

Government of Nepal
Ministry of Home Affairs

Risk to Resilience: Disaster Risk Reduction and Management in Nepal



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1. Introduction

Nepal, a mountainous country nestled between two big countries —India and China — lies on the southern slopes of the Central Himalayas. Boasting a diverse geography, its topography ranges from an altitude of 67 meters to 8,848.86 meters, earth's highest point. Within less than 200 km of horizontal air distance, the climate varies from sub-tropical in the south to polar frost (extreme cold) in the north. The preliminary result of 2021 census shows that Nepal has a total population of 29,192,480 of which 14,901,169 are female (51.04%) and 14,291,311 are male (48.96%)¹. Nepal's national Human Development Index (HDI) score stood at 0.587 in 2019, which puts the country in the medium human development category².

This report has been prepared in the context of seventh Global Platform for Disaster Risk Reduction (GPDRR2022) being held in Bali, Indonesia on 23-28 May 2022. The report documents recent disastrous events which caused massive loss of lives and properties in Nepal. The report discusses about country's status on Disaster Risk Reduction and Management (DRRM) around the themes of the GPDRR2022, including the experiences from reconstruction of 2015 earthquake damages and the impacts of COVID-19 pandemic.

Delegates representing both the government and Civil Society are attending the GPDRR to share Nepal's position on DRR initiatives, exchange learning and discuss over disaster related issues.

2. Overview of Disasters in Nepal

Nepal is exposed to multiple hazards, including frequent earthquakes, floods, landslides, debris flows, droughts, thunderbolts, heat waves, cold waves, avalanche, hail, snowstorms, and windstorms. The active seismic faults generate high magnitude earthquakes like the Gorkha earthquake in 2015. Over 80% of the total hazards by number are of hydro-meteorological origin. The intensity and frequency of these disasters are increasing with rapid change in weather conditions. Weather induced hazards are seasonally confined but in recent years they are unexpectedly unseasonal damaging crops and other belonging. The hydrological and meteorological hazards in Nepal are influenced or linked with regional weather and hydrological conditions across the borders.

The nature-based livelihoods, especially agriculture dependent population have high exposure and sensitivity to different hazards. Exposure to hazard is also driven by encroachment in the right of way of rivers, settlement in marginal lands because of poverty and exclusion, rapid urbanization and internal migration to hazard-exposed areas.

Inadequate technical skill and knowledge, deficiency to comply with building codes and risk-informed infrastructure development, lapses in DRRM governance and its mainstreaming, poverty and exclusions are some of the factors behind the country's vulnerability to disaster.

The COVID-19 pandemic has revealed that service-based livelihood, which was assumed to be relatively resilient is also highly vulnerable to disaster. It has disclosed that how the whole of system

¹ Preliminary result of national census 2078 (2021), CBS/ NPC, Nepal

² GoN (2020). Nepal Human Development Report, 2020. Government of Nepal, National Planning Commission, Singha Durbar, Kathmandu, Nepal

including the health and economy are interconnected and can be exposed to unexpected risky circumstances.

On an average, Nepal faces over 500 disaster events annually that range from small to large scale³. In respect to disaster events in recent years, Nepal faced 2015 earthquake, 2017 flood, 2020 and 2021 landslides, and 2021 post-monsoon rainfall. Between 2015 and 2021, Nepal lost 12,315 lives due to various disasters of which 53% are female and 47% male (Table 1)⁴. The 2015 earthquake had the highest number of casualty (8,790) and injuries (22,300). It is attributed that the earthquake also induced landslides in the following years. In 2019, 2020 and 2021 landslides killed 1,014 people. Thunderbolt (612), forest and domestic fires (522), flood (462) and animal incidence (138) which occur almost annually also cause higher casualties. Forest and domestic fires are in increasing trend.

Table 1: Disaster Incidents and Impact (2015-2021)

Year	No. of Incidents	Dead	Injured	Affected Family	Private House Destroyed		Estimated Loss (USD 1@NPR 120)
					Partial	Complete	
2015	978	9,304	22,661	828*	299,378	773,936	7,871,579**
2016	2,370	486	764	13,241	1,222	3,428	23,436,490
2017	2,460	490	737	19,073	14,427	1,927	20,806,545
2018	3,919	478	2,902	8,180	1,880	2,505	36,182,433
2019	4,538	489	2,452	25,264	6,873	4,939	39,245,919
2020	3,770	559	1,175	11,314	3,330	1,959	14,676,841
2021	4,215	509	1,773	6,583	1,580	2,044	21,190,103
Total	22,250	12,315	32,464	84,483	328,690	790,738	163,409,909

<http://drrportal.gov.np/> accessed on May 1, 2022

* Families affected by 2015 Nepal earthquake are not included in this data. GoN estimated that the 2015 earthquake affected directly 866,635 private houses and indirectly eight million people⁵.

