari	0.684	61	Baglung	0.398	
23		Saptari	0.662	62	Khotang	0.397	
24		Jhapa	0.661	63	Okhaldhunga	0.395	
25		Siraha	0.660	64	Jumla	0.395	
26		Palpa	0.660	65	Lalitpur	0.385	
27		Udayapur	0.656	66	Manang	0.383	
28		Kaski	0.652	67	Rolpa	0.381	
MODERATE		29	Dadeldhura	0.643	68	Dolpa	0.358
	30	Banke	0.642	69	Taplejung	0.356	
	31	Sindhuli	0.635	70	Humla	0.349	
	32	Syangja	0.623	71	Bajura	0.349	
	33	Nuwakot	0.611	72	Solukhumbu	0.330	
	34	Salyan	0.609	73	Bhaktapur	0.329	
	35	Sindhupalchok	0.569	74	Kalikot	0.325	
	36	Lamjung	0.564	75	Terhathum	0.324	
	37	Achham	0.562	76	Mugu	0.319	
	38	Jajarkot	0.555	77	Mustang	0.310	
	39	Pyuthan	0.550				





**THE RVA**

# **COPING CAPACITY**



# COPING CAPACITY

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function.

## Global Coping Capacity Rank (PDC Global RVA)

**140** OUT OF 198 COUNTRIES / TERRITORIES ASSESSED

## Coping Capacity Rank within South Asia Region

**5** OUT OF 8 COUNTRIES / TERRITORIES ASSESSED

### COPING CAPACITY SUBCOMPONENTS AND INDICATORS



#### Environmental Capacity

Natural Protected Area as Percent of Land Area



#### Economic Capacity

Value Added Gross Domestic Product (in Rs. Millions)  
Labor Productivity (Rs.)



#### Governance

Average Annual Conflicts per 10,000 persons  
Government Management  
Organization and Administration  
Budget and Plan Management  
Fiscal and Financial Management  
Service Flow  
Judicial Work  
Physical Infrastructure  
Social Inclusion  
Environmental Protection and Disaster Management  
Cooperation and Coordination



#### Logistics Capacity

Road Density  
Improved Roadways  
Average Distance to Airport  
Average Distance to Dry Port  
Average Distance to Hospital  
Average Distance to Warehouse  
Average Distance to Police Station  
Operational Hospital Beds per 10,000 persons



#### Communications Capacity

Percent of Households with Fixed Phone  
Percent of Households with Mobile Phone  
Households with Internet  
Households with Television  
Households with Radio

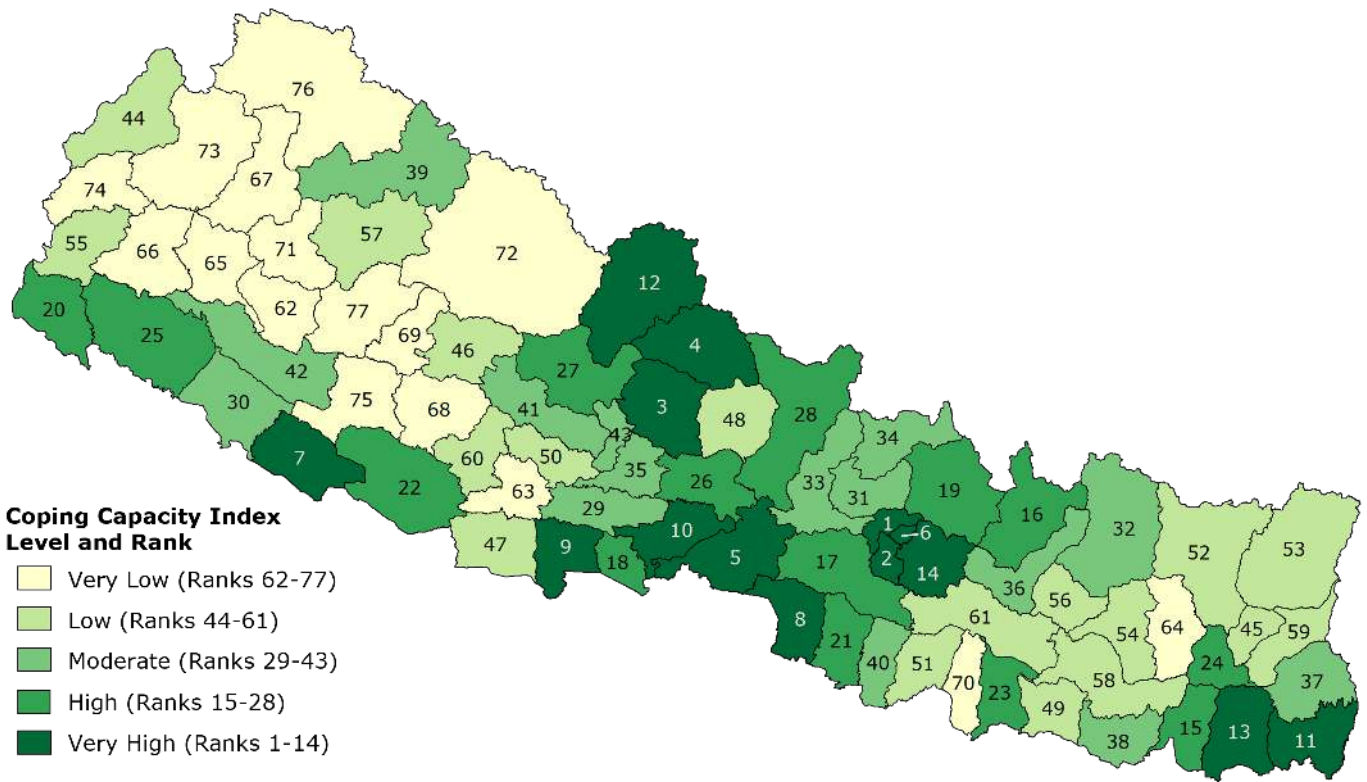


#### Energy Capacity

Percent of Households with Electricity  
Percent of Households Using Gas as Main Cooking Fuel

### COPING CAPACITY BY DISTRICT

	RANK	DISTRICT	INDEX SCORE		RANK	DISTRICT	INDEX SCORE
VERY HIGH	1	Kathmandu	0.800	MODERATE	40	Rautahat	0.409
	2	Lalitpur	0.766		41	Baglung	0.406
	3	Kaski	0.761		42	Surkhet	0.401
	4	Manang	0.653		43	Parbat	0.401
	5	Chitawan	0.646		44	Darchula	0.400
	6	Bhaktapur	0.644		45	Terhathum	0.400
	7	Banke	0.602		46	Rukum East	0.400
	8	Parsa	0.598		47	Kapilvastu	0.397
	9	Rupandehi	0.581		48	Lamjung	0.396
	10	Nawalparasi East	0.571		49	Siraha	0.392
	11	Jhapa	0.560		50	Gulmi	0.384
	12	Mustang	0.559		51	Sarlahi	0.382
	13	Morang	0.554		52	Sankhuwasabha	0.382
	14	Kabhrpalanchok	0.552		53	Taplejung	0.381
HIGH	15	Sunsari	0.544	LOW	54	Khotang	0.379
	16	Dolakha	0.527		55	Dadeldhura	0.369
	17	Makawanpur	0.526		56	Okhaldhunga	0.358
	18	Nawalparasi West	0.521		57	Jumla	0.355
	19	Sindhupalchok	0.520		58	Udayapur	0.355
	20	Kanchanpur	0.509		59	Panchthar	0.351
	21	Bara	0.508		60	Pyuthan	0.351
	22	Dang	0.507		61	Sindhuli	0.350
	23	Dhanusha	0.505		62	Dailekh	0.338
	24	Dhankuta	0.491		63	Arghakhanchi	0.335
	25	Kailali	0.474		64	Bhojpur	0.331
	26	Tanahu	0.474		65	Achham	0.326
	27	Myagdi	0.473		66	Doti	0.324
	28	Gorkha	0.472		67	Bajura	0.306
MODERATE	29	Palpa	0.464	VERY LOW	68	Rolpa	0.296
	30	Bardiya	0.460		69	Rukum West	0.286
	31	Nuwakot	0.455		70	Mahottari	0.275
	32	Solukhumbu	0.449		71	Kalikot	0.274
	33	Dhading	0.445		72	Dolpa	0.272
	34	Rasuwa	0.440		73	Bajhang	0.266
	35	Syangja	0.440		74	Baitadi	0.260
	36	Ramechhap	0.433		75	Salyan	0.207
	37	Ilam	0.419		76	Humla	0.174
	38	Saptari	0.415		77	Jajarkot	0.144
	39	Mugu	0.410				





**THE RVA**

# **RESILIENCE**

# RESILIENCE

Resilience in Nepal was calculated by averaging Vulnerability and Coping Capacity. Results are displayed in forthcoming pages, while the main drivers of resilience with detailed recommendations are provided in the detailed subnational profiles.

## Global Resilience Rank (PDC Global RVA)

**141** OUT OF 194 COUNTRIES / TERRITORIES ASSESSED

## Resilience Rank within South Asia Region

**5** OUT OF 8 COUNTRIES / TERRITORIES ASSESSED

### RESILIENCE COMPONENTS



Vulnerability

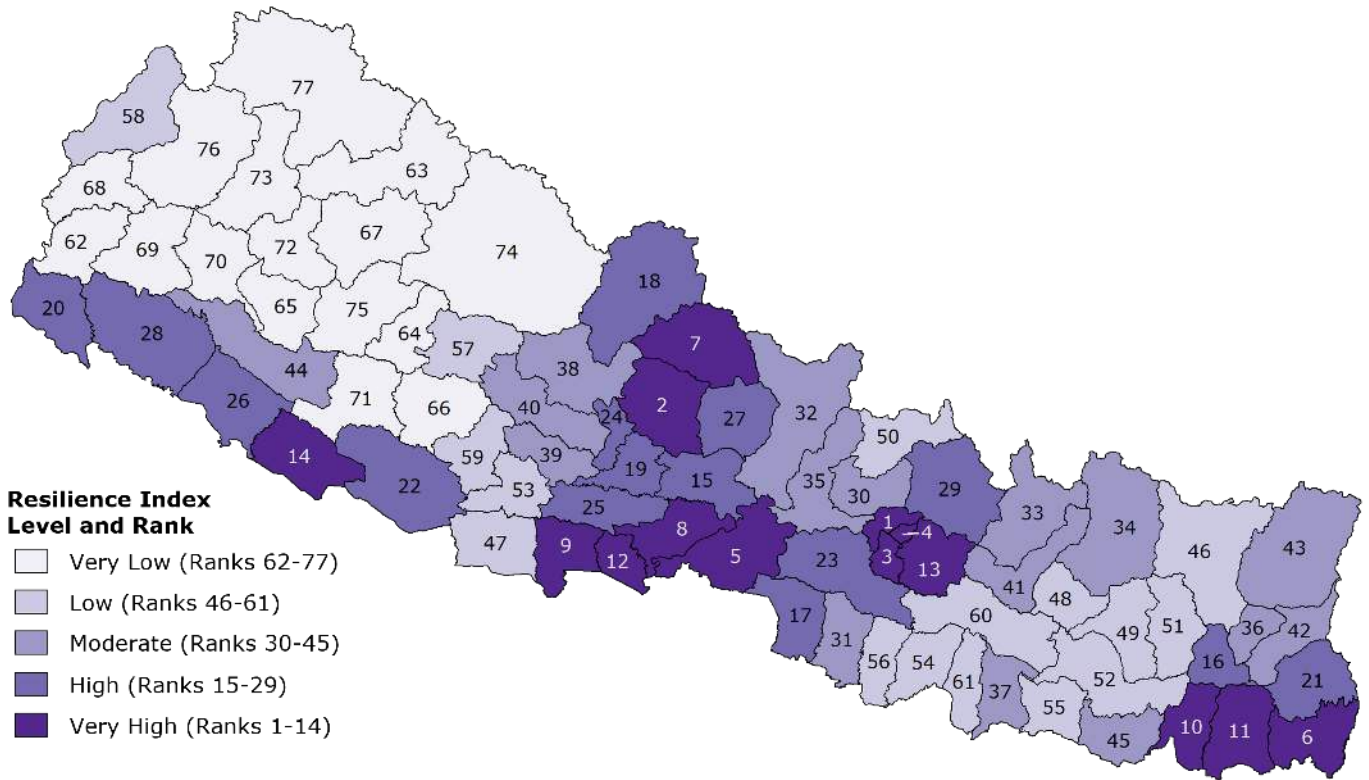


Coping Capacity



## RESILIENCE BY DISTRICT

	RANK	DISTRICT	INDEX SCORE		RANK	DISTRICT	INDEX SCORE
VERY HIGH	1	Kathmandu	0.800	MODERATE	40	Baglung	0.487
	2	Kaski	0.764		41	Ramechhap	0.483
	3	Lalitpur	0.759		42	Panchthar	0.483
	4	Bhaktapur	0.709		43	Taplejung	0.474
	5	Chitawan	0.702		44	Surkhet	0.474
	6	Jhapa	0.668		45	Saptari	0.473
	7	Manang	0.644		46	Sankhuwasabha	0.472
	8	Nawalparasi East	0.641		47	Kapilvastu	0.464
	9	Rupandehi	0.635		48	Okhaldhunga	0.463
	10	Sunsari	0.633		49	Khotang	0.461
	11	Morang	0.619		50	Rasuwa	0.452
	12	Nawalparasi West	0.615		51	Bhojpur	0.448
	13	Kabhrepalanchok	0.609		52	Udayapur	0.448
	14	Banke	0.593		53	Argkhanchi	0.442
HIGH	15	Tanahu	0.591	LOW	54	Sarlahi	0.432
	16	Dhankuta	0.576		55	Siraha	0.431
	17	Parsa	0.568		56	Rautahat	0.418
	18	Mustang	0.568		57	Rukum East	0.408
	19	Syangja	0.560		58	Darchula	0.407
	20	Kanchanpur	0.559		59	Pyuthan	0.405
	21	Ilam	0.548		60	Sindhuli	0.399
	22	Dang	0.544		61	Mahottari	0.384
	23	Makawanpur	0.542		62	Dadeldhura	0.375
	24	Parbat	0.541		63	Mugu	0.365
	25	Palpa	0.540		64	Rukum West	0.355
	26	Bardiya	0.537		65	Dailekh	0.352
	27	Lamjung	0.534		66	Rolpa	0.343
	28	Kailali	0.532		67	Jumla	0.330
29	Sindhupalchok	0.532	68	Baitadi	0.329		
MODERATE	30	Nuwakot	0.530	VERY LOW	69	Doti	0.313
	31	Bara	0.530		70	Achham	0.305
	32	Gorkha	0.526		71	Salyan	0.303
	33	Dolakha	0.521		72	Kalikot	0.274
	34	Solukhumbu	0.516		73	Bajura	0.267
	35	Dhading	0.514		74	Dolpa	0.259
	36	Terhathum	0.511		75	Jajarkot	0.248
	37	Dhanusha	0.508		76	Bajhang	0.236
	38	Myagdi	0.501		77	Humla	0.182
	39	Gulmi	0.488				





**THE RVA**

# **MULTI-HAZARD RISK**



# MULTI-HAZARD RISK

Multi-hazard risk combines hazard exposure, susceptibility to impact, and the relative ability to absorb negative disaster impacts to provide a collective measure of how each region may be affected by hazards and disasters over time. Analyzing risk information throughout all phases of disaster management – mitigation, preparedness, response, recovery – improves operations and promotes efficient resource allocation.

Multi-hazard risk was calculated by averaging multi-hazard exposure, vulnerability, and coping capacity. Results are displayed below while additional detailed analysis of risk is provided in the subnational profiles report.

## Global Multi-Hazard Risk Rank (PDC Global RVA)

**24** OUT OF 193 COUNTRIES /  
TERRITORIES ASSESSED

## Multi-Hazard Risk Rank within South Asia Region

**4** OUT OF 7 COUNTRIES /  
TERRITORIES ASSESSED

### MULTI-HAZARD RISK COMPONENTS



**Multi-Hazard Exposure**



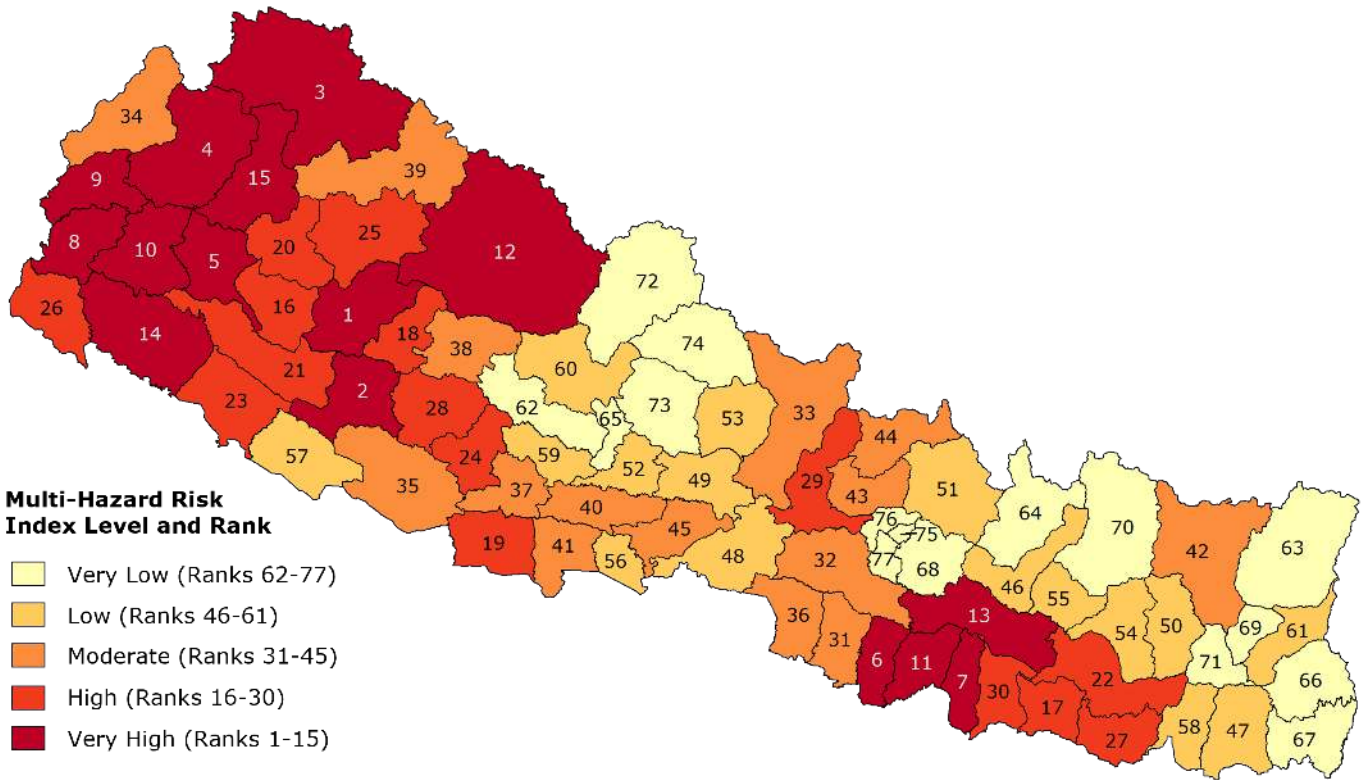
**Vulnerability**



**Coping Capacity**

### MULTI-HAZARD RISK BY DISTRICT

	RANK	DISTRICT	INDEX SCORE		RANK	DISTRICT	INDEX SCORE
VERY HIGH	1	Jajarkot	0.686	MODERATE	40	Palpa	0.526
	2	Salyan	0.668		41	Rupandehi	0.523
	3	Humla	0.662		42	Sankhuwasabha	0.519
	4	Bajhang	0.655		43	Nuwakot	0.517
	5	Achham	0.650		44	Rasuwa	0.517
	6	Rautahat	0.643		45	Nawalparasi East	0.515
	7	Mahottari	0.639		46	Ramechhap	0.513
	8	Dadeldhura	0.631		47	Morang	0.512
	9	Baitadi	0.623		48	Chitawan	0.508
	10	Doti	0.623		49	Tanahu	0.503
HIGH	11	Sarlahi	0.614	LOW	50	Bhojpur	0.502
	12	Dolpa	0.613		51	Sindhupalchok	0.502
	13	Sindhuli	0.613		52	Syangja	0.501
	14	Kailali	0.612		53	Lamjung	0.499
	15	Bajura	0.605		54	Khotang	0.492
	16	Dailekh	0.602		55	Okhaldhunga	0.489
	17	Siraha	0.599		56	Nawalparasi West	0.488
	18	Rukum West	0.598		57	Banke	0.485
	19	Kapilvastu	0.595		58	Sunsari	0.484
	20	Kalikot	0.592		59	Gulmi	0.481
MODERATE	21	Surkhet	0.588	VERY LOW	60	Myagdi	0.480
	22	Udayapur	0.587		61	Panchthar	0.480
	23	Bardiya	0.580		62	Baglung	0.475
	24	Pyuthan	0.686		63	Taplejung	0.469
	25	Jumla	0.578		64	Dolakha	0.465
	26	Kanchanpur	0.573		65	Parbat	0.463
	27	Saptari	0.572		66	Ilam	0.454
	28	Rolpa	0.565		67	Jhapa	0.442
	29	Dhading	0.560		68	Kabhrepalanchok	0.437
	30	Dhanusha	0.560		69	Terhathum	0.434
MODERATE	31	Bara	0.554	70	Solukhumbu	0.433	
	32	Makawanpur	0.550	71	Dhankuta	0.430	
	33	Gorkha	0.545	72	Mustang	0.391	
	34	Darchula	0.544	73	Kaski	0.374	
	35	Dang	0.541	74	Manang	0.365	
	36	Parsa	0.540	75	Bhaktapur	0.304	
	37	Arghakhanchi	0.539	76	Kathmandu	0.296	
	38	Rukum East	0.539	77	Lalitpur	0.289	
	39	Mugu	0.529				





**THE DMA**

# **DISASTER MANAGEMENT ANALYSIS**

**SUMMARY OF FINDINGS**

# DISASTER MANAGEMENT ANALYSIS

Provided in this section are the results of the Disaster Management Analysis (DMA) conducted as part of the National Disaster Preparedness Baseline Assessment. The outcome enables more effective prioritization of risk-reduction and resilience-building initiatives and investments.