** The aforementioned economic impact excludes the loss incurred during 2015 earthquake estimated at USD 14.3 b⁶

National disaster database maintained at the DRR Portal reveals that the highest reoccurring hazard was fire (13,811) followed by landslide (2,058), thunderbolt (1,682), heavy rainfall (1,292), flood (1,122) and windstorm (607) between 2015 and 2021. Snake bites, cold and heat waves, road accidents are other major disasters occurring annually.

Disasters have differential impacts on different social groups. Specifically vulnerable groups including women, children, elderly citizens, people with disabilities and marginalized communities are the most vulnerable to these disasters. More women died (55%) than men (45%) in 2015 earthquake in Nepal⁷. Floods affect mud and mortar houses more than concrete ones⁸. Similarly, fire

³ NPC 2019, Fifteenth Five Year Plan (2019/2020-2023/2024), GoN Nepal

⁴ MoHA, NEOC, DRR portal accessed on 1 May 2022

⁵ GoN, 2015. Nepal Earthquake 2015-Post Disaster Needs Assessment. Vol. B: Sector Reports. GoN, NPC, Kathmandu

⁶ GoN (2015). Nepal Earthquake 2015: Post Disaster Needs Assessment Vol. B: sector reports. Government of Nepal, National Planning Commission, Singha Durbar, Kathmandu, Nepal

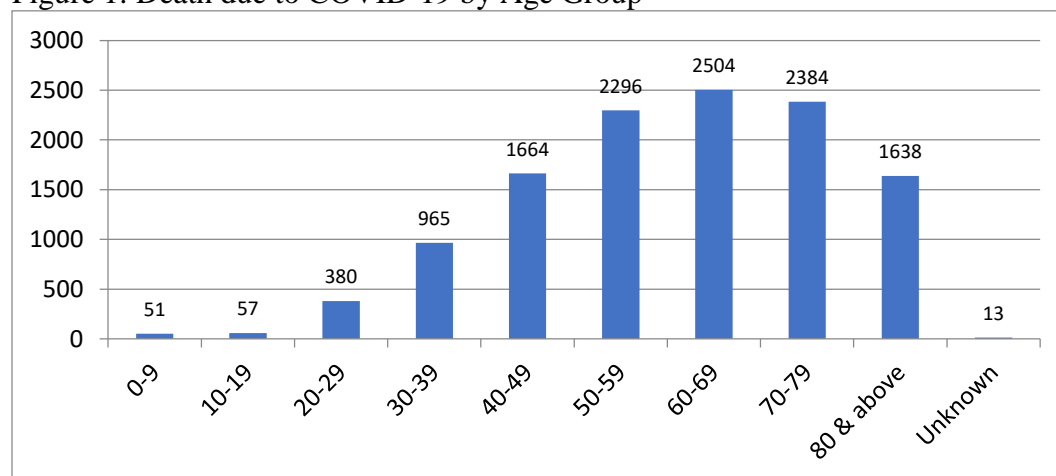
⁷ GoN (2015). Nepal Earthquake 2015: Post Disaster Needs Assessment Vol. B: sector reports. Government of Nepal, National Planning Commission, Singha Durbar, Kathmandu, Nepal

affects houses made with locally available plant materials, which are preferred by people with meager income.

Disasters slow down development process and make the future susceptible costing millions of dollars to Nepal's economy each year. The Gross Domestic Product (GDP) growth rate dropped to 2% in 2015 from 6% in 2014 and further dropped down to 0.4 % in 2016 after the devastating 2015 earthquake. Similarly, the GDP growth rate dropped down to -2.12% in fiscal year 2019/20 due to COVID-19⁹. This is the lowest in the last two decades which is severer than that of the devastating earthquake of 2015. Before the COVID-19, the growth rates were 7.6% in 2018 and 9% in 2017¹⁰, which was a gaining momentum after the earthquake.

COVID-19 has had wide ranging impacts on different development and service sectors in addition to the direct health impacts. The pandemic has resulted in 11,952 deaths (as of May 6, 2022) since the first case was recorded on 23 January 2020. The highest casualty was witnessed among 60-69 age group (Figure 1). The total infected cases were 978,897 in which 58.8% were male and 41.2% female. From age group indicator, the highest number of cases is in 21-40 years group. According to the UNDP Rapid Assessment Survey in 2020, 41% of women lost their jobs during the lockdown compared to 28% of men¹¹. Owing to the negative growth rate, the GDP dropped to NPR 2,064.60b (USD 17.21b) in 2019/20 from NPR 2,109.26b (USD 17.58b) in 2018/19¹². (US \$1 =NPR 120)

Figure 1: Death due to COVID-19 by Age Group



Source: <https://covid19.mohp.gov.np/> accessed on 6 May 2022

3. Progress in Disaster Risk Reduction and Management

⁸ GoN (2017). Nepal Flood 2017: Post Flood Recovery Needs Assessment. Government of Nepal, National Planning Commission, Singha Durbar, Kathmandu, Nepal

⁹ Government of Nepal, Ministry of Finance, Singh Durbar, Kathmandu, Economic Survey 2020/21

¹⁰ International Monetary Fund, April 2021 as quoted in Government of Nepal, Ministry of Finance, Singh Durbar, Kathmandu, Economic Survey 2020/21

¹¹ Rapid Assessment of Socio-Economic Impact of Covid-19 In Nepal, United Nations Development Program, UN House, Pulchowk, Lalitpur, Nepal

¹² Government of Nepal, Ministry of Finance, Singh Durbar, Kathmandu, Economic Survey 2020/21

The report attempts to follow the themes of the GPDRR2022 while also embracing with Sendai Framework for DRR (SFDRR).

3.1. Update on Sendai Action Plan

Nepal has made satisfactory progress on implementation of the SFDRR. The GoN prepared National Strategic Action Plan (NSAP) on DRR in 2018 in line with the SFDRR. Table 2 presents summary of key achievements in SFDRR priority areas. The following section and paragraphs highlight Nepal's progress in disaster risk information governance (section 3.2), DRR financing (section 3.3), disaster response and build-back-better (section 3.4), COVID-19 recovery (section 3.5), SDGs and climate actions (section 3.6) and leave no-one behind (section 3.7).

The GoN plans to carry out mid-term evaluation of the implementation of SFDRR in 2022. The evaluation will provide detail reflection of the progress and strategies for the remaining period until 2030.

Table 2: Summary of SFA Progress

SFA Priorities	NSAP Priorities	Current Status (2022)	Remarks
1. Understanding disaster risk	<ul style="list-style-type: none"> • Hazard wise assessment of risk • Inter-agency coordination of multi-hazard risk assessment • Development of effective DIMS • Capacity Building for Understanding risk 	<ul style="list-style-type: none"> • Landslide Risk Mapping of 14 districts out of 77 • DRR Portal and Database • Plan and budget for Structural Integrity Assessment of all schools and public facilities • Revision of national probabilistic seismic hazard map of Nepal 	
2. Strengthening disaster risk governance to manage disaster risk	<ul style="list-style-type: none"> • Establishing and Strengthening Organizational Structures • Developing Legal and Regulatory Frameworks • Capacity Building, Collaboration and Partnership for Disaster Risk Governance • Ensuring Inclusiveness in Disaster Risk Reduction 	<ul style="list-style-type: none"> • Establishment of NDRRMA • DRM organizational structure at province and local level • National Policy for DRR-2018 • Disaster Risk Reduction National Strategic Plan of Action • DRM localization manual • LDCRP guideline • Local Development Planning Guideline 	Several other guidelines and manuals are developed
3. Investing in disaster risk reduction for resilience	<ul style="list-style-type: none"> • Promoting Investment for Building Resilience • Promoting Public Investment in DRR • Promoting private investment in 	<ul style="list-style-type: none"> • DRR Financing Strategy • Crop Insurance, Health Insurance • COVID-19 Insurance 	

	<p>DRR</p> <ul style="list-style-type: none"> • Increasing Disaster Resilience through Risk Transfer, Insurance and social Security 	<ul style="list-style-type: none"> • Sectoral Budget • DM Fund 	
4. Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction	<ul style="list-style-type: none"> • Strengthening Disaster Preparedness for Effective Disaster Response • Development of Multi-Hazard EWS for Disaster Preparedness • Promoting CBDRR • Strengthening Communication and Dissemination system for Disaster Preparedness • Capacity Building for Search and Rescue • Promoting “Build Back Better” approach in Recovery, Rehabilitation and Reconstruction 	<ul style="list-style-type: none"> • BBB of 704,341 private owned houses • BBB of 6,647 school building • BBB of 1,197 Health related infrastructures and services • 920 cultural heritage sites, 415 government buildings and 216 buildings of security agencies • 598 National level responders are trained (MFR, CSSR, HOPE and CADRE) 	PEER Courses Graduates

3.2. Disaster Risk Governance

In 2015, Nepal adopted a federal setup with the provision of federal, provincial and local governments. The DRRM governance has also been crafted in line with the changed structure.

Policy and Legal Framework: Nepal’s 2015 Constitution defines the roles and responsibilities of three tiers of government: federal, provincial and local. The country has implemented the National Policy for Disaster Risk Reduction 2018 which is supported by National Strategic Action Plan for Disaster Risk Reduction, 2018-2030 in line with Sendai Framework for Disaster Risk Reduction (SFDRR). Province and Local Governments have developed essential legal instruments and established institutional set up for DRRM.