Considering diverse geographic and demographic needs, operational successes, and barriers, the DMA examined the following six core disaster management themes: Enabling Environment; Institutional Arrangements; Disaster Governance Mechanisms; Capabilities and Resources; Capacity Development; and Communications and Information Management.

Understanding that disaster management is a continuum of Limited to No Capacity to Advanced Capacity, the results of the Nepal DMA analysis show that the nation has reached Achievement with Significant Limitations (yellow).



# DISASTER MANAGEMENT ANALYSIS RESULTS

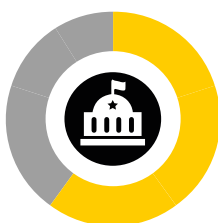
## CURRENT STATUS

Limited or No Capacity



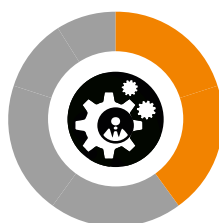
Advanced Capacity

## DISASTER MANAGEMENT ANALYSIS THEME AND SUBTHEMES



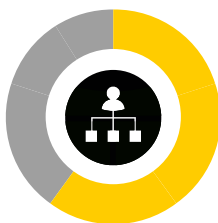
### A. Enabling Environment

- Legal Instruments
- Financial Resources
- Strategies
- Public Confidence and Political Support
- Attitudes and Experience



### D. Capabilities and Resources

- Dedicated Facilities and Equipment
- Human Resources
- Inventory of Commodities and Supplies
- Targeted Functional Capabilities



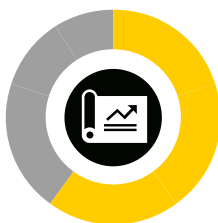
### B. Institutional Arrangements

- Organizational Structures
- Leadership Arrangements
- Mechanisms for Stakeholder Engagement



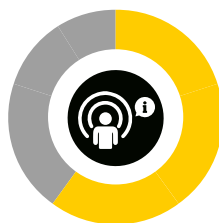
### E. Capacity Development

- Capacity Development Plans and Strategies
- Training and Education Programs and Facilities
- Certification Programs
- After-Action Reporting
- Monitoring and Evaluation
- Processes and Systems



### C. Disaster Governance Mechanisms

- Plans
- Standard Operating Procedures
- Emergency Operations Centers
- Command, Control, and Coordination Systems



### F. Communication and Information Management

- Hazard and Risk Analysis Systems
- Disaster Assessment
- Media and Public Affairs
- Information Collection, Management, and Distribution
- Monitoring and Notifications

Limited or No Capacity

Early Capacity Development

Achievement with Significant Limitation

Substantial Progress with Some Limitation

Advanced Capacity

# DISASTER MANAGEMENT ANALYSIS RESULTS

Major strengths for Nepal include robust Institutional Arrangements with well-defined organizational structures and transparent mechanisms for stakeholder engagement enabled through legal frameworks.

Nepal has advanced its disaster management capabilities on several fronts, including the institutional and legal frameworks that govern disaster mitigation, preparedness, response, and recovery phases. The decentralization efforts through the Constitution and several legislative instruments shift the control from the central government to the local governments. Local governments have started organizing by drafting their laws and plans, though more guidance and assistance in the form of knowledge and technology enhancements would accelerate the effort. Development partners play a crucial role in much-needed technical expertise and financial assistance. However, the Nepali public, through the NGOs, civil society actors, and citizens (province down to ward levels), play an even more significant role in disaster risk reduction.

The current capacities and capabilities of the Government of Nepal are below the needed levels. For Nepal to reach acceptable levels of disaster monitoring capacity, a more rigorous attempt is necessary to collect hazard and risk data and share that across all internal and external stakeholders in a more standardized, systematic way with periodic updates and a high level of data management standards.

This study attempts to establish Nepal's baseline disaster management preparedness levels presented in six interconnected themes. It is a step towards comparing progress while setting clear and coherent objectives aligned with Nepal's commitment to the Sendai Framework for Disaster Risk Reduction, the United Nations Sustainable Development Goals, and the Paris Agreement for Climate Change.

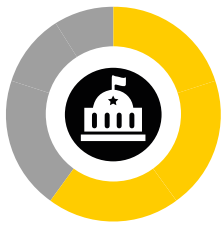




**THE DMA**

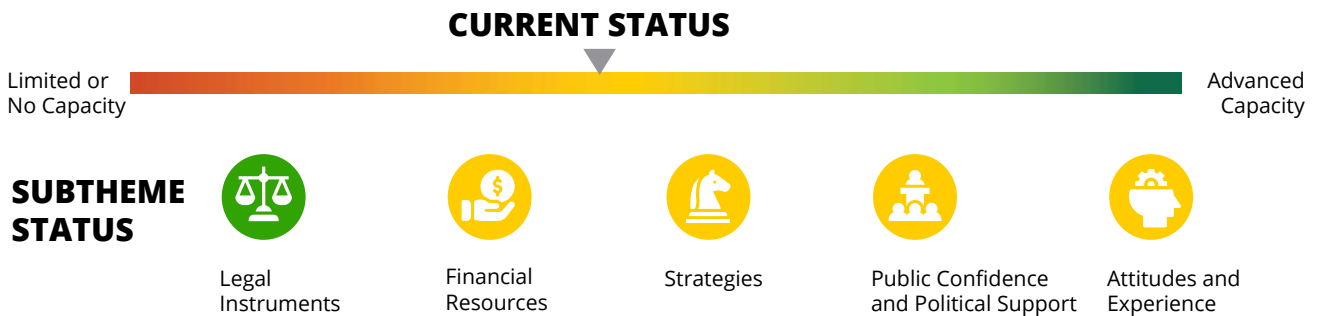
# **ENABLING ENVIRONMENT**





# ENABLING ENVIRONMENT

**Findings indicate the country’s Enabling Environment has made achievements with significant limitations.**



A country’s legal, institutional, financial, and social instruments enable disaster management structures, authorities, processes, and capabilities. These rules, laws, policies, and other instruments allow the capacity to develop and achieve an effective risk reduction vision. Characterization of an enabling environment covers a range of issues, from the existence and applicability of legislation to disaster management stakeholders’ attitudes and experiences.

Nepal’s DRRM capacity-building efforts have been driven mainly by the Sendai Framework for Disaster Risk Reduction and the lessons from the Gorkha Earthquake that struck the nation’s heart in 2015 while the Government of Nepal (GoN) was in the midst of transforming into a federal secular republic. Since 2017, in line with its commitments to Sendai, Nepal began formulating new comprehensive legislation and a National DRR Policy, including a Strategic Action Plan adopting the Build Back Better principle and a Whole-of-Society Approach, strengthening DM governance from the federal to the local level. Additionally, the Disaster Risk Reduction and Management (DRRM) Act was issued in 2017 as the primary law reflecting a broad strategic vision covering all phases of disaster management. Thus, the DRRM Act is a recent significant step forward in proactively addressing disaster risks instead of focusing only on response efforts.

Legislation and plans acknowledge the risk-informed approach to sustainable development (SD) by streamlining the understanding of risks at all levels and across all sectors with the principles of climate change adaptation and DRR incorporated into planning, budgeting, monitoring, and evaluation. However, horizontal and vertical coordination across the government in integrating DRRM has been reportedly slow, and there is still a heavy focus on response.

Nepal’s disaster management framework is driven by external assistance, reflected in its legislation and the National Disaster Response Framework (NDRF) issued in 2013. Although the DRRM Act assigned the National Disaster Risk Reduction and Management Authority (NDRRMA) as the coordinating and implementing agency for DM, the specific mandates on the roles and responsibilities at the federal, provincial, and local levels have not been fully developed.

# ENABLING ENVIRONMENT



## A1

### FINDINGS

#### Legal Foundations – Disaster Laws:

The Disaster Risk Reduction and Management (DRRM) Act 2017 is the primary law repealing the former Natural Calamity Relief Act 2039 of 1982. It is comprehensive with a broad strategic vision and addresses all phases of disaster management. However, implementation priority has been focused on response.

Recovery efforts from the Gorkha Earthquake (2015) have been occupying the GoN’s resources and agenda. The frequent and intense monsoon-induced floods have limited the GoN’s focus to mostly response and relief efforts. There appears to be limited tangible progress toward risk reduction as outlined in policies and plans, and there is still a heavy emphasis on response.

### RECOMMENDATIONS



Operationalize the DRRM Act to include implementation schedules for the provisions.



Implement the provisions stated in the law with a priority on risk reduction as outlined in policies and plans.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2

#### Global Target(s)

E

#### Guiding Principle(s)

(j)

### U.N. SUSTAINABLE DEVELOPMENT GOALS

16

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# ENABLING ENVIRONMENT



## A2




### FINDINGS

Legal Foundations & Organizational Structures – National Disaster Management Office (NDMO):

The DRRM Act 2017 provides for a well-structured institutional set-up that articulates the national and local level roles in disaster risk reduction. However, as also indicated in the 2019 DRR Status Report, gaps remain due to the conflicting provisions of the legislation that overlap the roles and responsibilities. For example, the provisions of the Water Resource Act (1992), Building Act (1998) contradict with the autonomy of local bodies as provisioned in the DRRM Act and the the Local Government Operation Act (2017).

The DRRM Act authorized the creation of the National Disaster Risk Reduction and Management Authority (NDRRMA) under the Ministry of Home Affairs (MoHA). The Act states that “other arrangements relating to authorization shall be finalized” with no definitive timetable (Art.10.5). However, its implementation is lagging in that further legislation that would charter the NDRRMA has not been issued yet.

### RECOMMENDATIONS

-  Empower NDRRMA as the lead implementing agency for DRR, articulating its role across the DM cycle and functions and throughout the levels of government.
-  Delineate the roles of each Ministry, Agency, and organization to avoid duplication of roles and streamline the operations. Ensure NDRRMA organizational role charts are shared throughout all levels of government.
-  Issue legislation to drive the implementation of NDRRMA and authorizations; focus on autonomy at the local level and ensure there are no contradictions with governing bodies.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

**SUPPORTS U.N. SENDAI FRAMEWORK**

#### Priorities for Action

2

---

#### Global Target(s)


E

---


#### Guiding Principle(s)


(e), (j)


---

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT




## A3


### FINDINGS


Legal Foundations & Organizational Structures – Post-NRA:

The Reconstruction Act established a temporary National Reconstruction Authority (NRA) to reconstruct the structures and settlements damaged by the 2015 Gorkha Earthquake. The NRA has delivered on the mandate, albeit with slow progress. The NRA completed its term at the end of 2021.

### RECOMMENDATIONS

- 

Ensure an effective transition from NRA to the Department of Urban Development and Building Construction (DUDBC) and NDRRMA.
- 

NDRRMA may want to delegate basic resettlement duties to respective municipalities and provide expertise for effective coordination and collaboration.
- 

Ensure delineation of duties are clearly outlined and transfer of knowledge and skill-based positions are incorporated to account for long-term recovery.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

#### Priorities for Action

2

#### Global Target(s)


E

#### Guiding Principle(s)


(e), (j)


**U.N. SUSTAINABLE DEVELOPMENT GOALS**


16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT







## A4

### FINDINGS

Legal Foundations – Guidance to Local Governments:  
 Per the Local Government Operation (LGO) Act (2017), municipalities are responsible for preparing and enforcing local laws for land use, sustainable development, and building codes within their jurisdictions based on hazard assessments. The LGO Act provisions authority to local governments to develop sustainable development plans. However, local governments reportedly lack a proper understanding of hazards, vulnerabilities, and disaster risks.  
 Secondary research shows that differences were found in the understanding of disaster management approaches and strategies among locally elected officials.

### RECOMMENDATION

-  Utilizing the principles of the GoN’s DRR National Strategic Plan of Action—develop education modules, workshops, self-guided studies, and policies to implement formal training on roles before, during, and after disasters. Provide training to locally elected officials.
-  Develop focused guidance to local governments on mitigation efforts and facilitating DRR. Ensure local governments incorporate principles into mitigation plans for effective coordination with DM partners.
-  Develop standardized role and responsibility charts to delineate provincial, district, and local government responsibilities. Incorporate charts into plans at all levels of government.
-  Develop and implement training modules for specific roles and responsibilities utilized by provincial, district, and local governments.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2

#### Global Target(s)


E

#### Guiding Principle(s)


(e), (f)


### U.N. SUSTAINABLE DEVELOPMENT GOALS

16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT



## A5

### FINDINGS

Legal Foundations – Power of Local Governments:

The Local Self-Governance Act gives disaster management powers to municipalities in accordance with Schedule 8 of the Constitution. It also tasks local municipalities with authority to formulate, implement, monitor, evaluate, and regulate local policies, laws, standards, and plans for disaster management.




Local governments are responsible for disaster preparedness and response plans, early warning systems (EWS), Search and Rescue (SAR), and storage/distribution/coordination of relief materials. Local governments also coordinate disaster management efforts among federal, provincial, local communities and private sector organizations.

In addition, the law gives local governments the power to develop policies, laws, and standards relating to municipal police and assigns municipal police to assist with SAR, relief, and rehabilitation.

According to a May 2019 survey on selected high-risk municipalities across Nepal conducted by the Ministry of Federal Affairs and General Administration (MoFAGA)-only 2 out of 14 municipalities had developed their local DRRM Act, and only two had prepared their Disaster Management Fund Operational Guidelines.

Moreover, those newly endorsed acts and guidelines did not seem to reflect the municipal hazard risk levels; they were exact copies of the sample act and shared by the MoFAGA. Only a few municipal staff had received DRRM training.

### RECOMMENDATIONS

-  Tailor the subnational planning process according to the specific hazard risk and vulnerability profiles leveraging the findings of this NDPBA study. Ensure local plans are updated to reflect their specific risk and vulnerability profiles.
-  Leverage the Building Information Platform Against Disaster (BIPAD), an integrated and comprehensive Disaster Information Management System (DIMS) in informing local governments and providing user training.
-  Establish incentives for municipalities to develop local DRRM Acts & prepare formal Disaster Management Fund Operational Guidelines. Incorporate specific municipal hazard levels.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2

#### Global Target(s)

E

#### Guiding Principle(s)


(e), (f)


### U.N. SUSTAINABLE DEVELOPMENT GOALS


16

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT



## A6

### FINDINGS

Legal Foundations – Emergency Powers:




Part 30-Emergency Powers of the Constitution gives the President of Nepal the power to declare a state of emergency through a request from the governor of the affected province. The Prime Minister (PM) exercises the power with appropriate input from the LDRRMCs, DDRRMCs, and PDRRMCs. MoHA, through its Executive Committee of the NDRRMA, convenes and assists the cabinet members in a decision to declare a national disaster.

While the NDRF was issued in 2013 and is the guiding principle of the response operations, at the national level, the DRRM Act declares the powers, functions, and duties of the NDRRMA in coordination with the Disaster Management Working Council, the Executive Council, and the concerned government ministries and other bodies of the GoN, regarding disaster response.

Although the DRRM Act assigned the NDRRMA as a coordinating and implementing agency for DM, the specific mandates on the roles and responsibilities at the federal, provincial, and local levels have not been fully developed.

There is a need for clarity on the roles and responsibilities in vertical cooperation and assistance-seeking mechanisms when a calamity is declared.

### RECOMMENDATIONS

-  Operationalize the DRRM Act to clarify the disaster declaration process and delineate the authorities at each level of the government, avoiding duplications.
-  Ensure DRRM Act includes primary, secondary, and tertiary roles outlined at the federal, provincial, and local levels to expedite disaster response.
-  Conduct training on disaster declaration protocols to clarify roles and responsibilities at the federal, provincial, and local levels. Formally outline and include assistance-seeking mechanisms to ensure smooth coordination on all government levels.

### SENGAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2

#### Global Target(s)

A, B, C, D, E

#### Guiding Principle(s)


(b), (c), (e), (f), (j)

#### U.N. SUSTAINABLE DEVELOPMENT GOALS


9, 11, 13, 14, 15


#### PARIS AGREEMENT ARTICLES


7.1, 8.1

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT



## A7

### FINDINGS

Financial Resources – Budgets:

While the DRRM Act mandates that a DM Fund be established at every level of government, funding and programmatic challenges persist. MoFAGA has a model law for DM Fund setup. The DM Fund is set at NPR 1 billion (\$8 million) (MoHA, 2022).

There is not comprehensive legislation on fund management, and only about 5% of the total capital expenditure of the government is spent on disaster risk management, which is insufficient given the scale of disasters in the country.

Since the law does not specify percentage allocations for contingency funds, the provisions are left to respective levels of government; DM budgets end up being funded at inconsistent levels across the tiers of government.

Several studies have reported a lack of sufficient funding. This is partly because Nepal has a history of relying on donor funds for development and risk-reduction activities.

Additionally, the existing DM Fund provisions are only for disaster response, not risk reduction or recovery activities.

### RECOMMENDATIONS



Ensure DM Fund legislation includes specific percentage allocation to ensure consistent funding across all government tiers.



Expand DM Fund provisions to include all DM phases and specify allocations for risk reduction, response, and recovery activities at the subnational levels.



Gradually increase the DM Fund commensurate with the need.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2, 3

#### Global Target(s)

C

#### Guiding Principle(s)

(b), (e), (f)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity



# ENABLING ENVIRONMENT



## A8



### FINDINGS

Financial Resources – Emergency Fund:

The Natural Calamity Relief Funds (MoHA DM Fund, DMF) and the Prime Minister Disaster Relief Fund (PMNDRF) or the Prime Minister’s Fund exist. They are used for the rescue, treatment, relief, and rehabilitation of victims and restoring physical infrastructure damaged by natural hazards.

The MoFAGA model law includes Fund Mobilization Guidelines and DRRM emergency fund set-up guidelines. However, the number of funds for disaster response and relief is established on an ad-hoc basis instead of a needs assessment basis. Substantial differences exist in the amounts allocated for DM contingency budgets across local governments. The DM budget allocation varies from 1 to 10% of Nepal’s local government budget.

### RECOMMENDATIONS

-  Guide local governments to use a needs-based response and relief budget allocation instead of an ad-hoc basis.
  
-  Consider mandating a certain fixed percentage (not below 10%) of the total local government budgets across Nepal, or another formula that allows for equitable percentage distribution of DM budget across the jurisdictions.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action


2, 3

### Global Target(s)


C


### Guiding Principle(s)


(b), (e), (f), (h), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT



## A9

### FINDINGS

Financial Resources – Grant Programs and Loans:

Grant programs exist in two forms:

- Federal grants to strengthen vulnerable populations against disaster risks under the scheme of “equalization” or “social protection” grants for vulnerable populations such as the elderly, elderly single women, Dalit children below the age of 5, marginalized and endangered communities.
- Housing and infrastructure recovery grant programs after the Gorkha Earthquake as stipulated under the Post-Disaster Recovery Framework 2016-2020, a non-recurring grant program (NRA, 2015, 2017). However, banks in Nepal are not well positioned to provide affordable loans to low-income homeowners since subprime lending is not possible.

Without proper essentials, attempting to make such loans could lead to losses for the banks, affecting their credit ratings. Interest rates could become too costly for poor communities. In addition, commercial banks often do not have branch offices in the most vulnerable areas.

### RECOMMENDATIONS



Create community-based DRM grant programs to strengthen community preparedness and mitigation projects by community DM teams for early warning to reduce future recovery needs.



Create disaster loan programs to support households, businesses, or NGO recovery by establishing a specialized lending facility to provision them.



As stated in the 2021 NDRRMA Major Plan of Action for Disaster Preparedness and Response, institutionalize the grant distribution program to flood and landslide-affected households.



Establish a specialized lending facility for providing homeowners with loans for reconstruction.



Expand the scope of social security benefits to address the DRM needs of the beneficiaries.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2, 3

#### Global Target(s)

C

#### Guiding Principle(s)

(b), (e), (f), (h), (j)

Limited or No Capacity

Early Capacity Development

Achievement with Significant Limitation

Substantial Progress with Some Limitation

Advanced Capacity

# ENABLING ENVIRONMENT



## A10

### FINDINGS


Financial Resources – Reconstruction Funds:


The GoN committed NRs838 billion (over 7 million USD) to the recovery efforts over five years, which made up over 1/3rd of the country’s Gross Domestic Product (GDP) in 2015. Of the NRs838 billion recovery program, close to half of it was for rural and urban housing reconstruction, 1/3rd was contributed to the private sector, and another 1/3rd was for the public sector contribution to various losses and damages.


However, the government had about 20-25% leftover (unspent money) in its total budget in recent years, with the problem attributable to failures to fill senior positions, limited technical capability in government, slow construction work, overly ambitious earthquake reconstruction plan, slow management of land title changes, insufficient administration, and problematic project selection, as reported by Asian Development Bank (ADB) in 2019.


Nepal’s GDP increased sharply starting in 2016, so the GDP percentage of the recovery monies allocated declined over the past five years.

### RECOMMENDATIONS

- 

Create technical and human capability for efficient reconstruction mechanisms ensuring “build back better” to protect against future disasters.
- 

Strengthen the private sector through legislative measures by allowing competition for increased quality construction for faster recovery.
- 

Ensure timely processing and payments to private sector contractors by easing bureaucracy and through transparent mechanisms.
- 

Leverage the banking sector to provide low-cost loans for the construction sector.

### SENGAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action


2, 3, 4

#### Global Target(s)


C


#### Guiding Principle(s)

(b), (e), (f), (h), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT



## A11

### FINDINGS

Financial Resources – Insurance/Reinsurance:

Nepal Re is a Public-Private-Partnership (PPP) model with equity participation of the GoN as a national reinsurer for disaster risk financing that can encourage DRR practices.

With the new focus on prioritizing disaster risk finance (DRF) in the National Strategic Action Plan for DRR 2017-2030, the management of the sovereign and non-sovereign residual risk and the demand for disaster insurance and/or reinsurance is expected to expand.

As suggested by ADB, a multi-hazard catastrophe insurance pool can help offer coverage at affordable and actuarially sound rates, thereby limiting the GoN's financial exposure to natural hazards and building long-term catastrophe reserves to finance future losses and encourage risk reduction practices.

### RECOMMENDATIONS



Empower Nepal Re to develop and manage a multi-hazard catastrophic insurance pool as foreseen in the National Strategic Action Plan for DRR 2017-2030, offering affordable and actuarially sound rates.



Develop comprehensive disaster risk data utilizing BIPAD and possibly the DisasterAWARE platform, underlying the RVA profile of Nepal to aid Nepal Re.



Facilitate new legislation regulating the insurance market through Beema Samiti (the Insurance Regulatory Authority of Nepal under MoF).

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2, 3

#### Global Target(s)

C

#### Guiding Principle(s)

(b), (e), (f)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# ENABLING ENVIRONMENT



## A12

### FINDINGS


Financial Resources – Microcredit Offerings:


More than half of the population across Nepal reportedly uses informal financial services.

While a microfinance credit system exists through Nepal Rastra Bank, microfinance credits are at risk of default due to poor-income households or lowered repayment capacity stemming from disasters.

The Small Farmers’ Development Bank Microfinance Financial Institution Ltd. (SKBBL), a wholesale finance bank, refinances agriculture and small cooperatives in Nepal and provides wholesale credit to small farmers’ cooperatives (SFCs) and other micro-finance institutions (MFIs).

### RECOMMENDATION

- 

Reduce the informal financial services in rural and remote areas by offering affordable loans through establishing new branches of banks.
- 

Inform citizens about the availability of microfinance credits through awareness campaigns using nonprofits such as the Nepal Microfinance Banker’s Association (NMBA) and SKBBL for agriculture and small cooperative owners.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action


2, 3

### Global Target(s)


C


### Guiding Principle(s)


(b), (e), (f), (k)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT



## A13

### FINDINGS




Financial Resources – Guidelines for Relief Funds:

The DMF is part of the MoHA budget but can receive money from the PMDRF. There is a lack of clarity as to how funds are dispersed between the two central funds. Also, the DMF was rolling and routed through the district structures. There appears to be confusion among stakeholders on whether the DMF can or will be rerouted directly to the local government level.

In an emergency, despite the provisions on paper from local to district, local to provincial, and local to central, the mechanisms in practice were not wholly understood by stakeholders. This was also reported by a World Bank assessment in 2018.

Also, the Rescue and Relief Standard for Disaster-Affected, 6th Amendment, 2074, regulates provisions for compensation payments to disaster-affected households. However, these provisions are not necessarily known among stakeholders.

### RECOMMENDATIONS

-  Centralize disaster relief monies into one fund. Ensure protocols are clear for how relief funds are routed and share these protocols with all government tiers for transparency.
-  Ensure protocols exist for relief budgets and outline pathways to receive relief disbursement. Provide training on protocols via workshops to district and local governments.
-  Develop education material/training on statutory provisions for compensation payments to disaster-affected households and provide to all relevant stakeholders.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action


2, 3, 4

### Global Target(s)


C


### Guiding Principle(s)


(b), (e), (f), (k)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT



## A14

### FINDINGS

Clear and Comprehensive Policies – DM and DRR Strategies:

Starting in 2017, Nepal began formulating new comprehensive DRRM legislation and its National DRR Policy and Strategic Action Plan in line with the Sendai Framework, adopting the Build Back Better principle and Whole-of-Society Approach, and strengthening DM governance from the federal to the local level.


The legislation and plans acknowledge the risk-informed approach to SD by streamlining the understanding of risks at all levels and across all sectors with the principles of CCA and DRR built into planning, budgeting, monitoring, and evaluation.


However, horizontal and vertical coordination across the government in integrating DRRM has been reportedly slow.


The current DRRM strategy, the 2018 National Policy for Disaster Risk Reduction, was issued one year after the DRRM Act and reflected a broad strategic policy. The Disaster Risk Reduction National Strategic Action Plan 2018-2030 provides a comprehensive planning framework for disaster risk reduction which sets forth various priority areas and guides government actors and stakeholders on the path to achieve those targets.

Those plans and policies are developed at the sub-national (provincial) levels but face budgetary, resource, and technical challenges.


### RECOMMENDATIONS

- 


Facilitate the progress on DRR and mitigation planning, especially at the subnational level governmental offices, through proper funding, technical assistance, and leveraging resources from external partners.
- 


Continue to engage key stakeholders in policy development.
- 

Consider conducting an annual stakeholder workshop (all government tiers) to outline national and subnational planning frameworks and delineate clear priority areas to focus resources and achieve target goals.

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT



## A15

### FINDINGS

Clear and Comprehensive Policies – Mitigation Policies:

The National Building Code (NBC) was issued in 2004, with amendments in 2020. After the Gorkha Earthquake, the National Reconstruction and Rehabilitation Policy was issued in 2015, followed by the Basic Guideline related to Settlement Development, the Urban Planning and Building Construction Policy, and the National Urban Development Strategy in 2016.

However, proximity to and availability of resources have been the main impediments to the effective implementation of mitigation planning and enforcement. Reportedly, urban fire risks are high in homes, factories, schools, hospitals, and other buildings where material standards are poor and fire safety equipment is lacking, compounded by lax regulation, poor enforcement, inadequate zoning controls, and deficient infrastructure.

Our findings indicate that Nepal lacks a comprehensive fire risk management policy, with many municipalities missing fire response plans and proper budgets. While laws, policies, and codes exist for fire hazards, most people do not appear to know them (See also Capabilities and Resources – Fire Stations section).

### RECOMMENDATIONS



Provide DRRM training to municipal leadership and key officials to cover: DRRM legislation, policies, and plans; structures and mechanisms; DM Fund Mobilization Guidelines; human resources for DRRM; and promotion of coordination across the local levels.



Develop multi-hazard risk profiles for urban areas using statistical data, including building infrastructure, leveraging RVA findings from this study.



Create mutual aid agreements to mitigate risks and create partnerships with government tiers, stakeholders, NGOs, and the private sector.



Digitize and automate building code approvals.



Consider NBC training and advocacy for municipal governments to increase building code compliance.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

1, 2, 3, 4

#### Global Target(s)

A, B, C, D, E

#### Guiding Principle(s)

(b), (e), (f)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity



# ENABLING ENVIRONMENT



## A16

### FINDINGS

Clear and Comprehensive Policies


Gender and Vulnerable Population Inclusion:


In Nepal, women are nearly 30% more likely to be illiterate than men, with about 95% of elderly women illiterate. This situation reportedly posed enormous difficulties in the application process for post-Gorkha recovery assistance to female-only households due to the required paperwork. Many women with disabilities are unable to evacuate before disasters. Many women suffer from mental health problems in the aftermath of disasters.


The GoN has integrated Gender Equality and Social Inclusion (GESI) principles into policy and practice and internalized GESI as a cross-cutting theme in formulating its plans and programs. Nepal has made commitments to gender inclusion by mainstreaming them in policy instruments such as the DRR Strategy Action Plan (NDRRSAP) 2018 -2030 and the National Climate Change Policy (NCCP) 2019.


However, implementation of these policies has reportedly faced technical, human resource, and financial hurdles, as well as problems with political commitment from local and provincial governments.

### RECOMMENDATIONS

- 

Include women, children, persons with disabilities, the elderly, and minority communities in local governments' development and planning process.
- 

Assess the needs of women, the elderly, the disabled, and other minorities through the help of NGOs and develop curricula for literacy and disaster preparedness training specifically targeting vulnerable populations.
- 

Ensure plans and policies are updated to reflect lessons learned from the Gorkha earthquake. Include appendices that focus on providing assistance to vulnerable populations by addressing logistical and educational challenges. Create MOUs to leverage the work of NGOs and CBOs.
- 

Continue efforts to provide women and girls equal access to resources and decision-making opportunities.

**SEDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

### Priorities for Action

1, 2, 3, 4

### Global Target(s)


A, B, E

### Guiding Principle(s)


(c), (d), (g), (h)


**U.N. SUSTAINABLE DEVELOPMENT GOALS**

5

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# ENABLING ENVIRONMENT






## A17

### FINDINGS

Attitudes and Engagement – Household Preparedness: Household preparedness levels are not regularly or formally assessed in Nepal. For example, the Bardiya and Banke districts that received DRR programs through NRCS and external development partners after the 2014 floods reportedly fared much better when their communities were flooded again in 2017. Those communities near an active NRCS sub-chapter acknowledged NRCS’s role in better preparedness, as reported by NRCS. While improved awareness does not translate into changed practice, the most common ways of preparedness are securing valuables in plastic bags, stocking emergency supplies, and preparation of ‘go bags.’

### RECOMMENDATIONS

- 
 Develop and implement household preparedness campaigns with the assistance of NRCS local chapters. Ensure reach to all communities throughout Nepal.
- 
 Leverage volunteers from CBOs and NGOs for preparedness campaigns focused on community-specific hazards and vulnerable households, including the disabled, elderly, women, children, the poor, and the disadvantaged.
- 
 Identify specific small business sectors such as barbers/hairstylists and coffee shops and carry out preparedness campaigns that can quickly spread through community engagement.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action


2

#### Global Target(s)


A, B, C, G


#### Guiding Principle(s)


(b), (d), (e), (f), (g), (i), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

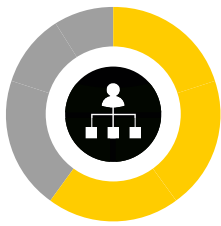
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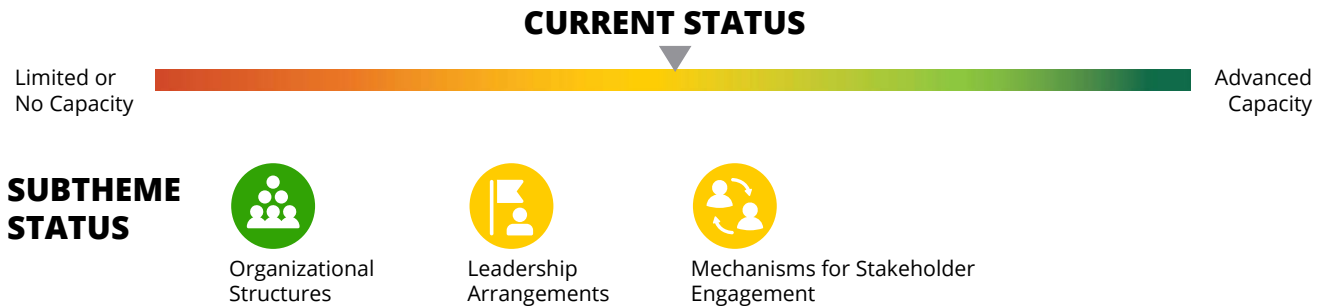
**THE DMA**

# **INSTITUTIONAL ARRANGEMENTS**



# INSTITUTIONAL ARRANGEMENTS

**Findings indicate the country’s current Institutional Arrangements have made achievements with significant limitations.**



The organizational and institutional structures through which disaster management capacity forms are indicators of Nepal’s institutional arrangements. By examining the organization and composition of diverse agencies and individuals that constitute a nation’s disaster management capacity—detailing the relationships and collaboration between them— tangible opportunities for increased effectiveness are often revealed.

The establishment of disaster management (DM) institutions is stipulated in the Disaster Risk Reduction and Management (DRRM) Act 2017 across all levels of government, from the federal to provincial, to the district, to the municipal level. The Executive Committee for DRRM, which is headed by the Minister of Home Affairs (MoHA) and composed of relevant ministers—the Nepali Army (NA), the Chief of Police Forces, Nepal Red Cross Society (NRCS), and others—is responsible for mobilizing international, bilateral, and multilateral assistance to the affected jurisdictions as dictated by the DRRM Act.

When a disaster is declared, there is a need for clarity on the roles and responsibilities in the cooperation and assistance-seeking mechanisms. It is also necessary to establish competency requirements for leadership positions at all levels of government, from the provincial to district, to advance disaster risk management (DRM) goals.

In Nepal, the policies and procedures call for active engagement with stakeholders, including NGOs, the private sector, and local communities. However, there is a need for more inclusiveness, especially from the most vulnerable groups, including the rural population, women, and other disadvantaged groups. Building public trust needs to start from the bottom up with more local non-governmental organizations (NGOs) and private sector involvement.

Since its formation in the 1960s, the NRCS has been a dedicated partner in helping communities with disaster awareness, preparedness, and relief. Heavily disaster-prone communities that received

targeted disaster risk reduction (DRR) programs through NRCS and its external partners have shown solid resilience after experiencing disasters. Programmatic and systematic interventions, based on scientific hazard data by trusted stakeholders such as NRCS, can genuinely build community resilience against recurring disasters.

In the Nepal private sector, major employers and Small and Medium Enterprises have a solid presence in disaster response. The 2015 earthquake and the 2017 floods demonstrated some public-private partnerships in disaster response. MoHA has taken the lead and initiated a more comprehensive stakeholder discussion to establish risk transfer mechanisms by tying together the existing insurance systems in healthcare, livestock, and other social security provisions to develop disaster risk transfer mechanisms.

For Nepal to reach advanced capacity in stakeholder involvement, there is a need for institutionalizing DRR through mainstreaming in local communities through NGOs, civil society organizations, community-based organizations, and more private sector involvement.

There is a need for continuity of targeted and systematic DRR efforts, and more participation from the public would complement government-led efforts. Good media presence, targeted outreach campaigns through mainstream and social media, and equitable and transparent government interventions are strongly needed to build public trust and encourage more involvement. In addition, there should be a continued focus on including vulnerable populations—especially women, the elderly, and minority ethnic groups.



# INSTITUTIONAL ARRANGEMENTS



## B1

### FINDINGS





#### Organizational Structures – Military’s Role:

The National Disaster Response Framework (NDRF) delineates the role of the NA through a coordination mechanism that is automatically established for disaster response. The NDRF (amended in 2018) puts the NA at the center of international response, as such it stipulates that a coordination mechanism shall automatically be established for disaster response, upon the supervision and guidance of the Executive Committee by the NDRRMA between the National Emergency Operation Center (NEOC) and its partners including the Nepalese Army Crisis Management Center (NACRIMAC), the Multinational Military Coordination Center (MNMCC), and the UNDAC’s On-Site Operations Coordination Centre (OSOCC).

The guiding instrument is the Guidelines for Accepting International Military Assistance/Military Civil Defense Guidelines.

Despite the presence of NA liaisons during disaster response, it has been challenging to sustain consistent communication between the UN Cluster system and the NA during pre-crisis (i.e., normal) times. This may be due to Army personnel living in barracks with little civilian interaction (Mosa-Basha et al., 2019). Reportedly, the APF does not have adequate contingency plans for communication and public outreach and lacks high-tech equipment for disaster response (Mosa-Basha et al., 2019).

### RECOMMENDATIONS

-  Create a communications contingency plan and Early Warning System (EWS) to improve communications between APF and the Government of Nepal (GoN).
  
-  Institutionalize relationships between the NA, various GoN and United Nations (UN) agencies, and NGOs to facilitate disaster preparedness for pre-disaster national and international level communication.
  
-  Pursue mutual aid agreements for sharing satellites, HAM radios, and other technology for disaster preparation and response. Provide adequate training on communication tools/devices.
  
-  Provide exercise and training opportunities on the NDRF and roles/responsibilities to enhance coordination and foster partnerships to better prepare for disasters.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2

#### Global Target(s)


D, F


#### Guiding Principle(s)


(b), (e)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity



# INSTITUTIONAL ARRANGEMENTS



## B2

### FINDINGS

Organizational Structures – Military’s Role:

There is a need to build civilian capability capacity including search and rescue (SAR), relief distribution, rehabilitation, and reconstruction. This will alleviate the over dependence on the military for response activities.

### RECOMMENDATIONS

- Make the necessary legal adjustments to achieve local response and recovery capacity to mitigate the need for deployment.
- Provide training and exercise opportunities to civilian response teams to ensure adequate preparedness in disaster response.

**SEDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action

2

### Global Target(s)

D, F

### Guiding Principle(s)

(b), (e)

Limited or No Capacity

Early Capacity Development

Achievement with Significant Limitation

Substantial Progress with Some Limitation

Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B3

### FINDINGS

Organizational Structures – International Partnerships:




In response to the 2015 Gorkha Earthquake, Nepal became one of the five priority countries in using the UN Civil-Military Coordination (UN-CMCoord) humanitarian response framework along with Bangladesh, Indonesia, Myanmar, and the Philippines.

Nepal is a member of the South Asian Association for Regional Cooperation (SAARC). The SAARC Disaster Management Centre (SDMC) which was re-established in New Delhi, India in 2016, has the mandate to support member states in their DRR initiatives through the application of Science & Technology, multi-disciplinary approaches, capacity development, collaborative research, and networking in line with the relevant frameworks adopted by member states.

Actions include: the Dhaka Declaration and SAARC Action Plan on Climate Change (2008); Delhi Statement on Cooperation in Environment (2009); Thimphu Statement on Climate Change (2010); SAARC Convention on Cooperation on Environment (2010); SAARC Agreement on Rapid Response to Natural Disasters (2011); and Memoranda of Understanding (MOUs) with inter-governmental organizations including the United Nations Office for Disaster Risk Reduction (UNDRR) and Asian Disaster Preparedness Centre (ADPC) (2008).

SAARC member states contribute wheat and rice to a permanent reserve that can be drawn upon by a member state in the event of a disaster and when a state has no means to procure food from elsewhere.

### RECOMMENDATIONS

-  Update formal MOUs, create new MOUs, and continue to leverage the existing international partnerships to increase preparedness efforts.
-  Incorporate training and exercise lessons learned and AARs from previous international response and recovery activities into the National Response Framework and the NDRF.
-  Continue to develop training and exercise opportunities that include all stakeholders and foster national and international partnerships. Incorporate lessons learned into plans and policies.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2

#### Global Target(s)


F

#### Guiding Principle(s)


(a), (l), (m)


### U.N. SUSTAINABLE DEVELOPMENT GOALS


13

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS





## B4

### FINDINGS

Organizational Structures - Regional Offices:

The DRRM Act 2017 established Provincial, District, and Local Disaster Risk Reduction and Management Committees (PDRRMCs, DDRRMCs, LDRRMCs). However, progress towards fully functional regionalizing of DM operations is still underway.

### RECOMMENDATIONS

-  Continue to build capacity at all levels of government with provisions for training, guidance, and staffing.
-  Establish regional working groups of Committee members to meet on a rolling basis and enhance partnerships. Ensure regional DM capabilities and operations are coordinated for a more effective response.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action


2

### Global Target(s)


E


### Guiding Principle(s)


(f), (i), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B5

### FINDINGS

Organizational Structures – DRR Platform:

NDRRMA is the implementing authority for Sendai Framework for DRR. In the case of Nepal's commitments to Sendai, concrete mainstreaming actions are reportedly limited to project and donor-driven activities.

### RECOMMENDATIONS



Fully empower the NDRRMA with the leadership role in integrating Sustainable Development Goals (SDGs), Climate Change Adaptation (CCA), and DRR to see through the process of planning, budgeting, and evaluation as stipulated in the laws (particularly the DRM Act) and the national DRR and (sustainable development (SD) policies.



Schedule quarterly reviews of SDGs with government agencies, donor agencies, and other stakeholders.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

#### Priorities for Action

2

#### Global Target(s)

E, F

#### Guiding Principle(s)


(l), (m)

**U.N. SUSTAINABLE DEVELOPMENT GOALS**


16


**PARIS AGREEMENT ARTICLES**


7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B6

### FINDINGS




Organizational Structures – CCA Platform:

Nepal signed the Paris Agreement in October 2016. Nepal is in the formulation phase of its National Adaptation Plan (NAP) and is one of the first countries to receive NAP Readiness funding from the Green Climate Fund to move towards a fully developed NAP. The CCA Platform is housed within the Ministry of Forests and Environment (MoFE) and is headed by the Joint Secretary.

Through the MoFE, the GoN has engaged key stakeholders in the NAP process, and it has been acknowledged that the process is as political as technical. The key challenge has been to create an enabling environment for key technical inputs to be used in decision-making effectively. Key data on climate risk, vulnerability, and adaptive capacity are required for effective NAP formulation. Stakeholder facilitation has been time-consuming and resource expensive.

As Nepal is one of the countries with the highest risk from climate disasters, and the weather events become more unpredictable, causing immense losses year after year, there is a need for the CCA Platform to advocate for more resources.

### RECOMMENDATIONS

- 
 Leveraging the findings of this National Disaster Preparedness Baseline Assessment (NDPBA), including the Risk and Vulnerability Assessment (RVA), to continue the process of stakeholder facilitation and decision-making for the NAP.
  
- 
 Utilize the CCA Platform to advocate for compensation from losses and damages due to the increasing climate induced disasters impacting Nepal.
  
- 
 Continue to engage MoFE and GoN stakeholders. Consider creating formal working groups that drive key decision-making and technical inputs for the NAP, policies, and NAP Readiness funding.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2

#### Global Target(s)


E, F

#### Guiding Principle(s)


(l), (m)


#### PARIS AGREEMENT ARTICLES

7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B7

### FINDINGS

Organizational Structures – SD Platform:

The National Platform on Sustainable Development (NPSD) is headed by the Committee led by the National Planning Commission (NPC). A 2020 national review of Nepal’s SDGs by the National Planning Commission indicated that Nepal’s overall progress in the SDGs is mixed: There is notable progress in the areas of poverty reduction, education, gender equality and empowerment, biodiversity, and enhancement of water and sanitation and energy infrastructure, but reducing hunger and mitigating the impacts of climate change and industrialization are the noted challenges.

### RECOMMENDATIONS



- Accelerate the implementation of the SDGs through a more integrated approach focused on:
  - equality
  - acceleration of economic growth
  - environmental resilience
  - practicing good governance
  - creation of MOUs to strengthen global partnerships and resource mobilization
  - consolidating multi-stakeholder partnerships
  - localizing the SDGs
  - strengthening institutions and statistical systems
  - recovering from COVID-19 pandemic impacts

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action

2

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### Global Target(s)

E, F

---

### Guiding Principle(s)

(l), (m)

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**U.N. SUSTAINABLE  
DEVELOPMENT GOALS**

5

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■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B8




### FINDINGS

Organizational Structures – DRR, CCA, SDG Platform Integration:

Legislation and plans acknowledge the risk-informed approach to SD by streamlining the understanding of risks at all levels and across all sectors incorporating the principles of CCA and DRR into planning, budgeting, monitoring, and evaluation.

However, horizontal and vertical coordination across the government in integrating DRRM has been reportedly slow (Bhandari, et al. 2020). It remains to be seen whether the NDRRMA will assume the role of integrating DRR, CCA, and SD. The offices or platforms managing the implementation of DRR, CCA, and SD need coordination and streamlining of efforts.

### RECOMMENDATIONS

-  Strengthen DRR coordination mechanisms with CCA, SD platforms.
-  Conduct a comprehensive stakeholder mapping and analysis.
-  Clarify the roles and responsibilities of stakeholders to eliminate redundancies, increase synergies, and work towards a common goal of resiliency.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

### Priorities for Action

2

### Global Target(s)

E, F

### Guiding Principle(s)


(h), (l), (m)

### U.N. SUSTAINABLE DEVELOPMENT GOALS


1, 2, 3, 4, 5, 6, 9, 11, 13, 14, 15


### PARIS AGREEMENT ARTICLES


7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B9

### FINDINGS




Organizational Structures – Office for Engagement with International Humanitarian Actors:

Nepal has a vast network of UN agencies and I/NGOs in all phases of DM. It participates in the UN Cluster System to deal with each of the main sectors of the humanitarian actions (e.g. water, sanitation and hygiene (WASH), logistics, health, etc.).

The Humanitarian Country Team (HCT), headed by a Humanitarian Coordinator, is a strategic and operational decision-making body supporting the GoN-led response that consists of UN agencies, NRCS, I/NGOs, and donors.

HCTs also develop contingency plans for flooding and earthquake preparedness plans. MoHA is responsible for coordination across all national and international humanitarian actors through NEOC. NDRRMA’s role needs clarification/strengthening.

### RECOMMENDATIONS

- 
 Through legislation, fully empower NDRRMA as the lead coordinating agency for engagement with bilateral and international humanitarian actors. Update plans and policies to reflect new legislation and designating agency. Share with all relevant stakeholders.
  
- 
 Update plans with lessons learned from previous disasters to enhance communication and coordination issues and improve humanitarian response and preparedness efforts.
  
- 
 Ensure sharing and coordination of preparedness plans among all stakeholders-- especially HCT, MoHA, NEOC, and NDRRMA.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2

#### Global Target(s)

F

#### Guiding Principle(s)


(a), (l), (m)


### U.N. SUSTAINABLE DEVELOPMENT GOALS

16, 17

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity



# INSTITUTIONAL ARRANGEMENTS



## B10

### FINDINGS

Leadership – Competencies:



The DRRM Act defines the competencies of the NDRRMA Chief Executive (CE) as a person who has obtained a bachelor’s degree from a university recognized by the GoN and has at least ten (10) years of experience in the relevant field as an acting head on the recommendation of the appointing committee.

The appointing committee consists of two expert members under the coordination of the Secretary of Home Affairs. The term of appointment is five (5) years. The current NDRRMA CE has the proper credentials to lead the organization and the DRR efforts in the right direction.

The effectiveness of disaster preparedness and response must be achieved at local levels. Therefore, the competencies of officials whose roles in disaster management are mandated by law critically impact whether outcomes are successful.

Studies show that officials in Nepal may need more training in awareness and preparedness despite having a generally positive perception of the need for disaster response capacity building.

### RECOMMENDATIONS

-  Provide guidance for training for district and local level elected and appointed leaders and link the training to competency requirements. (See the Capacity Development section).
-  Provide guidance for legal and organizational arrangements to empower NDRRMA with skilled staff and clear career progression.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action


2

### Global Target(s)


D, E


### Guiding Principle(s)


(c), (e), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B11

### FINDINGS

Leadership Structure During Disasters:

The Gorkha Earthquake was a test case for the NDRF. For example, the authority of the Social Welfare Council (SWC) was found to be more critical during actual response operations. Also, Chief District Officers (CDOs) were the critical actors in utility service provisions and search and rescue and relief operations at the local levels.

The role of the NGOs was not as clear, with duplicate services and lacking in some areas. NDRF was later revised based on the lessons learned from the Gorkha Earthquake. The newly revised version still contains overlapping roles, and it remains ambiguous in terms of the accountability of the DM stakeholder organizations.

There is also a reported lack of a mechanism or clarity on when the local governments should seek support from provincial and federal levels for disaster management.

### RECOMMENDATIONS



Delineate the roles of each ministry, agency, and DM stakeholder organization to avoid duplication of roles and streamline the disaster response operations.



Train for and exercise the NDRF, identifying the areas where a lack of or confusion of authority exists. (See also the Capacity Development section). Update plans and policies to incorporate lessons learned from training/ exercises.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2

#### Global Target(s)

A, B, D, E

#### Guiding Principle(s)

(c), (e), (j)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B12

### FINDINGS





#### Stakeholder Engagement – Private Sector:

While policies, plans, and assessments concerning Nepal's DRM efforts call for active private sector engagement, the private sector has yet to become an organic partner in DM efforts from the national down to the ward level.

Our assessment indicates that the private sector participates in DM efforts more in urban municipalities than the rural ones. The level of private sector involvement is dependent on literacy rates in the region, urbanization, and awareness due to a recent disaster or the presence of awareness-raising/capacity-building programs.

Also, while the private sector plays a significant role during the relief and response periods, they are reportedly not active during non-disaster periods

### RECOMMENDATIONS

-  Establish a National Private Sector Platform for DM.
-  Leverage the Federation of Nepalese Chamber of Commerce and Industries (FNCCI) database of private sector companies for determining pre- and post-disaster related resource needs.
-  Make the private sector an organic partner of DRR and DRM through policies that allow the local private sector companies to partner with local administrations in resource capacity generation, including using facilities as potential shelters, warehouses, and a hub for volunteer resources, with proper incentives in return.
-  Update legislation to ease taxes and other duties directly associated with disaster relief and initial recovery for the private sector organizations that are contractors for humanitarian assistance organizations.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action


2

#### Global Target(s)


A, B, C, G


#### Guiding Principle(s)

(b), (d), (e), (f), (g), (i), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS





## B13

### FINDINGS

Stakeholder Engagement – I/NGOs:

Over the last three decades, I/NGOs have been successful in areas like microfinance mechanisms and forest and irrigation management that helped to empower communities and increase outreach to marginalized groups. Some of these groups have reportedly gained the public trust and are seen as filling the services the government cannot reach.

### RECOMMENDATIONS

- 
 Leverage NGOs, especially the NRCS, in risk communication and warning, as locals have established trust in NGOs that have previously helped them or are active in the region.
  
- 
 Promote the role of government and the importance of partnerships between the government and NGOs through transparent practices to establish trust between citizens and government agencies.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action

2

### Global Target(s)


A, B, C, G


### Guiding Principle(s)


(a), (b), (d), (e), (f), (g), (i), (j), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B14





### FINDINGS

Stakeholder Engagement – I/NGOs:

The NDRF assigns the Ministry of Foreign Affairs (MoFA) and the SWC responsibility for registering and facilitating International Humanitarian Communities (IHC) starting within the first 24-48 hours of a disaster declaration.

The Association of International NGOs in Nepal (AIN) is an informal network of I/NGOs working in Nepal, which currently has 126 I/NGO members working on a wide range of issues and sectors. The member database is accessible on their website. However, since member registration is voluntary and SWC does not officially charter it, AIN's impact is limited.

### RECOMMENDATIONS

-  Establish a national NGO Registry merging/leveraging the Social Welfare Council (SWC), NGO Federation of Nepal (NFN), Association of International NGOs in Nepal (AIN), and NGO Federation of Nepal (NFN) databases, with regular maintenance and updating of capabilities.
-  Eliminate duplication of efforts by keeping a transparent database of I/NGOs.
-  Place the priority on the national/local NGOs as they have more local knowledge, albeit they may lack resources.
-  Consider officially chartering the AIN through SWC.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action


2

### Global Target(s)


A, B, C, G


### Guiding Principle(s)


(a), (b), (d), (e), (f), (g), (i), (j), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B15

### FINDINGS

Stakeholder Engagement – NCRS:

The DRRM Act came from a strong push from NGOs, among others, to improve DM capacities in Nepal, particularly at the local level (Vij et al., 2020).

The Nepal Red Cross Society (NRCS) has been the leading NGO working directly on DM with a vast community outreach network.

However, their effort was and, to a greater extent, remains on disaster response and recovery. Since its establishment in 1963, its network includes District Chapters in each of the 77 districts with 1,554 sub-chapters and has 6,538 Junior and Youth Red Cross Circles that reach schools, campuses, and communities.

### RECOMMENDATIONS



Leverage the existing network of NRCS to focus its efforts on DRR through community training and education, public preparedness, school safety, and other mitigation activities rather than only response and relief.



Ensure government, at all tiers, includes NRCS in DM planning, preparedness, and response activities to continue to leverage their partnership and expertise.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2

#### Global Target(s)

A, B, C, G

#### Guiding Principle(s)

(b), (d), (e), (f), (g), (i), (j)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## B16

### FINDINGS

Stakeholder Engagement – Nepali NGOs:

The NDRF 2013 (amended 2019) assigns NGOs as part of the Central Natural Disaster Relief Committee (CNDRC), line ministries, and international organizations.

The CNDRC, under the NEOC of MoHA, has the highest coordination responsibility. In the humanitarian cluster agreement, the lead agency from the GoN and the co-lead agency from the UN or I/NGOs are predetermined and endorsed in the inter-agency contingency plan.

However, in practice, in response to the 2015 Gorkha Earthquake, NDRF did not have clear guidance for the Nepali NGOs for them to be able to navigate the complicated humanitarian appeal process. Only a fraction of the consolidated humanitarian appeal (0.8%) reportedly went to Nepali NGOs (Bisri & Beniya, 2016).

### RECOMMENDATIONS

✓ Clarify the Nepali NGO roles in the NDRF through amendments and update plans to include clear outline of responsibilities and assigned agency/role. Share plans with all relevant stakeholders.

✓ Increase the percentage of consolidated humanitarian appeals for the Nepali NGOs through fair pre-assessment of their capabilities and shortening the SWC decision-making period for those Nepali NGOs intending to receive international assistance during disasters.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2

#### Global Target(s)

A, B, C, G

#### Guiding Principle(s)

(b), (d), (e), (f), (g), (i), (j)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

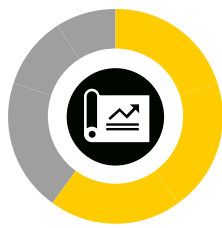
■ Advanced Capacity



**THE DMA**

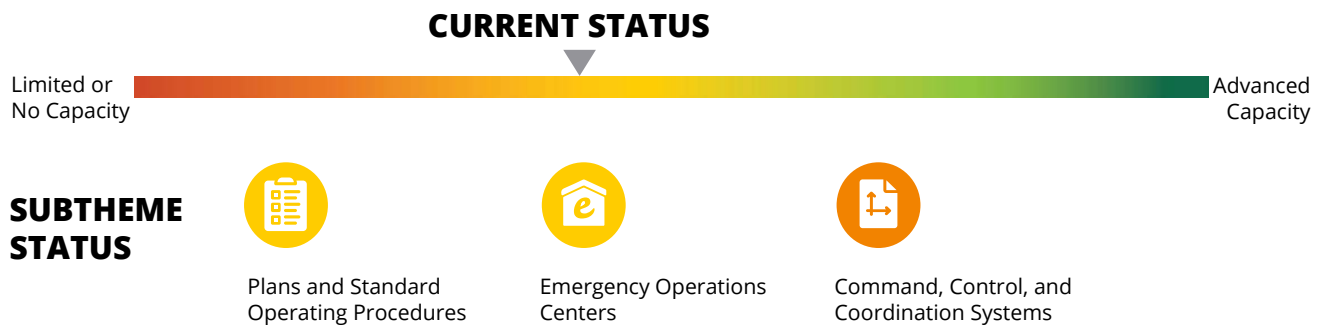
# **DISASTER GOVERNANCE MECHANISMS**





# DISASTER GOVERNANCE MECHANISMS

The country's Disaster Governance Mechanisms have achievements with significant limitations.



Disaster management efforts are most effective when guided by standardized, formalized systems and procedures that dictate how and by whom activities are conducted. The effectiveness of all disaster management phases, including disaster preparedness, hazard mitigation, response, and recovery, is dependent on establishing and documenting such mechanisms. The DMA analyzed the following sub-themes that characterize the Disaster Governance Mechanisms of Nepal: Plans; Standard Operating Procedures (SOPs); Emergency Operations Centers; and Command, Control, and Coordination Systems.

Nepal made rapid advances in formulating its DRR policies, plans, and SOPs concisely through its commitments to the Sendai Framework for Disaster Risk Reduction. This was during Nepal's transformation into a federal republic in conjunction with a new Constitution that made DRRM a top priority for all levels of government.

In alignment with Sendai Priority for Action 2, which seeks to strengthen disaster risk governance for effective management of disaster risk, Nepal issued the DRRM Act (2017) as the main policy instrument that established institutional set-up and accountability mechanisms for DRRM where each level of government has assigned duties for DRR, mitigation, preparedness, and response.

Through its first National Strategy on Disaster Risk Management in 2009, the GoN had already adopted a risk-management-driven approach, shifting from a relief and rescue-oriented approach. However, the frequency and intensity of disasters, including the massive Gorkha earthquake in 2015 and recurring monsoonal rains and associated floods, kept the GoN busy with response and recovery.

While Nepal's geography presents logistical challenges, the presence of vast international humanitarian and development aid organizations brings a wealth of knowledge and technical resource potential. Proximity to and availability of resources have also been the main impediments to the effective implementation of mitigation planning and enforcement. There is also a need for better guidance to local governments through training and resource transfer, as gaps remain due to the conflicting provisions of the legislation that overlaps roles and responsibilities.

For Nepal to reach advanced capacity in governance, coordination, communication, and integration of all planning instruments, horizontal and vertical mechanisms must be solidified throughout the government and amongst all DM stakeholders. Proper participation from vulnerable groups, including women, children, the elderly, the disabled, and marginalized ethnic groups is critical in plan development and execution.



# DISASTER GOVERNANCE MECHANISMS



## C1

### FINDINGS

Plans and Procedures: Disaster Declaration and Roles:

The GoN has developed frameworks, plans, and procedures covering each of the four phases of DM. Each of the three tiers of the government is required to create hazard preparedness plans, and each province to issue its laws for DRM.





When a disaster occurs, with appropriate input from the Local, District, and Provincial Disaster Risk Reduction and Management Committees (LDRRMC, DDRRMC, PDRRMC), MoHA through its Executive Committee of the NDRRMA, convenes and assists the cabinet members in a decision to declare a national disaster.

The Prime Minister (PM) is responsible for a national disaster declaration. For disaster response, GoN uses a cluster system with the governmental lead agency assigned to a functional cluster area and a humanitarian agency as the cluster co-lead for each response cluster.

The National Disaster Response Framework (NDRF), amended in 2019, details the foreign disaster relief and emergency response process. However, clarity of roles across each tier of government and the clusters is sometimes lacking.

The Monsoon Preparedness Response Plan 2021, both at the national and provincial levels, looks more like a compendium without specifics regarding the roles of the participating agencies, especially the lead agencies and co-leads; there is a need to elaborate on cluster-specific roles and responsibilities. A lack of acknowledgment of the local DM committee roles has also been a concern.

### RECOMMENDATIONS

-  Make plans and procedures publicly accessible.
-  Formulate SOP guidelines through NDRRMA for engaging all three tiers of the government and for engaging with the private sector and NGOs.
-  Seek input from local communities in plan development (as was acknowledged in the Monsoon Preparedness Response Plan of 2021). Update plans with lessons learned from community input.
-  Integrate plans and policies across the national and subnational governments and critical infrastructure sectors. Ensure key roles have identified primary, secondary, and tertiary back-up personnel.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action


1, 2

#### Global Target(s)


A, B, C, D, E, F


#### Guiding Principle(s)


(e), (f)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# DISASTER GOVERNANCE MECHANISMS






## C2

### FINDINGS

Plans and Procedures – Continuity of Operations (COOP)/Continuity of Government (COG) Plans:

At the district level, each of the 77 DRRMCs has representatives from critical facilities such as irrigation, roads, livestock, and health. However, there is still a need to have COOP/COG plans at each level of the government. Should such plans exist, they need to have coordination in structure and function.

### RECOMMENDATIONS

-  Tie all plans, at all levels, including recovery plans and frameworks, to the NDRF as appendices: sectoral contingency plans and COOPs, Monsoon Preparedness Plans, Flood Response Plans, Earthquake Response Plans, Evacuation Plans, Shelter Plans, Family Reunification Plans, Communication Plan, and Mitigation plans.
-  Ensure COOP/COG plans across levels have coordinated their essential functions priority lists, resource allocations, and identified primary, secondary, and tertiary layers of personnel.
-  Establish a COOP/COG training and exercise plan across all levels of government; update plans according to lessons learned.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

### Priorities for Action


1, 2

### Global Target(s)


E


### Guiding Principle(s)


(e)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# DISASTER GOVERNANCE MECHANISMS



## C3

### FINDINGS

Plans and Procedures – Protocols to Accept and Utilize Donations and Volunteer Resources:

Public Procurement Rules 2064 (2007) Chapter 15 stipulates that procurement can be made immediately in case of a crisis that might occur in public security, interest, and community health.

The GoN has a Model Customs Agreement with the UN to expedite the import, export, and transit of relief consignments and relief personnel; tents, prefabricated houses, and relief consignments may be imported tax-free by waiving the restrictions on quantities and value.

GoN takes appropriate action for issuing transit visas for International Humanitarian Communities (IHC) and port facilities for relief and rescue materials coming to Nepal via India and works with the Government of India. IFRC and the International Committee of the Red Cross (ICRC) have also established their Legal Status Agreements with GoN that permit tax and duty-free import of relief supplies.

However, inefficiencies in bureaucratic procedures and logistical problems may hinder the efficiency in accepting and utilizing humanitarian assistance and volunteer resources, raising costs and prolonging suffering.

### RECOMMENDATIONS

- ✓ Ease bureaucratic hurdles by passing proper laws and/or updating procedures for handling humanitarian assistance during disasters.
- ✓ Create national and regional logistics plans that are based on realistic scenario planning.
- ✓ Ensure MOUs are updated and procured with national and international stakeholders to expedite assistance and resources during disasters.
- ✓ Train and exercise logistics plans with partners and incorporate lessons learned and AARs into plan/policy updates.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

1, 2

#### Global Target(s)

A, B, C, D, E, F

#### Guiding Principle(s)

(e), (f)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# DISASTER GOVERNANCE MECHANISMS







## C4

### FINDINGS

Plans and Procedures – Long-Term Community Recovery Plans:

In Nepal, efforts have focused on the Gorkha Earthquake recovery with assistance from external partners. However, recovery plans need to be prepared ahead of disasters for long-term sustainable development.

### RECOMMENDATIONS

- 
 Develop and fund plans, procedures, and resources to support long-term community recovery with dedicated staff and financial resources.
- 
 Leverage the capacities and synergies gained through the earthquake, flooding, and drought events in developing and updating those plans.
- 
 Integrate sectoral plans into the long-term community recovery plans.
- 
 Develop a national disaster recovery framework for long-term sustainable development.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action

1, 2

### Global Target(s)


B, C, D, E, F

### Guiding Principle(s)


(a), (b), (d), (e), (f), (h), (l), (m)


### Sustainable Development Goals (SDG):


1, 2, 3, 4, 5, 6, 9, 11, 13, 14, 15

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# DISASTER GOVERNANCE MECHANISMS



## C5

### FINDINGS

Command, Control, and Coordination:

The National Emergency Operations Center (NEOC) is activated at level 4, and an incident command post is established within the NEOC according to the NEOC's SOP.






A Joint Secretary leads the NEOC with Disaster Response Focal Points from concerned government ministries deployed to NEOC, where relief supply and District Emergency Operations Centre (DEOC) activation decisions are made.

The 2009 DRR Strategy had identified the need for an Incident Command System (ICS) to deal with disasters of a larger scale and to follow a bureaucratic hierarchy rather than skills to enable coordination and optimal mobilization of human and institutional resources. A media management center is established, and information dissemination by TV, radio, and text messaging to the public is coordinated through the NEOC.

At the time, the DRR Strategy noted that local norms for nutrition, shelter, health, and cultural sensitivity were not well known to the possible external responders and disaster managers. A need to develop Manual/SOPs for guiding the SAR or damage assessment for providing SAR or relief was identified.

While GoN has remedied most of those gaps since then, it is necessary to reassess the ICS protocols and test their efficiency and effectiveness.

### RECOMMENDATIONS

-  Update the NEOC's SOP and the NDRF to reflect the lessons learned from previous disasters and to enhance collaboration and communication across the various stakeholders, including the government, NGOs, CSOs, and the private sector.
-  Make the NEOC's SOP publicly available in English.
-  Continue to provide guidance, develop ICS-like organizations at local levels, and design cross-coordination guidelines to ensure clarity on the roles. Ensure all essential roles have identified primary, secondary, and tertiary back-up personnel.
-  Continue developing and training on communication procedures and plans for the local EOCs.
-  Update plans to include ICS organizational charts and roles/responsibilities related to an ICS structure.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2

#### Global Target(s)


G


#### Guiding Principle(s)


(e), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity



# DISASTER GOVERNANCE MECHANISMS



## C6

### FINDINGS

Emergency Operations Centers (EOCs):

There are 1 National; 6 Provincial; 70 Districts; and 2 Municipal EOCs.

The MoHA NEOC is equipped with a media room with presentation facilities; 18 workstations; TVs; display boards including event logs, maps, and resource charts to support emergency operations.

During normal times the NEOC functions as a conference room (MoHA, n.d.). The MoHA NEOC Briefing Room and Media Centre is a Public Information Center where disaster news is disseminated to the public via print and electronic media through press conferences when a small number of the media present.

The larger media conference or briefing will be held in the MoHA meeting hall as the NEOC hall is used as the operations room. Periodic NEOC staff briefings are held in this room. As part of MoHA's strategy to further develop Nepal's emergency preparedness and response capacity, DEOCs in all districts were planned to be established.

According to a 2019 capacity needs assessment jointly conducted by Georgia State University in partnership with GoN, World Bank, and UNDP, just over 27% of local governments have a functioning EOC in Nepal with a large variation across local governments.

This means more than half (53%) of the cities have an EOC, and only 15% of rural municipalities have an EOC. Only 6% of the local governments within the Himalayan Ecological Zone (HEZ) have an EOC, with no EOCs in Karnali Province local governments; only 14% of Province 2 local governments; and 7% of Sudurpaschim Province local governments. 35% of the Hilly Zone local governments and 24% of the Terai Ecological Zone (TEZ) local governments have an EOC.

### RECOMMENDATIONS

- Make the NEOC a sole-use, dedicated place for emergency management.
- Ensure the NEOC:
  - (a) has enough space to accommodate a multi-agency staff;
  - (b) is capable of activation at least within six hours of incident or ideally of no notice activation;
  - (c) is physically protected from floods, earthquakes, and landslides;
  - (d) be adequately air conditioned with backup electricity generation systems; and
  - (e) easily accessible for key government officials.
- Designate and exercise a backup NEOC.
- Designate EOCs at the remaining districts (Doti, Rukum East, Kaski, and Nawalparasi East) and local municipal levels.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

2, 3, 4

#### Global Target(s)

E

#### Guiding Principle(s)

(a), (b), (d), (e), (f)

Limited or No Capacity

Early Capacity Development

Achievement with Significant Limitation

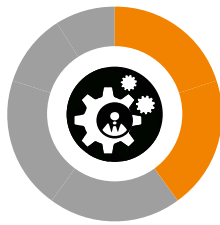
Substantial Progress with Some Limitation

Advanced Capacity



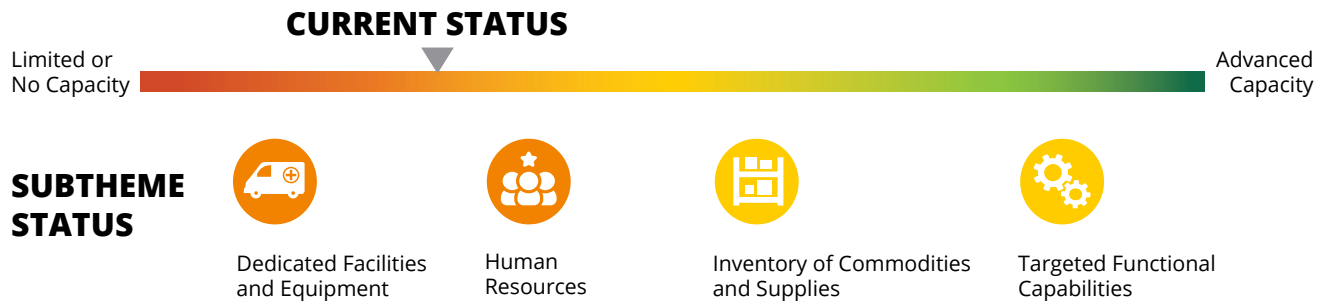
**THE DMA**

# **CAPABILITIES AND RESOURCES**



# CAPABILITIES AND RESOURCES

**Findings indicate the country’s current Capabilities and Resources are at an early capacity development stage.**



The nature and extent of skills, knowledge, supplies, resources, equipment, facilities and other capacity components dedicated to meeting disaster management needs indicate Nepal’s overall capabilities and resources. The DMA examines these components, the source and size of surge capacities available in times of disaster, and a broad array of disaster-focused functional capabilities like search and rescue, sanitation, and security. For this analysis, the following core thematic areas were reviewed: Dedicated Facilities and Equipment; Human Resources; Inventory of Commodities and Supplies; Targeted Functional Capabilities.

While Nepal has made significant improvements in its capabilities and resources through the help of international development and aid organizations, particularly the UN and the World Bank, emergency services – especially at subnational levels, are not equipped with material or human resources appropriate to manage known hazards due to severe and chronic lack of funding. The DRRM Act assigns the responsibility of capacity building to district and local governments.

Capacity development at local levels requires training and guidance as well as the availability of facilities and equipment. However, several factors inhibit decentralized capacity-building efforts. The logistics infrastructure and human capabilities are significantly lacking to achieve desired outcomes in anticipation of disasters. To address the issue, there is a need to eliminate duplication of efforts through clear guidance and better collaboration mechanisms at subnational levels.

Since the disaster management system is highly dependent on external funding and donations, collaborations like the one between the GoN and the World Food Programme (WFP) that established WFP’s Humanitarian Staging Areas (HSAs) at five (5) distinct locations, each covering several districts is important.

There is a need to engage NGOs and especially the private sector, to fill capacity gaps through technical and financial assistance in the form of human and material resources. There is no shortage of ideas and recommendations from international partners and project assistance; however, the efforts need to be streamlined and institutionalized instead of being on a project basis. For example, evacuation plans need to be linked to shelter plans and WASH, security, healthcare, and psychosocial recovery plans with clear roles delineated to each agency and NGO partner and through sectoral plan integration. Hazard risk and vulnerability assessments need to be based on solid data and a common operating picture (COP) and be accessible to lower levels of government for decision-making.



# CAPABILITIES AND RESOURCES

# D1



## FINDINGS

### Human Resources:

Our assessment indicates that there is one (1) firefighter per approximately 75,000 population within Kathmandu Valley, Nepal's most urbanized region, while international standards recommend 1 firefighter per 2,000 population; this means that urban populations are underserved in Nepal.

Wildfires in forests and urban fires are both significant hazards in Nepal. The shortage of trained fire brigades, a lack of fire trucks that can access the narrow lanes or reach multi-story buildings, and a low preparedness and response capacity for significant fire incidents are concerning.

Nepal is facing severe shortages in a skilled workforce to build capacity at the provincial level of preparedness planning, as highlighted in the 2021 Monsoon Preparedness and Response Plan.

Only 65% of DRRRCs have enough staff, as was reported by ADPC in 2018.

While there are 33 nurses per 10K population, there is a significant shortage of doctors, with only 8 per 10K as of 2019.

Our findings indicate that government entities responsible for construction code compliance are generally understaffed and lack qualified personnel due to a lack of financial and human resources to fulfill their mandates effectively.

The lack of qualified personnel for approvals hinders the effective implementation of building standards. While skilled workforces like planners, architects, masons, carpenters, and plumbers exist, they usually leave Nepal to work in other parts of Asia and the Middle East for higher salaries. This shortage affects both the government and private sector.

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# CAPABILITIES AND RESOURCES

## RECOMMENDATIONS

- ✓ Recruit and train firefighters and develop a cadre of personnel in local governments as only 32% have fire brigades, with a special emphasis on Karnali and surrounding regions.
- ✓ Ensure dedicated funding, accountability, and professionalization of fire services.
- ✓ Hire and train staff solely dedicated to civil protection planning.
- ✓ Train and maintain sufficient skilled staff and resources to manage risk assessment needs.
- ✓ Work on capacity building for healthcare by providing incentives to doctors with competitive pay and other benefits.
- ✓ Recruit and train SAR and Damage Assessment and Needs Analysis (DANA) teams by creating a system of community volunteers to assist professional responders at the site and create procurement systems for equipment.
- ✓ Hire and train staff for Hazardous Materials (HAZMAT) response.
- ✓ Create/upgrade and maintain rosters of trained professionals for critical post-disaster needs.
- ✓ Leverage existing NGO, private sector, and volunteer stakeholder agreements to address surge staffing needs.

## SENGAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

### Priorities for Action

2, 3, 4

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### Global Target(s)

A, B, C, D, G

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### Guiding Principle(s)

(b), (c), (d), (e), (f), (k), (m)

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# CAPABILITIES AND RESOURCES



## D2




### FINDINGS

Dedicated facilities - Fire Stations:

A general shortage of fire stations and firefighters leaves vast areas underserved. There is one fire station per approximately 1.7 million population.

Kathmandu Valley houses major population centers, including Kathmandu, Lalitpur, and Bhaktapur Districts but has only nine (9) functional fire engines for over five (5) million people. While temporary fire stations are planned at Jadibuti, Sitapaila, and Balkhu, the global standards stipulate one engine for a minimum of 20,000 persons.

### RECOMMENDATIONS

-  Create/update fire risk policies and develop training and awareness programs with proper allocation of resources to fund facilities and equipment.
-  Utilize NGOs and the private sector to take the initiative to create funding and equipment resources for fire brigades at municipal levels.
-  Consider increasing the number of emergency services facilities by building additional fire stations that cover the response needs based on scientific data leveraging the existing studies and platforms (see also DisasterAWARE).

**SEDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

#### Priorities for Action

1, 2, 3, 4

#### Global Target(s)

A, B, C, D

#### Guiding Principle(s)


(a), (b), (c), (e), (f), (i), (j), (k), (m)

**U.N. SUSTAINABLE  
DEVELOPMENT GOALS**


11, 13, 15


**PARIS AGREEMENT ARTICLES**


7.1, 8.1

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity



# CAPABILITIES AND RESOURCES



## D3

### FINDINGS

#### Logistics - Shelters:

The shelter Cluster is led by the Department of Urban Development and Building Construction (DUDBC), and the cluster co-leads are NRCS and IFRC. The Shelter Cluster is guided by a working group of 15-20 government agencies and NGOs in ensuring coordination, technical support, and high-level information management between all bodies.

Koshi Floods of 2008 first revealed that emergency shelter capacity was fragile and the conditions were not strained. Finding land to accommodate the displaced 70,000 people was complicated due to government red tape and land disputes.

There are reportedly some inconsistencies in cluster engagement across different districts in Nepal in that while the DUDBC maintains a regional office in Banke, some districts have little engagement and little planning (NRCS & DRC, 2019).

The 2015 Gorkha Earthquake shelter arrangements reportedly caused tensions between different ethnic groups concerning living in communal shelters (Asia Foundation et al., 2016).

The temporary shelters for Gorkha victims had suitability and safety issues such as 40% having less than the Sphere Standards recommended minimum of 3.5 sqm space per person; more than 60% of shelters being vulnerable to fire risk; more than half of the shelters had no foundation; only 8% had garbage collection service and the rest either burned their garbage or dumped in the area; less than 70% had private toilets; and more than 40% reported some seasonal illnesses (HRRP, 2018).

■ Limited or No Capacity

■ Early Capacity Development









■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# CAPABILITIES AND RESOURCES

## RECOMMENDATIONS

-  Formalize and implement the National Shelter Contingency Plan (2014/2018) and require scenario-based, district-level planning. Incorporate lessons learned from Gorkha into shelter suitability planning.
-  Deconflict the roles of DUDBC and NRCS in the Shelter Cluster.
-  Enforce implementing the National Building Code (NBC) and train and recruit staff to monitor compliance and building approvals for shelter safety. Implement shelter equity and avoid discrimination.
-  Establish shelter inventory; address suitability for use through a comprehensive assessment.
-  Keep shelter inventory to address the total capacity needs for anticipated disasters.
-  Leverage the existing hazard risk scenarios and the Pacific Disaster Center (PDC) National Disaster Preparedness Baseline Assessment (NDPBA) findings to determine shelter needs.
-  Conduct inspections every three years for the suitability, especially location, sanitation, safety, and security.
-  Integrate the International Organization for Migration (IOM)'s Manual for the Management of Temporary Shelters into national plans and policies for disaster management.

## SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

### Priorities for Action

1, 2, 3

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### Global Target(s)

A, B, C, D, E

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### Guiding Principle(s)

(a), (b), (c), (d), (e), (f), (g), (i), (j), (k),  
(m)

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# CAPABILITIES AND RESOURCES



## D4

### FINDINGS

#### Logistics – Warehouses:

WFP/MoHA and Civil Aviation Authority maintain a Humanitarian Staging Area (HSA) at Tribhuvan International Airport (TIA), serving as a humanitarian assistance hub activated through Logistics Cluster. NRCS and other I/NGOs maintain warehouses across Nepal.

While there are several purpose-built warehouses (called “go-downs”) that are owned by government entities, such as Food Management and Trading Company (FMTC) and Salt Trading Corporation (STC), reportedly there is a lack of third-party logistics support, and an inadequate number of storage facilities, especially in sub-national and sub-metropolitan areas. Thus, a lack of organized and dedicated sub-national level warehousing facilities poses a challenge for disaster response.

In terms of logistics infrastructure, most airports outside Kathmandu reportedly have no material handling equipment, inadequate firefighting capacity, no re-fueling facilities, and limited to no storage capacity.

Since Nepal is landlocked and sandwiched between India and China, its trade suffers from delays when passing through seaports in neighboring countries, inefficiencies occur at border crossings and limitations on routes for transit cargo.

The lack of transit efficiency elevates transportation and logistics costs, pushing up the prices of imported essential and nonessential consumer goods and materials.

India’s Kolkota Seaport is the main entry point for international cargo imported to Nepal. Imports and customs clearance is affected during the October-November festival season. Congestions at Kolkota are caused by the delays in containers not being emptied and returned in time. Isolated issues like restrictions imposed by local government bodies on goods and vehicle movements happen regardless of seasonal events.

The Kolkota Port not being a deep-water port means too many smaller vessels entering and congesting the channel, especially during December to April, and during dry season access to Kolkota Port is limited due to low draft in the access river, causing increased wait times.

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# CAPABILITIES AND RESOURCES

## RECOMMENDATIONS

- ✓ Create/increase organized and dedicated sub-national level warehousing facilities for prepositioning goods, anticipating that some roads are impassable during the June-September monsoon season due to landslides.
- ✓ Create a nationwide logistical warehouse system, including hubs and networks based on preparedness plans, especially for monsoons and earthquakes.
- ✓ Hire and train personnel for logistical system setup and maintenance.
- ✓ Calculate the standard delivery time of orders based on means of transport and road conditions for efficient emergency response.
- ✓ Estimate monthly consumption figures to refill stockpiles.
- ✓ Given the high risk, carry contingency stocks for immediate response to be kept with priorities given to high-risk areas.
- ✓ Establish a digital system for data storage and information sharing to thoroughly represent all DM material, equipment, and supply inventory from all partner agencies with DM resources.
- ✓ Deconflict the Red Cross and WFP roles in receiving and stockpiling disaster resources. Incorporate transparent processes into plans.
- ✓ Assign an NDRRMA liaison(s) to assess the material resources needed for emergency response and establish procurement and maintenance mechanisms at regional and subnational levels.
- ✓ Address DM resource requirements through formalized agreements/contracts involving PPPs, the NGO sector, and other stakeholders.

## SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

### Priorities for Action

1, 2, 3

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### Global Target(s)

A, B, C, D, E

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### Guiding Principle(s)

(a), (b), (c), (d), (e), (f), (g), (i), (j), (k),  
(l), (m)

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# CAPABILITIES AND RESOURCES







## D5

### FINDINGS

Inventory of Commodities and Stockpiles:

Nepal's Logistics Cluster, through WFP, handles the inventory and supply of humanitarian commodities and stockpiles. There are noted challenges observed from previous floods and landslide response events, related to keeping track of the inventories and information sharing across logistics partners.

### RECOMMENDATIONS

-  Collect the list of relief item stockpiles by cluster members and update them bi-annually – especially before the monsoon season and the cold winter wave.
-  Effectively share stockpile data with district and local level through coordination with the United Nations Resident Coordinator's Office (UNRCO).
-  Organize regular briefings onboarding new cluster members on the logistics cluster and the logistics capabilities, including the HSA.
-  Continue the dialogue between MoHA and the Logistics Cluster on effectively sharing stockpile data at the district and local levels.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action


1, 2, 3

### Global Target(s)


A, B, C, D, E


### Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (i), (j), (k),  
(l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES



## D6

### FINDINGS

Healthcare:

Although public health and medical facilities are formally integrated into the nation's DM system, implementation challenges persist.


The National Health Policy of 1991 provisioned a public healthcare system with one regional hospital in each development region of Nepal with specialized services, central hospitals at main urban centers, and one zonal hospital in each zone with special care.


At the time of this assessment, there were 125 public hospitals distributed across the seven (7) provinces, with 28% located in the Bagmati Province; 196 Primary Healthcare Centers (PHCCs), 3,806 Health Posts, and 2,168 non-public facilities throughout Nepal.


In 2013, the GoN started a social health security scheme and a national health insurance policy to increase access to healthcare services for the poor and the socially and geographically marginalized. It remains a work in progress.


The COVID-19 Pandemic revealed that Nepal's health sector preparedness was inadequate. Hospital emergency plans with regular drills and inter- and intra-hospital communication systems were missing or facing implementation challenges in public hospitals.

### RECOMMENDATIONS

- 

Develop hospital emergency management and communication plans and train and exercise them, including stocking necessary medical supplies and medicine. Incorporate health emergency plans into the national disaster response frameworks.
- 

Expand the more than 50,000 volunteers of the Women Community Healthcare Volunteers (Mahila swoyemsewika) Program and integrate them into the disaster preparedness and response system, including community education on disease prevention and disaster first response.
- 

Leverage the private sector's potential in funding, technology, and material transfer to the healthcare sector, including laboratories, integrated data and reporting systems, real-time data, and risk information technology.
- 

Implement clear, sustained coordination mechanisms among the three tiers of government and communities to close essential information gaps experienced when managing holding centers and isolation areas during the COVID-19 response.

**SEDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

### Priorities for Action

1, 2, 3, 4

### Global Target(s)


A, B, D, E


### Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES



## D7


### FINDINGS


Targeted Functional Capabilities – Psychosocial Recovery Plans:

Psychosocial recovery from disasters needs to be addressed for vulnerable populations.

Those impacted by the COVID-19 Pandemic received psychosocial support from primarily two NGOs, the NRCS and the Center for Mental Health & Counseling (CMC), in all seven provinces through telehealth and radio broadcasts (MoHP & WHO, 2020).

### RECOMMENDATIONS

- 

Develop psychosocial recovery plans for those impacted by disasters in coordination with international aid agencies. Provisions are needed to ensure that plans reach both the resident and displaced populations.
- 

Make provisions to ensure that vulnerable groups are served, including women, children, the elderly, and persons with disabilities.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

### Priorities for Action

4

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### Global Target(s)

B, E

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### Guiding Principle(s)


(c), (d), (g), (h)

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**U.N. SUSTAINABLE DEVELOPMENT GOALS**


3


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 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES



## D8

### FINDINGS

Targeted Functional Capabilities - Evacuation Plans:








According to the NDRF, evacuations are carried out by local governments with the help of the Nepali Army (NA), Police (NP), and Armed Police Forces (APF), as well as I/NGOs (e.g., Practical Action Nepal).

During the 2008 Kashi Floods, there were challenges with the timing of evacuations (the evacuation took place only a day before, which resulted in people being evacuated with limited belongings) and the lack of pre-designated evacuation sites, which led the GoN to identify 64 evacuation sites inside the Kathmandu Valley (Baruwal, 2014).

The Kathmandu Metropolitan City Emergency Operations Plan (EOP) assigns the evacuation function to the emergency support function (ESF) 13 under Public Health and Safety with assistance from the fire department.

In local jurisdictions, LDRRMCs are responsible for evacuation arrangements.

### RECOMMENDATIONS

- 
 Develop local and regional evacuation plans focused explicitly on at-risk communities in flood and landslide risk areas.
- 
 Identify evacuation routes and temporary evacuation sites in the plans.
- 
 Include safety and security considerations for women, children, the elderly, and the disabled in the evacuation plans.
- 
 Engage schools and places of worship in the plans.
- 
 Integrate local evacuation plans with regional plans and integrate them into the early warning systems (EWS) for timely evacuations and shelter plans in coordination with the Shelter Cluster: e.g., high altitude locations for flood evacuees. (See also shelters.)
- 
 Leverage BIPAD (see also DisasterAWARE) for hazard resource mapping for evacuation and shelter planning.
- 
 Conduct regular evacuation exercises and training ahead of seasonally anticipated events.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

### Priorities for Action


1, 2, 3

### Global Target(s)


A, B, G


### Guiding Principle(s)


(a), (b), (c), (d), (i)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity



# CAPABILITIES AND RESOURCES







## D9

### FINDINGS

Targeted Functional Capabilities – Post-Disaster Water, Sanitation, and Hygiene (WASH) Capability:

Per the NDRF, WASH is led by the Ministry of Water Supply and Sanitation (MoWSS), and the cluster co-lead is UNICEF. MoWSS partnered with I/NGOs in 2017 and 2018 to implement a comprehensive program based on lessons learned from the 2015 earthquakes and cholera outbreaks. The earthquake-damaged WASH infrastructure was repaired in severely affected districts, and hygiene promotion was provided to over 100,000 people.

### RECOMMENDATIONS

-  Continue to develop/update local WASH plans according to the WASH Sector Development Plan 2016-2030 and WASH policies for disaster-impacted populations and mechanisms for support to local and rural areas.
-  Integrate post-disaster WASH plans with water sector plans.
-  Incorporate lessons learned from past disasters into WASH planning.
-  Enable legislation to improve water quality; advocate for gender and disability-friendly sanitation facilities; mainstream DRR and CCA into existing WASH policies.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

1, 2, 3

#### Global Target(s)

D

#### Guiding Principle(s)


(b), (e), (h), (j)

### U.N. SUSTAINABLE DEVELOPMENT GOALS


5


### PARIS AGREEMENT ARTICLES


7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES



## D10



### FINDINGS

Targeted Functional Capabilities - Safety and Security of Disaster-Affected Populations:

The response cluster leads for security and protection is the Ministry of Women, Children and Social Welfare (MoWCSW) and Nepal Human Rights Commission (NHRC).

Chief District Officers (CDOs) retain the ability to mobilize security forces. The cluster co-leads are the UNHCR, UNICEF, and UNFPA. The protection function focus areas are child protection and sexual and gender-based violence.

### RECOMMENDATIONS

- 
 Develop/assess/update a security policy for disaster-impacted populations and integrate it into the updated national response plan.
- 
 Incorporate school safety plans into the national and local level preparedness planning.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

### Priorities for Action

1, 2, 3

### Global Target(s)


A, B

### Guiding Principle(s)


(b), (c), (d), (e)


### PARIS AGREEMENT ARTICLES


7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES



## D11



### FINDINGS

Targeted Functional Capabilities - HAZMAT Capability:

Due to the heavy traffic on trade corridors, the roadway network is vulnerable to HAZMAT spills and explosions that would threaten population centers and ecosystems.

Nepal's firefighting systems are understaffed and historically faced with technical staff and equipment shortages.

### RECOMMENDATIONS

- 
 Develop a centralized, national-level HAZMAT response capacity through dedicated funding and training of capable teams with proper equipment.
  
- 
 Create procurement plans for remedying equipment shortages for HAZMAT response.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action


1, 2, 3

### Global Target(s)


A, B, C, D


### Guiding Principle(s)


(b), (c), (e), (i), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES

## D12



### FINDINGS

Targeted Functional Capabilities - Search and Rescue (SAR) Capability:

The response cluster lead for SAR is the MoHA with cluster co-leads WFP and FAO. NA contributes the manpower for SAR while the MoHP is directly responsible for coordinating SAR.

In the aftermath of the Gorkha Earthquake, in line with the NDRF, the SAR and relief activities were conducted through a field headquarters established and jointly staffed by the NA. NRCS is the leading NGO that assists in SAR with its volunteers. Almost 750 local Red Cross volunteers helped the SAR efforts during the July 2016 Sindupalchok Floods. During the August 2017 Floods, 8,300 security personnel were deployed to 27 impacted districts.

For large-scale disasters necessitating international assistance, the Nepal-based UN Humanitarian Coordinator coordinates the United Nations International SAR Advisory Group (UN INSARAG). The GoN may negotiate bilateral or multilateral agreements with neighboring countries that offer help. However, it was acknowledged that the formation and mobilization of SAR teams were done on an ad-hoc basis in the past. Limited professional SAR capability exists within the Nepal police, APF, and the NRCS for disasters with collapsed structures and medical first responders. There has been a chronic lack of equipment for rescuers for other hazards, such as floods or snow avalanches. SAR capabilities are lacking against such hazards.

■ Limited or No Capacity

■ Early Capacity Development






■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# CAPABILITIES AND RESOURCES

## RECOMMENDATIONS

- 
 Develop technical and human capability for evacuation from water and collapsed buildings.
- 
 Leverage regional hazard risk profiles developed through PDC's RVA to determine SAR capacity requirements.
- 
 Create a baseline assessment of the existing capabilities from the NA, NP, and APF and create a needs assessment for procurement plans for remedying equipment shortages for SAR.
- 
 Create a budget for equipment and training for SAR and seek outside assistance from the partners to remedy shortages and training gaps.
- 
 Continue to develop SAR capacity with SAR equipment as per INSARAG Standards.

## SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

### Priorities for Action

1, 2, 3

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### Global Target(s)

A, B, C, D

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### Guiding Principle(s)

(b), (c), (e)

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# CAPABILITIES AND RESOURCES



## D13







### FINDINGS

Targeted Functional Capabilities – Disaster Logistics Program:

Nepal’s National Logistics Cluster, led by WFP is responsible for humanitarian logistics through the Humanitarian Staging Areas (HSAs) in Kathmandu and operated jointly by MoHA-NDRRMA and WFP. In general, the system works well.

However, the logistics infrastructure of Nepal is especially challenging due to the rugged terrain and the underdeveloped road infrastructure in many areas. Lessons learned from the Gorkha Earthquake identified 3 key challenges: coordination (across 78 organizations); congestion in the Tribhuvan International Airport (the only international airport); and access (damages to roads and remote areas).

### RECOMMENDATIONS

-  Strengthen partnerships by establishing strategic advisory groups, facilitating participation in strategic decisions, increasing accountability amongst organizations through institutionalizing the partnerships, and providing guidance, methods, and procedures.
-  Institutionalize proactive engagement of participating organizations.
-  Address the staffing shortages through surge capacity (see human resources section above).
-  Procure vehicles that can accommodate various terrain types and construction equipment to repair access to remote areas.
-  Require transparency and an effective tracking system in the operations and use of resources for accountability and situational awareness.
-  Keep the prioritization list endorsed by the Humanitarian Country Team, strengthening the linkage between the district and central-level priorities.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action


1, 2, 3

#### Global Target(s)


A, B, C, D


#### Guiding Principle(s)


(b), (c), (e), (i), (j), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPABILITIES AND RESOURCES



## D14

### FINDINGS

Functional Capabilities – Agriculture Recovery:

Nepal has been a member of the UN’s Food and Agriculture Organization (FAO) since 1951. Since then, Nepal and FAO have been cooperating on the country’s agricultural development. Several projects target food security in Nepal. However, a wholesale agriculture recovery strategy is needed.

### RECOMMENDATIONS



Develop a national agriculture recovery plan that ties the SDGs and Sendai goals, including poverty reduction and DRR, given the effects of climate change and the global events, including the COVID-19 pandemic, that affect the food supply and agriculture sectors.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

1, 2, 3

#### Global Target(s)

B, C, D, E, F

#### Guiding Principle(s)

(a), (b), (d), (e), (f), (h), (l), (m)

### U.N. SUSTAINABLE DEVELOPMENT GOALS

1, 2, 3, 4, 5, 6, 9, 11, 13, 14, 15

### PARIS AGREEMENT ARTICLES

7, 8

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity



THE DMA

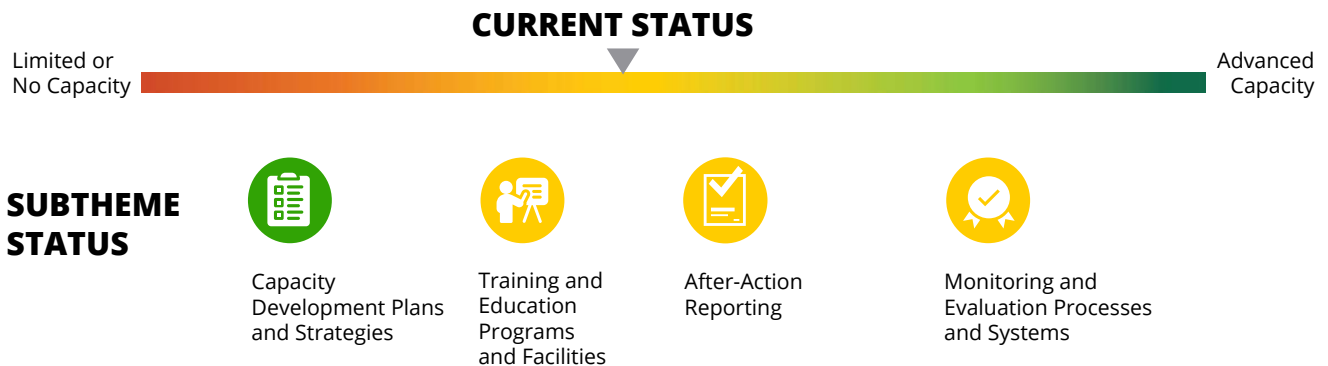
# CAPACITY DEVELOPMENT





# CAPACITY DEVELOPMENT

**Findings indicate the country’s current Capacity Development efforts have made achievements with significant limitations.**



Nepal’s ability to advance disaster management strategies that achieve risk reduction and resilience goals depends on its ability to support capacity development. From training and education that supports the advancement of knowledge and skills to the institutionalization of appropriate attitudes and cultures, capacity development requires the continuous advancement of assessments, strategic plans, programs, facilities, and many other components of the sub-themes examined in this report.

The DMA analyzes resources and opportunities for all stakeholders and all sectors, from individuals and special-needs groups to government responders. This DMA’s sub-themes include Capacity Development Plans and Strategies; Training and Education Programs and Facilities; After-Action Reporting; Monitoring and Evaluation Processes and Systems.

While capacity-building initiatives exist through state resources and regional and international partners, there are insufficient dedicated resources and systems for capacity-building in Nepal. A lack of dedicated budgets limits systematic initiatives to build DRM capacity. To advance DRRM capacities, Nepal requires long-term skills development rather than project-driven interventions that are restricted to the type of skills based on project objectives. There is a need to strengthen capacities under the leadership of NDRRMA, whose authority for capacity development for DRRM is dictated by the NDRRM Act. Capacity-building efforts must include all stakeholders, including local and community leadership, concerned government ministries, NGOs, CBOs, and UN agencies.

However, the NDRRMA’s role in capacity building needs to be strengthened by combining its scientific/technical evaluation of hazards that threaten Nepal and its people and developing capacity-building programs targeting those areas where the gaps are. The risk-based, data-driven approach would eliminate redundancies and help streamline funding efforts by soliciting the funding necessary for specific gap areas.

# CAPACITY DEVELOPMENT



## E1

### FINDINGS

Training Requirements – National Level:

MoHA/NDRRMA is responsible for coordinating DRR capacity development through training. It is not known whether NDRRMA has a structured annual exercise schedule. It is usually scheduled based on current needs or lessons learned, not the result of a long-term training plan.

The NEOC Sahana Disaster Management System has a list of completed training in its database, but they are from 2013 and are not updated.

The Nepal Administrative Staff College (NASC) was set up as a national-level autonomous institution in 1982 to provide the necessary training for the employees of the GoN and public enterprises.






The NRCS leads training on emergency management, SAR, first aid, and firefighting.

Not all agencies are required to participate in exercises.

Capacity development is coordinated with regional and international efforts and organizations such as UNDRR, USAID, ADPC, IFRC, IOM, World Bank, and INDOPACOM.

The Nepal Pacific Resilience Disaster Response Exercise and Exchange (DREE) is an annual exercise cohosted by the Nepalese Army, MoHA, and the U.S. Army Pacific. The exercise brings hundreds of participants from over 14 countries to Kathmandu.

### RECOMMENDATIONS

- 
 Develop a set training program for NDRRMA personnel, both at onboarding and during their tenure, with one or more facilities, a dedicated staff, and an annual budget.
- 
 Develop position-specific competency requirements, and address and implement all the immediate capacity needs.
- 
 Leverage the Nepal Center for DM and NASC training facilities and resources with those of NDRRMA for a comprehensive annual training program.
- 
 Develop a structured annual training schedule and catalog of available courses and dates that support comprehensive training throughout the year.
- 
 Increase NGO and private sector participation in training and exercises.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

#### Priorities for Action


2, 3, 4

#### Global Target(s)


A, B, C, D, E


#### Guiding Principle(s)


(b), (e), (f), (i), (j), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPACITY DEVELOPMENT



## E2

### FINDINGS



Training Requirements – Scope:

Between 2012-2017 the DM staff from the DDRCs received training in emergency response management, community action for disaster response, SAR, rapid needs assessment, mental health and psychological support, disaster risk communication, first aid, and hospital emergency preparedness (ADPC, 2018).

The NA and MoHA have an annual exercise schedule with the US INDOPACOM for the Nepal Pacific Resilience Disaster Response Exercise and Exchange. However, no nationally mandated annual exercise with a set curriculum or schedule exists.

Under its Military Operation branch, the NA has a DM Directorate which houses a DM Training School and two DM battalions. Ranger battalions, signal engineers, aviation units, and medical units are involved in disaster response (Malla et al., 2020).

### RECOMMENDATIONS

- 
 Establish a DM and DRR training program that implements a comprehensive training and education requirements to address all the immediate capacity needs of DM professionals from the national to the province to district level in Nepal.
  
- 
 Strengthen NDRRMA’s role as the lead agency for DRM capacity development per the DRRM Act.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

#### Priorities for Action


2, 3, 4

#### Global Target(s)


A, B, C, D, E


#### Guiding Principle(s)


(b), (e), (f), (i), (j), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPACITY DEVELOPMENT





**E3**

**FINDINGS**

Training Requirements – Subnational Level:  
 NDRRMA provides training in DRR with assistance from United Nations Institute for Training and Research (UNITAR). UNITAR and IOM plan to train all 753 Local Level Officials in Nepal in DRR and DRM.

**RECOMMENDATIONS**

- 
 Continue to leverage external resources to develop capacity at the subnational levels.
- 
 Develop training requirements for municipal staff, especially in initial Damage Assessment and Needs Analysis (DANA).

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

**Priorities for Action**

2, 3, 4

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**Global Target(s)**

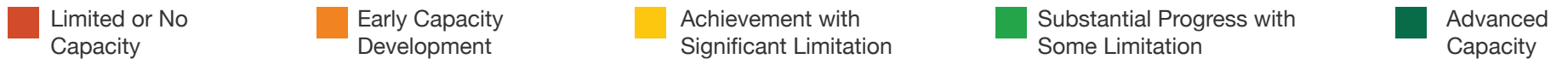
A, B, C, D, E

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**Guiding Principle(s)**

(b), (e), (f), (i), (j), (l), (m)

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# CAPACITY DEVELOPMENT



## E4

### FINDINGS





#### Training and Education – Higher Ed:

The GoN has made notable achievements in incorporating the DRR curriculum into its educational system through materials and training for K-12 and universities. Achievements include teacher orientation for over 2,500 teachers; development of college-level DM courses and integration into university programs such as engineering, geology, glaciology, and public health; incorporation of DM into the local development training academy, Staff College, Nepal Army, and Nepal Police courses; establishment of school disaster libraries and disaster committees in some districts; and school-level disaster preparedness plans and training specific to DRR and WASH.

The Department of Geology at Tribhuvan University offers master’s degrees in geology and engineering geology. PDC partnered with Tribhuvan University in the pre-Gorkha earthquake hazard mapping for NepalAWARE and the aftermath of the Gorkha Earthquake. PDC contributes to DM efforts through sponsored research and applied projects.

Ten major universities in Nepal have incorporated preparedness, response, recovery, and mitigation-related academic curricula in their undergraduate and graduate academic programs. Environmental Health in Disaster, and Public Health and Disaster Engineering at Tribhuvan University and Pokhara University are some notable recent additions. More integration of DRM curricula is needed in higher academic institutions to build more disaster-resilient communities.

### RECOMMENDATIONS

-  Continue to integrate DRRM curricula in universities and higher education institutions.
-  Through the leadership of NDRRMA as the lead DRM capacity-building agency, integrate the higher education offerings into the DM needs at the national and sub-national levels to educate a cadre of professionals for leadership positions in DRR and DM across the country.
-  Through accreditation, continue to offer quality technical education related to DRRM at the associate’s, bachelor’s, and master’s degree levels, including but not limited to geology, geography, engineering, and GIS technologies.
-  Continue the existing partnerships with higher education institutions across the globe with memoranda of understanding (MOUs) through sponsored research and applied projects, and placement of graduates in lead DM positions.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action


2, 3, 4

#### Global Target(s)


A, B, C, D, E


#### Guiding Principle(s)


(b), (e), (f), (i), (j), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPACITY DEVELOPMENT



## E5


### FINDINGS


Training and Education – Public Awareness Campaigns:


Currently, there are no systemic plans or guidelines in place for DRRM public education and awareness-raising. However, some pilot project awareness-raising campaigns and messages are in place for floods and landslides. These campaigns are managed through various communication media such as radio, television, print, online and social media. Many disaster awareness activities are taking place through the assistance of national and international development partners, including I/NGOs.

For flood Early Warning Systems (EWS), the Flood Forecasting Center, the Department of Hydrology and Meteorology (DHM) is responsible for training through its Training Section.

### RECOMMENDATIONS

- 

Develop a formal Public Information and Communication Plan and campaigns nationwide for awareness raising among citizens at the national and sub-national levels, covering multiple hazards based on location and terrain specifics and targeting vulnerable populations.
- 

Incorporate the technical EWS methods into public awareness programs for informed action.
- 

Develop a National Volunteer Management Plan for citizen participation.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

### Priorities for Action


2, 3, 4

### Global Target(s)


A, B, C, D, E


### Guiding Principle(s)


(b), (e), (f), (i), (j), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPACITY DEVELOPMENT



## E6


### FINDINGS


Capacity Development – Monitoring and Evaluation (M&E):


While comprehensive after-action reports are conducted and usually represent government, private, and NGO stakeholders, post-disaster reviews of plans, policies, and procedures are not mandated by legislation.

NRA stated that there is no progress tracking system set up in the Post Disaster Needs Assessment (PDNA), and the set of indicators was poor because the PDNA did not adequately identify the need for M&E (Bhandari et al., 2019).

### RECOMMENDATIONS

- 

Incorporate plan revision requirements into legislation and current plans and ensure scheduled plan updates to reflect lessons learned from training and exercises.
- 

Include in legislation or disaster plans the requirement for After Action Reports (AARs) following response operations, training, and exercises.
- 

Establish and implement formal exercise evaluation standards throughout the country from the national to the provincial and municipal levels in Nepal.

### SENGAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action


2, 3, 4

#### Global Target(s)


A, B, C, D, E


#### Guiding Principle(s)


(b), (e), (f), (i), (j), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# CAPACITY DEVELOPMENT



## E7

### FINDINGS

Capacity Development – Inclusion of Gender and Vulnerable Groups:

Including gender and vulnerable groups in DM and DRR strategies and policies needs serious and committed effort in the implementation. The District Disaster Relief Committee (DDRC) staff who received DM training was made up of 5.4% females (versus 94.4% males) according to the 2018 Asian Disaster Preparedness Center (ADPC) baseline assessment report.

### RECOMMENDATIONS



Through NDRRMA, advocate for gender mainstreaming and inclusion of lower caste groups in DRR strategies, policies, and plans, and their implementation for capacity building.



Ensure plans and policies include specific appendices on vulnerable populations including access, care, and resources dedicated within DM and DRR strategies.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action

2, 3, 4

### Global Target(s)


A, B, C, D, E

### Guiding Principle(s)


(b), (e), (f), (i), (j), (l), (m)


**U.N. SUSTAINABLE  
DEVELOPMENT GOALS**


5

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

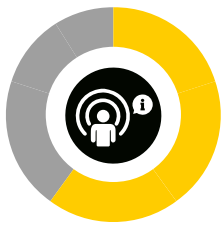






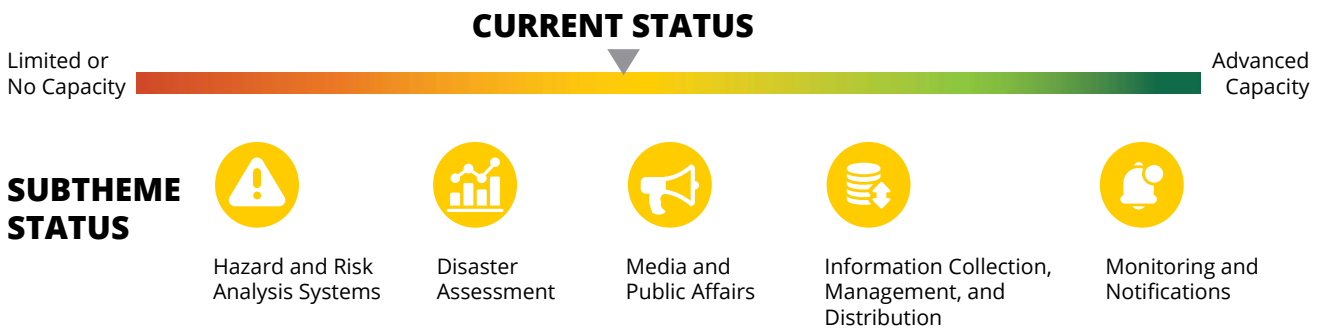
**THE DMA**

# **COMMUNICATION AND INFORMATION**



# COMMUNICATION AND INFORMATION MANAGEMENT

**Findings indicate the country's Communication and Information Management capacity has made achievements with significant limitations.**



Disaster management is a risk-based endeavor, and as such, the capacity of stakeholders to generate, manage, and share risk and incident-related information is critical. This area of analysis looks at the systems, processes, and procedures established in Nepal to inform pre- and post-disaster activities. This theme addresses a broad range of topics that highlight effective practices: from hazard mapping, event monitoring, warning/notification, to communication and information management.

Nepal has an institutional framework for hazard monitoring and planning for early action. Various federal ministries, departments, or agencies (MDAs) have varying DRRM responsibilities according to the nature of hazards. Examples include:

- A. the Department of Mines and Geology (DMG), whose Optimum Seismic Monitoring System within the National Seismological Centre (NSC) is linked to the NEOC of MoHA;
- B. the Ministry of Forest and Environment (MoFE) monitors forest fires and air pollution;
- C. the Department of Hydrology and Meteorology (DHM) provides weather forecasts and flood EWS;
- D. the Department of Mines and Geology develops and maintains hazard maps;
- E. the Department of Health works on surveillance, prevention, and disease control; and
- F. the National Building Commission recently revised the building codes with the impetus from the findings of the Gorkha Earthquake.

As mentioned in Nepal's DRR Status Report 2019 and the National DRR Policy Strategic Action Plan: 2018-2030, there is a need for gathering and developing comprehensive risk information based on technically-sound risk assessments to aid in prioritizing DRR investments. The introduction of the Building Information Platform Against Disaster (BIPAD), a government-owned integrated and

comprehensive Disaster Information Management System (DIMS), has been initiated through the Global Platform for DRR and funded by external donors.

Early Warning and Early Action, especially for floods, have been at the forefront of the government agenda. However, more needs to be done, especially on data standardization, disaggregation, and sharing across the government, civil society, NGOs, and development partners. Technical advances in forecasting weather patterns and flood levels have been quite successful through development partners like the UN, World Bank, and the USAID- funded pilot projects. It is time to expand those efforts into the country through technical product acquisition, training, and participation from the local governments and citizens for informed and early action.



# COMMUNICATION AND INFORMATION MANAGEMENT



## F1

### FINDINGS



Hazard and Risk Analysis:

The DRRM Act requires Local Disaster Risk Reduction and Management Committees to provision for the reduction of disaster risk in development-related works by assessing, mapping, and analyzing disaster risks at the local level. The functions, duties, and powers of the Executive Committee include preparing risk-sensitive development, land use planning, and implementation.

The national Flood Forecasting Center, Department of Hydrology and Meteorology (DHM), obtains additional support from Common Alerting Protocol (CAP) such as Google Public Alerts and Global Flood Detection Systems (GFDS).

While Nepal requires risk assessments for DM and DRR planning efforts, there is a lack of clear enforcement mechanisms and implementation standards.

### RECOMMENDATIONS

-  Create local hazard and risk maps under the leadership of NDRRMA leveraging BIPAD and DisasterAWARE; update Nepal's 2010 MoHA-GFDRR-ADPC-CECI national hazard and risk profile.
-  Train district and municipality staff on local multi-hazard risk assessments (per IOM 2020 report) to decrease dependency on outside assistance.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

#### Priorities for Action

1, 2, 3, 4

#### Global Target(s)


A, B, C, D, E, F

#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m)


**U.N. SUSTAINABLE DEVELOPMENT GOALS**


13

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## F2

### FINDINGS

Hazard and Risk Analysis – Inclusion of Vulnerability, Indigenous Knowledge, and Climate Change:







The inclusion of vulnerability, local and indigenous knowledge, and climate change factors into risk and loss assessments is facing implementation challenges due to technical and resource shortages and governance issues.

A 2010 joint comprehensive hazard risk assessment study of Nepal by the Asian Disaster Preparedness Center (ADPC), Norwegian Geotechnical Institute (NGI), and Centre for International Studies and Cooperation (CECI) financed by the World Bank incorporated vulnerability into the assessment.

However, there is no evidence that the study was operationalized. A 2021 multi-hazard risk assessment of the Kathmandu Valley produced a multi-hazard exposure map with associated risks. However, population characteristics are generally not incorporated into vulnerability studies.

This NDBPA can be the first step towards a more insightful, data-driven way to determine how vulnerability affects disaster risk at the Admin 2 (district) level.

### RECOMMENDATIONS

-  Leverage the findings of this PDC NDPBA study, particularly the RVA to inform DRR and preparedness by incorporating the data on the drivers of vulnerability specific to location and population characteristics.
-  Facilitate and fund the inclusion of local and indigenous knowledge and CC into risk assessments and development planning through the leadership of NDRRMA.
-  Continue to leverage Local Disaster Risk Management Plans (LDRMPs) and CBDMRMPs to mainstream DRR at community and local levels.
-  Ensure that risk assessments are consistently and properly used to inform development planning and decision-making.
-  Include displacement and migration in risk assessments, especially the Terai region, given the proximity to the Indian border.
-  Consider both non-economic and economic losses in risk assessments for planning and to aid the insurance industry data needs.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

1, 2, 3

#### Global Target(s)

D, E

#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m)

### U.N. SUSTAINABLE DEVELOPMENT GOALS


1, 2, 3, 4, 5, 6, 9, 11, 13, 14, 15


### PARIS AGREEMENT ARTICLES

7, 8

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## F3

### FINDINGS

Hazard and Risk Analysis – Staffing and Technical Capacity:


Nepal and NDRRMA receive external assistance to perform risk assessments from outside organizations such as ADPC, Japan International Cooperation Agency, JICA, and Durham University.


The Provincial Disaster Management Executive Committee (PDMEC) in each of the 7 provinces is responsible for policy formulation and plans for their respective provinces under the national laws and policies. The PDMECs work with the District Disaster Risk Reduction and Management Committees (DDRRMCs) and Local Disaster Risk Reduction and Management Committees (LDRRMCs).

The 77 DDRRMCs are responsible for all DRRM activities as well as the planning and implementation of disaster preparedness and response. The 753 LDRRMCs are responsible for local DRRM activities, including risk mapping, resettlements, and disbursements of funds during and after disasters. Sufficient staff does not exist to support risk assessments within the NDRRMC at the national level or municipal levels.

At the local level, the DRRM committees have been established, with almost all of the palikas (rural municipalities) having DRRM committees and 60% of local governments having formed ward-level DRRM committees. Although the structures are mostly in place, capacitation issues persist with a severe shortage of resources; and strategies to strengthen capacities at the local levels are lacking.

### RECOMMENDATIONS

- 

Train and maintain sufficient skilled staff and resources to manage risk assessment needs at the national level with the NDRRM and the municipal level, leveraging resources from development aid partners, universities, and NGOs.
- 

Strengthen risk mapping capacity at the national and provincial level, local, and municipal levels through staff training and increased technical and financial support for NDRRMA and relevant DM agencies.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

#### Priorities for Action


1, 2, 3, 4

#### Global Target(s)


A, B, C, D, E, F


#### Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity



# COMMUNICATION AND INFORMATION MANAGEMENT



## F4

### FINDINGS

Hazard and Risk Analysis – Hosting of Risk Information:





The Building Information Management Against Disaster (BIPAD) portal used by the NDRRMA as the centralized GIS system supports government decision-making with risk assessments and multi-hazard monitoring for Nepal.

The BIPAD portal includes GIS risk assessment information for hazards, vulnerability, exposure, risk, capacity and resources, and climate change. It is hosted in the Government of Integrated Data Centre’s (GIDC) server. Subdomains have been created for each of the 753 municipal governments, 77 districts, and seven provincial governments, which allows for independent hosting of the BIPAD at the provincial, local, and district level.

Implementation challenges such as institutionalizing BIPAD at the provincial level, adapting to decentralized DRRM governance, and the limited digital technological capacity of users exist with the BIPAD portal.

The NEOC Sahana Disaster Management System is another centralized data platform that hosts impact, rapid assessments, and disaster management information.

### RECOMMENDATIONS

-  Through training and education, institutionalize the implementation of BIPAD at the provincial and local levels for decentralized decision-making.
-  Provide technical capacity to district and local governments on the use of BIPAD.
-  Consider consolidating NEOC Sahana DM System into BIPAD.
-  Ensure system redundancy in national COOP/COG plans.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action


1, 2, 3, 4

### Global Target(s)


A, B, C, D, E, F


### Guiding Principle(s)


(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## F5

### FINDINGS




Hazard Monitoring:

MOHA/NDRRMA and the NEOC coordinates with the Department of Hydrology and Meteorology (DHM) for hazards associated with river hydrology, climate, agro-meteorology, sediment, air quality, water quality, limnology, snow hydrology, glaciology. In addition, MoHA/NDRRMA coordinates with the National Earthquake Monitoring & Research Center (NEMRC) of the Department of Mines and Geology on earthquakes.

MoHA/NDRRMA and the NEOC also coordinate with the following government agencies on additional hazards: the Department of Mines and Geology, Department of Water Induced Disaster Prevention, Department of Health Services, Department of Forest, Department of Soil Conservation and Watershed Management, and local bodies.

The NEOC in Kathmandu and the District Emergency Operation Centers (DEOCs) in most districts are open 24/7.

### RECOMMENDATIONS

- 
 Develop the capability to monitor risks at the subnational level with more precise data input from and use for local authorities.
  
- 
 Strengthen collaboration and coordination between NDRRMA and the specialized centers such as the NEMRC and DHM etc.
  
- 
 Consider establishing working groups to allow partners to better collaborate and develop hazard monitoring plans/policies from the national to the subnational level.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

### Priorities for Action

1, 2, 3

### Global Target(s)


A, B, C, G


### Guiding Principle(s)


(b), (c), (d), (e), (f), (g), (i), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## F6

### FINDINGS

Hazard Monitoring – Coverage:




Early warning systems coverage area is inadequate, especially for specific hazards including lightning, windstorms, forest fires, and transboundary air pollution.

The DHM has planned to install a network of 3 weather radars to cover the entire country. So far one weather radar has been installed; it covers the western region.

The Nepal Academy of Science and Technology (NAST) estimated that Nepal needs 320 seismic sensors to cover the entire country; only 80 of them have been installed as of 2015.

Department of Health Services (DoHS) monitors possible epidemics and disease outbreaks through an early warning and reporting and Integrated Disease Surveillance System using information from more than 80 sentinel sites.

### RECOMMENDATIONS

-  Expand EWS coverage area for lightning, earthquakes, windstorms, forest fires, and transboundary air pollution.
-  Facilitate the installation of the remaining weather radars and seismic monitors by securing funding for installation and technical capability for Operations and Maintenance (O&M).
-  Ensure plans/policies are updated with warning system coverage and capabilities as systems are expanded throughout the country. Training and exercises should incorporate systems and monitors to ensure effective interoperability within the country.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action


1, 2

### Global Target(s)


A, B, C, G


### Guiding Principle(s)


(b), (c), (d), (e), (f), (g), (i), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## F7

### FINDINGS

Flood Monitoring:


The DHM Flood Forecasting Center is a designated government entity for predicting and disseminating weather forecasts and warnings.


DHM maintains 51 hydrological and 282 meteorological stations equipped with telemetry systems and is responsible for producing manuals, guidelines, training, and quality management.


There are 27 flood forecasting stations. District DHM offices are responsible for the operation & maintenance (O&M) and upgrading of hydrological and meteorological equipment at district levels. O&M of manual observation systems at monitoring sites is the responsibility of individual communities.

The DHM currently operates over 100 automatic and more than 400 manual rain gauges distributed nationwide. However, the stations in the mountainous region are sparse. While the mountainous region covers almost 50% of the country's land area, only 10% of the stations are in these rugged and remote areas.

### RECOMMENDATIONS

- 

Combine the weather radar estimates with rain gauges for more accurate rainfall predictions/observations to inform decision-making in early warning, especially in mountainous areas.
  
- 

Develop technical capacity for regular O&M, data collection, storage, processing, and dissemination for flood monitoring instruments including weather radars, leveraging the NGOs and other partners.
  
- 

Develop funds for the acquisition and O&M capacity by leveraging external partners and the private sector.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

### Priorities for Action


1, 2

### Global Target(s)


A, B, C, G


### Guiding Principle(s)


(b), (c), (d), (e), (f), (g), (i), (j), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## F8

### FINDINGS

Seismic Monitoring:

The NEMRC monitors earthquake activity. NEMRC maintains and operates a nationwide seismological network. NEMRC and NEOC both post alerts and situation reports on their websites. The Nepal national seismographic network is sparse and still developing.

### RECOMMENDATIONS



Leverage the resources of the scientific community by pairing Nepali seismologists and scientists with external partner universities and scientific institutions to develop state-of-the-art technological and technical infrastructure with hardware and software including Artificial Intelligence for big data analysis of seismic monitoring and assessment.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action

1, 2, 3

### Global Target(s)

A, B, C, G

### Guiding Principle(s)

(b), (c), (d), (e), (f), (g), (i), (j), (l), (m)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT

## F9



### FINDINGS

#### Notification and Early Warning:

The MoHA developed a National Early Warning Strategic Action Plan (NEWSAP) in 2013. The DHM has developed SOPs for Flood Early Warning System (SOP-FEWS) with external assistance from Lutheran World Relief (LWR).

Since 2014, text messages have been sent to at-risk communities based on forecasts using a mass alert system operated in partnership with Nepal Telecom (NTC) and NCell telecom service providers of the affected areas free of charge. While the responsibility for disseminating early warning messages at the district level rests with the Chief District Officer with the implementation by the NEOC, there is no legislation around communicating early warnings (REAP, 2021).

The DHM website runs real-time data on flood watch. However, early warning systems cannot address the needs of specific or vulnerable populations.

The DHM and NDRRMA are piloting impact-based forecasting for landslides and floods in 23 municipalities, covering 80,000 people in partnership with OCHA Anticipatory Action Framework and UN agencies. The model relies on the Global Flood Awareness System (GloFAS) and the GoN flood warning systems that give a maximum 7 days' lead time to act which include evacuations, cash distribution for readiness, in-kind assistance, and gender-inclusive services to flood-affected households and evacuation sites.

Some gaps within DHM have been acknowledged, specifically in the areas of Research and Development (R&D), human resources, and inter-sectoral coordination. DHM reportedly has limited experience working with local communities.

■ Limited or No Capacity

■ Early Capacity Development





■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT

## RECOMMENDATIONS

- 
 Develop legislation regarding communication protocols for early warnings that delineate roles and responsibilities, including issuing early warning messages; implement response actions between different agencies and the different levels of government.
- 
 Build on the Anticipatory Framework pilot program to expand the early warning and notifications for floods and other emergencies to:
  - (a) get people from harm's way
  - (b) provide cash and in-kind assistance for relocating, and
  - (c) provide gender-specific assistance and protection at evacuation sites and other assembly points.
- 
 Tailor early warning messaging according to the specific needs of populations to include language, simplicity, and education level.
- 
 Update the NEWSMAP to include roles/responsibilities and protocols for emergency messaging dissemination and systems. Include appendices with pre-scripted messages to address all hazards. Ensure plan is shared with all relevant partners.

## SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

### Priorities for Action

1, 2

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### Global Target(s)

A, B, C, G

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### Guiding Principle(s)

(b), (c), (d), (e), (f), (g), (i), (j), (l), (m)

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### U.N. SUSTAINABLE DEVELOPMENT GOALS

5

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# COMMUNICATION AND INFORMATION MANAGEMENT



## F10

### FINDINGS


Disaster Assessments:


In Nepal, disaster assessments are a requirement under the declarations process. Nepal uses a Post Disaster Needs Assessment (PDNA), a nationally authorized assessment methodology based on an agreed-upon methodology acceptable to the international community. The PDNA was conducted under the direction of the National Planning Commission following the 2015 earthquake in Nepal.


An Initial Rapid Assessment Form is used to conduct assessments in the aftermath of significant events. NRCS is tasked with conducting initial rapid assessments at the local level, for which local staff and volunteers are trained using a nationally agreed template to do a cursory assessment of partially damaged or destroyed houses and buildings.


The IOM 2020 report found that municipal DRR focal persons and cluster lead staff would benefit from training in initial rapid assessments. According to IFRC (2014), the lack of trained personnel to conduct such assessments was a major challenge. No capacity existed at the time for building damage assessment and triage, which is vital after a disastrous event.

### RECOMMENDATIONS

- 

Develop capacity through training at the national and especially at the local levels for initial rapid assessments. Work with NRCS to develop and conduct training.
- 

Leverage the capacity of volunteers through the NGOs and CBOs to help in the initial damage assessments.
- 

Develop a “train the trainer” program to achieve the needed capacities rapidly.
- 

Provide training in building damage assessment and triage and build technical capacity and personnel who can be deployed to conduct assessments during disasters.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

### Priorities for Action

2, 3, 4

### Global Target(s)


A, B, C, D, E


### Guiding Principle(s)


(b), (e), (f), (i), (j), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity



# COMMUNICATION AND INFORMATION MANAGEMENT



## F11





### FINDINGS

Data Collection and Storage Standards:

The National Planning Commission (NPC) and the Central Bureau of Statistics (CBS) are the government agencies responsible for Nepal's data collection and storage standards. The Nepal Consolidated National Statistical Plan, formulated in 2000, was the first systematic plan to reorient and restructure the National Statistical System.

The National Strategy for the Development of Statistics was completed in 2016. However, reportedly there is no single definition of the National Statistical System (NSS) in Nepal. The NSS is highly fragmented and coordination among data producers is limited.

### RECOMMENDATIONS

-  Continue to develop standards and definitions for data collection and storage for the NSS.
-  Update the Statistics Act; include civil society, development partners, and others to address timely data production and disaggregated and local data through legally recognizing the role of these entities.
-  Update the National Statistical Plan to include protocols and details on partner coordination to organize the NSS and provide data producers with a guide for cohesive data collection and storage standards.
-  Ensure COOP/COG plans incorporate backup options for the NSS.

**SENDAI FRAMEWORK,  
PARIS AGREEMENT,  
AND SUSTAINABLE  
DEVELOPMENT GOALS  
ADVANCED**

### Priorities for Action

1, 2

### Global Target(s)


A, B, C, G


### Guiding Principle(s)


(b), (c), (d), (e), (f), (g), (i), (j), (l), (m)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT




## F12


### FINDINGS


#### Data Sharing:


While Nepal’s legal framework (The Constitution; the Right to Information Act, 2007; Good Governance Act, 2007; Government Agency Website Design and Management Directives, 2011) provides for access to information, sharing of data is still not a common practice due, in part, to the absence of a clear data sharing policy.

### RECOMMENDATIONS

- 

Develop standards for data sharing across the government, including formatting data standards and associated reports by government agencies.
- 

Adjust the data collection and sharing standards according to SDGs’ data needs and formats.
- 

Consider accessible and open formats for the data to be used to the full extent so that informed and timely decisions are enabled, especially in crises.
- 

Disaggregate the data collection to focus on gender, social group (young, elderly, women, etc.), and subnational levels.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action

1, 2

#### Global Target(s)

A, B, C, G

#### Guiding Principle(s)


(b), (c), (d), (e), (f), (g), (i), (j), (l), (m)


### U.N. SUSTAINABLE DEVELOPMENT GOALS


1, 2, 3, 4, 5, 6, 9, 11, 13, 14, 15

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## F13





### FINDINGS

Centralized Data Sharing and Management System for COP:

BIPAD, owned by GoN, is an integrated, comprehensive Disaster Information Management System (DIMS) hosted in GoN's domain (<http://bipad.gov.np/>), developed to enhance preparedness, communication, and response especially post-incident coordination.

The system has spatial profiling of historical disaster events and impacts statistics on economic loss, infrastructure damage, and human casualties; multi-level hazard, vulnerability, and risk (HVR) assessment based on geophysical and socio-economic parameters across 75 districts. The BIPAD platform is a step towards informed decision-making for the national and sub-national governments

### RECOMMENDATIONS

-  Continue incorporating multi-level HVR data into BIPAD and maintain access from all tiers with security and data/platform reliability.
-  Incorporate HVR data from all 77 districts and 753 municipalities into BIPAD continuously.
-  Strengthen, maintain, systemize, and operationalize the DIMS in all 753 local municipalities for real-time data sharing.
-  Leverage DIMS to break down the information by (a) social groups (e.g., gender, age, the disadvantaged and marginalized groups, indigenous people, disabled people); (b) hazard types and impacts to different sectors at various levels; (c) different geographic locations.

### SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED

#### Priorities for Action


1, 2

#### Global Target(s)


A, B, C, G


#### Guiding Principle(s)

(b), (c), (d), (e), (f), (g), (i), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## F14






### FINDINGS

Media and Public Affairs:

While the GoN has communication and outreach strategies developed for specific disaster events, Nepal's public information capabilities address only a uniform audience in methods and risk messaging. Population-specific messaging is lacking.

Barriers remain in disseminating early warning information to community members and at-risk individuals. This is partially due to the underdeveloped communication and transportation infrastructure, and the lack of well-trained communications specialists on the ground. Furthermore, given that literacy rates are low, there is inadequate information flow among residents, local governments, and federal authorities. Reliable dissemination of risk information to diverse populations often requires practice-oriented risk communication guidelines.

### RECOMMENDATIONS

-  Consider developing a national Public Risk and Communication Plan to create a standardized government approach to craft and deliver messaging from the federal authorities, to local levels, and subsequently to residents. Ensure adequate messaging to target and reach vulnerable populations.
-  Employ regular drills to test and improve communication systems at the local level.
-  Develop policies to guide and facilitate the tracking and use of publicly generated information through the NDRRMA social media accounts.
-  Assess household preparedness levels and develop media messages based on that input.
-  Enable objective, neutral, and informative media reporting by allowing media monitoring by non-government, non-partisan organizations and media research agencies.

**SENDAI FRAMEWORK, PARIS AGREEMENT, AND SUSTAINABLE DEVELOPMENT GOALS ADVANCED**

### Priorities for Action


2

### Global Target(s)


A, B, C, G


### Guiding Principle(s)


(b), (d), (e), (f), (g), (i), (j)

 Limited or No Capacity

 Early Capacity Development

 Achievement with Significant Limitation

 Substantial Progress with Some Limitation

 Advanced Capacity

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**THE NDPBA**

# **NATIONAL RECOMMENDATIONS**

# THE NDPBA NATIONAL RECOMMENDATIONS

The following recommendations are provided in the logical order of implementation to support the most direct path to building resilience and strengthening disaster management within the country.

## 1

### **OPERATIONALIZE THE LEGAL DISASTER MANAGEMENT FRAMEWORK TO BETTER SUPPORT STRATEGIC AND TACTICAL IMPLEMENTATION IN NEPAL.**

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- Prioritize full resourcing to address financial and human capacity shortages. Ensure support for implementing the provisions stated in the law, including funding and staffing for prevention and mitigation.
- Clarify the disaster declaration process and delineate the authorities at each level of the government, avoiding duplications.
- Address implementation schedules.

## 2

### **STRENGTHEN THE INSTITUTIONAL CAPACITY OF THE NATIONAL DISASTER RISK MANAGEMENT AUTHORITY (NDRRMA).**

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- Delineate the roles of each ministry, agency, and organization to avoid duplication of effort and improve service delivery.
- Fully empower the NDRRMA to integrate SDG, CCA, and DRR (to include full ownership of planning, budgeting, and evaluation as stipulated in the DRM Act).
- Ensure the necessary resources to deliver the NDRMMA services (human, fiscal, and technical) are allocated and implemented. Legal and organizational arrangements must fully empower NDRRMA with skilled staff and clear career progression.
- Formalize disaster management competencies within NDRRMA, including training and academic support.

## NATIONAL RECOMMENDATIONS

# 3

## **STRENGTHEN SUPPORT FOR THE NATIONAL DRR/DM FUND.**

- Ensure necessary provisions are in place to facilitate programmatic, budgetary mechanisms for DRR and response and recovery. Include provisions for recurrent funding (even donor funds) with guidelines for access and use.
- Strengthen guidance to ensure clarity in the establishment of decentralized budgets. Include funding sources and recipients and provide target funding levels and specific mandates on fund management to foster transparency. Funding must cover all phases of the disaster management cycle.
- Establish requirements for local governments to use a needs-based response and relief budget allocation process.
- Establish appropriate guidance to support gradual increases in the DM Fund commensurate with the need.
- Provision of training, education, and capacity development funds.

# 4

## **APPLY A WHOLE-OF-GOVERNMENT APPROACH TO RESILIENCE BUILDING.**

- Establish legal mandates for local governments in conducting DRR activities.
- Ensure a multi-hazard approach to the community-level risk and vulnerability assessments that are applied -to include localized impacts of climate change.
- Standardize responsibilities across the provincial, district, and local governments through training.
- Provision adequate guidance to local governments on indexing in traditional and nontraditional partners to facilitate effective DRR and mitigation efforts, not just disaster response.
- Provide newly elected district and local level elected and appointed leaders with adequate training to ensure competencies.
- Facilitate input from local communities in plan development.

# 5

## **EFFECTIVELY LEVERAGE EXISTING PARTNERSHIPS WITH INTERNATIONAL GOVERNMENTS AND ORGANIZATIONS.**

- Focus on international aid to support Nepal's strategic resilience objectives and ensure internal national capacity building.
- Formalize NDRRMA as the lead coordinating agency for engagement with bilateral and international humanitarian actors.
- Ease bureaucratic hurdles by passing proper laws and/or updating procedures for handling humanitarian assistance during disasters.



# 6

## **ENHANCE THE NATIONAL DISASTER RESPONSE FRAMEWORK (NDRF).**

- Incorporate hazard-specific and multi-hazard scenarios to include floods, landslides, earthquakes, fires, droughts, and infectious disease outbreaks.
- Leverage the findings of the NDPBA to more effectively focus investments to reduce vulnerability and increase the capacity of Nepal.
- Develop exercise and training programs to improve the implementation of the framework.
- Include in legislation or disaster plans the requirement for After Action Reports (AARs) following response operations, training, and exercises.
- Incorporate plan revision requirements into legislation and update plans according to lessons learned after conducting response operations, trainings, or exercises. Establish and implement formal exercise evaluation standards throughout the country from the national to provincial and municipal levels in Nepal.
- Incorporate lessons learned from past disasters to remedy communication and coordination issues for improving humanitarian response and preparedness.

# 7

## **ENGAGE THE PRIVATE SECTOR, NGOs, ACADEMIA, AND MEDIA IN THE GOVERNMENT DRM FRAMEWORK.**

- Formulate SOP guidelines through NDRRMA for engaging all three government tiers, the private sector, and NGOs.
- Establish formal assistance agreements with the I/NGOs, CBOs, and others to support DM efforts. Develop a database of agreements and capabilities. Establish a National NGO Registry merging/leveraging the Social Welfare Council (SWC), NGO Federation of Nepal (NFN), Association of International NGOs in Nepal (AIN), and NGO Federation of Nepal (NFN) databases, with regular maintenance and updating of capabilities.
- Expand the participation of the public, scientific institutions and universities, women, and local communities in planning and management, accounting for approaches and methods of gender equity.
- Establish a knowledge-sharing information platform on mitigation and adaptation.
- Make the private sector an organic partner of DRR and DRM through policies and formal assistance agreements that allow the local private sector companies to be partnered with local administrations in resource capacity generation, including the use of facilities as potential shelters, warehouses, and a hub for volunteer resources, with proper incentives in return. Establish a National Private Sector Platform for DM with particular emphasis on linking it to the Shelter Cluster.
- Enable objective, neutral, and informative media reporting by allowing media monitoring by non-government, non-partisan organizations and media research agencies.

## NATIONAL RECOMMENDATIONS

## 8

**DEVELOP RESILIENCE/COOP/COG PLANS FOR THE COUNTRY'S CRITICAL INFRASTRUCTURE SECTORS AND INTEGRATE PLANS ACROSS THE SECTORS AND REGIONAL PLANS.**

- Standardize planning guidance and develop associated templates for multiple hazards covering all disaster management phases and accounting for unique geographical challenges of Nepal.
- Plans and procedures should be based on the scientific evidence provided in the NDPBA Assessment.
- Plans should include a whole-of-community approach, clearly identifying roles for government, private sector, non-governmental organizations, and the public.
- Develop mitigation plans and establish necessary funding mechanisms for mitigation projects.

## 9

**BUILD HUMAN RESOURCE CAPACITY ACROSS THE NATION TO SUPPORT DM EFFORTS.**

- Develop a national training and exercise program for disaster readiness, response, and recovery for all the critical hazards described in this analysis.
- Create long-term training and exercise plans and develop and support training and exercises.
- Recruit and train firefighters and develop a cadre of personnel in local governments.
- Develop volunteer fire corps seeking funding and technical assistance from external partners and NGOs.
- Recruit and train SAR and DANA teams by creating a system of community volunteers to assist professional responders at the site and create procurement systems for equipment.
- Hire and train staff dedicated to civil protection planning with minimum training requirements for all DM staff.
- Create/upgrade and maintain rosters of trained professionals for critical post-disaster needs.
- Leverage existing NGO, private sector, Nepali Army, and volunteer stakeholder agreements to address surge staffing needs.
- Work on capacity building for healthcare by providing incentives to doctors with competitive pay and other benefits.
- Continue to develop SAR capacity with SAR personnel and equipment as per INSARAG Standards.

## 10

**IMPLEMENT A STANDARD INCIDENT MANAGEMENT SYSTEM AT ALL LEVELS OF GOVERNMENT.**

- Make the NEOC a sole-use, dedicated place for emergency management.
- Ensure the NEOC:
  - A. has enough space to accommodate a multi-agency staff;
  - B. is capable of activation at least within six hours of incident or ideally of no notice activation;
  - C. physically protected from floods, earthquakes, and landslides;
  - D. is adequately air conditioned with backup electricity generation systems; and easily accessible for key government officials.
- Designate and exercise a backup NEOC.
- Designate EOCs at the remaining districts (Doti, Rukum East, Kaski, and Nawalparasi East) and at local municipal levels.

## 11

**DEVELOP/UPGRADE EARLY WARNING SYSTEMS FOR HYDROMETEOROLOGICAL EVENTS.**

- Focus on improved climate risk management for monsoonal floods and agriculture and livestock impacts.
- Expand the network of flood monitoring stations leveraging the already existing pilot projects and two-way data exchange.
- Tailor risk communication to at-risk populations, including women, children, the elderly, the disabled, and other at-risk populations. Consider seasonal workers and tourist populations in the messaging.

## 12

**DEVELOP A NATIONAL RISK TRANSFER STRATEGY FOR NATURAL HAZARDS, INCLUDING NATIONAL AND HOUSEHOLD-LEVEL INSURANCE PROGRAMS.**

- Empower Nepal Re to develop and manage a multi-hazard catastrophic insurance pool as foreseen in the National Strategic Action Plan for DRR 2017-2030, offering affordable and actuarially sound rates.
- Develop a comprehensive disaster risk database utilizing BIPAD underlying the RVA profile of Nepal to aid Nepal Re.
- Facilitate the new legislation regulating the insurance market through Beema Samiti.

## NATIONAL RECOMMENDATIONS

# 13

## **MAINTAIN INVENTORIES OF DISASTER WAREHOUSES AND MAINTAIN INVENTORIES LOCALLY AND AT THE HSAS.**

- Create/increase organized and dedicated sub-national level warehousing facilities for prepositioning goods, anticipating that some roads are impassable during the June-September monsoon season due to landslides.
- Establish a program to develop and maintain pre-disaster commodities contracts with DM stakeholders, including the private sector, to include construction, trucking, and storage companies.
- Conduct nationwide training for warehouse logistics management and commodities tracking.
- Create and exercise commodity distribution plans.

# 14

## **DEVELOP A NATIONWIDE EVACUATION AND SHELTER PLAN.**

- Formalize and implement the National Shelter Contingency Plan (2014/2018) and require scenario-based, district-level planning
- Include in plans for sheltering evacuees from neighboring communities.
- Designate potential multi-use facilities that can serve as EOC, community centers, shelters, and warehouses.
- Include an inventory (database) including public facilities.
- Assess the suitability of those designated spaces and document them in the database – including safety and security, elevation from flood zones, and access to WASH and stockpiles.
- Develop and implement evacuation plans and connect them to the shelter plan.
- Tie the early warning systems and protocols to evacuation and shelter plans.
- Create/increase organized and dedicated sub-national level warehousing facilities for prepositioning goods, anticipating that some roads are impassable during the June-September monsoon season due to landslides.
- Factor in the number of at-risk people, identification of flood areas (based on this RVA), and the higher altitude areas with available spaces for temporary shelters or public facilities.
- Leverage BIPAD and PDC's DisasterAWARE Pro® for hazard resource mapping for evacuation and shelter planning.
- Conduct regular evacuation exercises and training ahead of seasonally anticipated events.

# 15

## **STANDARDIZE DATA COLLECTION AND STORAGE FOR THE NATIONAL STATISTICAL SYSTEM.**

- Standardize, digitize, and consolidate the datasets from post-disaster field surveys, hazard zones, and all other hazard-related statistics at the national and sub-national levels
- Assign NDRRMA as the lead agency for maintaining, managing, and monitoring disaster databases, including dissemination and advocacy for its definition, use, and institutionalization.
- Establish data collection and reporting standards for risk and vulnerability assessments in DM and DRR planning efforts nationally and for each local jurisdiction.
- Strengthen risk mapping capacity at the national and provincial level, local, and municipal levels through staff training and increased technical and financial support for NDRRMA and relevant DM agencies.
- Conduct training for damage and needs assessments.
- Include climate change in planning and standardize data collection.

# 16

## **INCREASE INFORMATION ACCESS AND SHARING AMONG ALL DM STAKEHOLDERS.**

- Fully leverage BIPAD as the COP platform.
- Integrate the National Statistical System into NDRRM information service capacity.
- Require transparency and an effective tracking system in the operations and use of resources for accountability.

NATIONAL RECOMMENDATIONS

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# 17

## **ENGAGE THE PUBLIC IN EFFORTS TO REDUCE VULNERABILITY AND INCREASE COPING CAPACITY.**

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- Periodically collect political approval ratings/assess household preparedness levels to determine core DRR/DM needs and gaps within communities.
- Periodically conduct surveys to assess the DRM/DRR needs of vulnerable populations within each jurisdiction.
- Promote environmental stewardship and community readiness through education campaigns.
- Develop curricula for K-12 and through academia as well as key NGOs such as the NCRS to educate the children and the public.
- Establish political and public engagement initiatives by establishing pathways for legislative activities and targeted outreach campaigns for volunteer recruitment.
- Engage the public in first response and readiness through training campaigns through Nepali Red Cross and IFRCs, and other local and international NGOs.

# 18

## **PROMOTE DATA GATHERING FOR CONTINUED COMPREHENSIVE RISK MONITORING ACROSS NEPAL.**

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- Using the results of the NDPBA, identify data and information gaps needed to enhance evidence-based decision-making.
- Update national and local-level emergency and disaster resources, including police, fire, shelter, and health care resources, and include them in the national COP.
- Work with the Central Bureau of Statistics to ensure that subnational demographic data are updated regularly to monitor vulnerable populations.
- Identify and regularly update multi-hazard maps for continued exposure analysis and preparedness planning. Improve public access to locally relevant hazard and vulnerability information and encourage campaigns for community engagement to enhance disaster resilience.

# 19

## **DEVELOP SUSTAINABLE LAND USE PLANNING POLICIES BY TAKING INTO CONSIDERATION PRIMARY HAZARDS.**

- Develop zoning policies focusing on earthquake and flood risks.
- Develop and enforce building codes to strengthen critical infrastructure and the housing sector.
- Develop strategies to minimize illegal settlements.
- Establish strict construction standards and accountability for construction contractors based on NBC, especially in housing and engineered structures (e.g., dams).
- Plan for increasing population pressures; ensure support services reflect existing vulnerabilities and gaps.

# 20

## **REDUCE MARGINALIZATION AND PROMOTE GENDER EQUALITY; ACTIVELY ENGAGE MARGINALIZED GROUPS IN DRR AND PROMOTE POLICIES TO SUPPORT ECONOMIC AND EDUCATIONAL OPPORTUNITIES FOR WOMEN AND OTHER UNDERSERVED COMMUNITIES.**

- Promote efforts to monitor and reduce gender- and caste-based discrimination and bias. Promote policies that support economic and educational opportunities for women and minorities, including equal income, employment, and access to credit.
- Through NDRRMA, actively engage women and other marginalized groups in disaster management and community planning. Promote equal opportunities throughout society to reduce disparities and incorporate feedback mechanisms into policies and programs to ensure effective implementation and capacity building.
- Build a responsive environment for reducing marginalization by ensuring that all disaster plans appropriately address gender, minority, and caste-based issues.

## NATIONAL RECOMMENDATIONS

## 21

**ADOPT A COMPREHENSIVE, EVIDENCE-BASED PLAN TO ADDRESS DISPARITIES IN EDUCATION, HEALTH CARE, AND ECONOMIC OPPORTUNITIES.**

- Using the results of the NDPBA, prioritize campaigns to build capacity in underserved communities.
- Focus efforts on providing programs to increase literacy rates and promote continued education. Work with communities to better understand the underlying factors that represent barriers to education and literacy. In particular, poverty and gender inequalities may also drive the disparities. Invest in infrastructure and focus public awareness programs on increasing the population's educational attainment.
- Expand partnerships with NGOs, private sector, and international agencies to increase healthcare capacity by allocating funds for infrastructure, skilled human resources, and public health education. In addition to increasing the number of facilities, supplies and staff, promote public health campaigns. With limited information access and communications, community health campaigns are needed to educate and meet the population's health care needs. Promoting vaccinations, healthy lifestyles and use of primary care will help boost the population's health and reduce the burden on the healthcare sector.
- Develop short- and long-term strategies to address and alleviate poverty. Short-term strategies may include public assistance programs that address unsatisfied basic needs (i.e., food, water, housing, education). Over the long term, support government programs to assist in new business and employment opportunities. Create public policies guaranteeing equal opportunity and fair wages for all. Link economic development to national and local sustainable development goals to diversify livelihoods and promote equitable distribution of property and economic assets. Focusing on sustainable economic opportunities will help to decrease long-term reliance on social assistance.
- Increase access to vocational, technical, and entrepreneurial training to support labor market needs and diversify the municipal economy directly. Expanding local economic opportunities will reduce reliance on external remittances and bolster labor participation.
- Ensure that disaster management plans address local drivers of vulnerability, including economic constraints, access to information, vulnerable health status, and health care capacity.

## 22

**BUILD POLICIES AND PARTNERSHIPS TO ADDRESS FOOD SECURITY.**

- Monitor health and wellness of the population to identify and address patterns of malnutrition that may be linked to food access.
- Provide agricultural education and subsidies in rural areas to promote use of modern technologies and sustainable practices for food production.
- Establish programs to help reduce food prices in rural areas – where people tend to be more food insecure.



# 23

## **PLAN FOR AN INCREASING POPULATION TO PROMOTE SUSTAINABLE DEVELOPMENT.**

- Closely monitor population changes to anticipate resource constraints that could lead to conflict or increase disaster risk.
- Identify, monitor, and map informal developments. Promote social and economic inclusion and assess resource constraints to improve inclusivity and attain more sustainable communities. Ensure that informal settlements and undocumented population are accounted for in disaster plans.
- Regularly assess climate-sensitive hazards across the country to anticipate changes in hazard exposure.
- Ensure that health care, shelter, and emergency service resources are regularly reviewed and realigned based on the NDPBA to best support areas of high vulnerability and low coping capacity.

# 24

## **REASSESS PROGRESS MADE TOWARD DISASTER RISK REDUCTION AND RESILIENCE GOALS.**

- Update the NDPBA, including the RVA and DMA analyses to track progress toward reducing vulnerabilities, increasing coping capacities, and building disaster management capabilities to support Nepal's Disaster Risk Reduction and Sustainable Development Goals for a more resilient nation.
- Implement a Risk Resilience and Adaption Analysis (R2A2) following the five-year plan of action.

# 25

## **DEVELOP A FORMAL MECHANISM TO ASSESS PROGRESS MADE TOWARD ACHIEVEMENT OF DRR (SENDAI), CLIMATE ADAPTATION AND SDGS.**

- Reassess progress made toward DRR and resilience goals on a yearly basis.
- Accelerate the implementation of the SDGs through the assurance of equity, economic growth, environmental resilience, practicing good governance, stronger global partnership and resource mobilization, consolidation of multi-stakeholder partnerships, localization of SDGs, strengthening institutions and statistical systems, and focusing on effective recovery from the impacts of COVID-19 pandemic.

# 5-YEAR PLAN

## NEPAL NATIONAL RECOMMENDATIONS



YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
<b>RECOMMENDATION 1</b> Operationalize the legal disaster management framework to better support strategic and tactical implementation in Nepal.				
	<b>RECOMMENDATION 2</b> Strengthen the institutional capacity of the National Disaster Risk Management Authority (NDRRMA).			
		<b>RECOMMENDATION 3</b> Strengthen support for the National DRR/DM Fund.		
<b>RECOMMENDATION 4</b> Apply a whole-of-government approach to resilience building.				
	<b>RECOMMENDATION 5</b> More effectively leverage existing partnerships with international governments and organizations.			
<b>RECOMMENDATION 6</b> Enhance the National Disaster Response Framework (NDRF).				
	<b>RECOMMENDATION 7</b> Fully engage the private sector, NGOs, academia, and media in the government DRM framework.			
	<b>RECOMMENDATION 8</b> Develop resilience/COOP/COG plans for the country's critical infrastructure sectors and integrate plans across the sectors and regional plans.			
<b>RECOMMENDATION 9</b> Build human resource capacity across the nation to support DM efforts.				
<b>RECOMMENDATION 10</b> Fully implement a standard incident management system at all levels of government.				
<b>RECOMMENDATION 11</b> Develop/upgrade early warning systems for hydrometeorological events.				

# 5-YEAR PLAN

## NEPAL NATIONAL RECOMMENDATIONS



YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
		<b>RECOMMENDATION 12</b>		
	Develop a national risk transfer strategy for natural hazards, including national and household-level insurance programs.			
	<b>RECOMMENDATION 13</b>			
	Maintain inventories of disaster warehouses and maintain inventories locally and at the HSAs.			
<b>RECOMMENDATION 14</b>		<b>RECOMMENDATION 15</b>		
Develop a nationwide evacuation and shelter plan.		Standardize data collection and storage for the National Statistical system.		
<b>RECOMMENDATION 16</b>				
Increase information access and sharing among all DM stakeholders.				
<b>RECOMMENDATION 17</b>				
Engage the public in efforts to reduce vulnerability and increase coping capacity.				
	<b>RECOMMENDATION 18</b>			
	Promote data gathering for continued comprehensive risk monitoring across Nepal.			
	<b>RECOMMENDATION 19</b>			
	Develop sustainable land use planning policies by taking into consideration primary hazards.			
<b>RECOMMENDATION 20</b>				
Reduce marginalization and promote gender equality; actively engage marginalized groups in DRR and promote policies to support economic and educational opportunities for women and other underserved communities.				
			<b>RECOMMENDATION 23</b>	
			Plan for an increasing population to promote sustainable development.	
	<b>RECOMMENDATION 21</b>			
	Adopt a comprehensive, evidence-based plan to address disparities in education, health care and economic opportunities.			
<b>RECOMMENDATION 22</b>			<b>RECOMMENDATION 24</b>	
Build policies and partnerships to address food security.			Reassess progress made toward disaster risk reduction and resilience goals.	
			<b>RECOMMENDATION 25</b>	
			Develop a formal mechanism to assess progress toward achieving DRR (Sendai), Climate Adaptation and SDGs.	



**NDPBA**

# **DISTRICT RISK PROFILES**

**SUBNATIONAL ASSESSMENT RESULTS**

**Download Here:**

**<https://www.pdc.org/wp-content/uploads/NDPBA-NPL-Subnational-Profiles-Final-Screen-Merged.pdf>**

# DISTRICT RISK PROFILES

The subnational report developed for each District offers a more detailed understanding of risk in Nepal. These are provided separately from this report (linked below), and include drivers of vulnerability, coping capacity, and resilience; a comparison of each District within overall country; and strategic, data-driven, actionable recommendations.



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