The DRRM Act 2017 and Local Government Operationalization Act 2017 have established institutional structures and provided them with mandates of delivering in the spirit of the constitution at various levels. The federal government agencies such as Ministry of Federal Affairs and General Administration (MoFAGA) and National Planning Commission (NPC) have been supporting local governments by providing guidelines and sample policy documents to enhance local DRRM. Documents such as local DRR Strategic Action Plan Guidelines 2021¹³ and Guidelines for Local Level Planning 2021¹⁴ guide local plans and actions initiated by local governments. There are several other documents to support local governments and stakeholders about disaster preparedness, response, recovery and reconstruction. Guidelines and Templates for Preparing Local DRRM Act, Local DRRM Strategic Plan, Local Disaster Preparedness and Response Plan (DPRP),

¹³ MoFAGA 2021. Local DRR Strategic Action Plan Guidelines 2021. <https://mofaga.gov.np/news-notice/2407>

¹⁴ National Planning Commission 2021. Guidelines for Local Level Planning 2021. <https://npc.gov.np/images/category/220106044450Guideline%20for%20LP%20Planning.pdf>

Local Emergency Operation Guideline, Local Disaster and Climate Risk Plan (LDCRP), Local Environment and Natural Resource Protection Act are a few of them.

Institutional Structures: Nepal established the National Disaster Risk Reduction and Management Authority (NDRRMA) in 2019 to coordinate, facilitate, operate and manage the country's DRRM activities. The DRRM National Council, the apex disaster risk management body, is chaired by the Rt. Honorable Prime Minister. The council provides strategic direction and approves disaster related policies and formulates strategies. The disaster body's Executive Committee (EC) looks after operational affairs including guidelines, plans and executive decisions and deliveries related to DRRM. The EC is chaired by the Honorable Home Minister. The EC coordinates with line ministries for formulation of DRRM policies and strategies. The NDRRMA is secretariat to both the National Council and the EC. Provincial and local government have their own disaster risk reduction management authorities to handle disasters and carry out disaster preparedness related activities at respective levels.

The National Platform for DRR (NPDRR) has been established with its operational guidelines to enhance the coordination among all the stakeholders of DRRM. The Chief Executive of the NDRRMA Chairs the National Platform. The platform has nine thematic groups involving various stakeholders – government, semi-government, UN and bilateral partners, international non-government organizations, national and local non-government organizations, media, disaster affected communities, academia and private sector.

To coordinate disaster preparedness and response activities, the GoN and respective agencies have built a network of Emergency Operation Centers (EOCs). The MoHA has National EOC and district EOC exists in all 77 districts. The Provincial governments have their Provincial EOCs and operate in coordination with national EOC and district EOCs. Some municipalities have also established EOCs. However, these EOCs need to be equipped with essential human resources and equipment. Additionally, Ministry of Health (MoH) has Health EOCs (HEOCs) across the country. These HEOCs played crucial role in containing COVID-19 pandemic. The GoN has established eight Humanitarian Staging Areas (HSA) in major air and land ports, and four humanitarian support base stations in strategic locations considering their geographic coverage. The government plans to expand these facilities across the country.

Risk integration and mainstreaming: The 15th plan (2019-2024) of GoN has recognized the need of multi-hazard risk information and integration and mainstreaming of DRRM across the sectors at federal, provincial and local level. Land Use Policy-2015 has been implemented with one of the key objectives to reduce and manage disaster risk that arise due to unplanned land use practices. The government is in the process of developing framework for risk sensitive land use planning as a guiding document for the local government to help them develop and deliver risk sensitive municipal development plans. The National DRR Policy and Strategic Action Plan have also stressed on Risk Informed Development.

The government is mapping and consolidating information from multi-hazard risk assessments countrywide such as landslide and flood risk mapping. Identification of risk exposed vulnerable settlements and social groups for relocation is ongoing. The government has initiated Structural Integrity Assessment (SIA) to ensure resilience of the physical infrastructures. Sectoral assessments including gender equality and social inclusion (GESI), vulnerability and risk assessment framework

for climate change has been developed that provides conceptual guidance to the practitioners for managing risk due to climate induced hazards.

The government is committed to make use of advanced technologies such as satellite imageries, remote sensing and GIS in disaster risk assessment. Use of drones in DRRM is recognized as potential technology for risk assessment and disaster response.

Risk communication and dissemination: Disaster Information Management System (DIMS) (<https://bipadportal.gov.np/>) is in place which provides real time information about hazards and disaster events, affected population and casualty. It supports all three tiers of government and stakeholders in sharing early warning information, risk mapping, response and emergency operations that help agencies to coordinate and carry out timely disaster management activities.

Nepal has established a good practice of communicating hydro-met hazards (<http://hydrology.gov.np/> and <http://mfd.gov.np/>). The systems provide real-time and three-day rolling information and warning of risk due to hydro-met hazards like rainfall and flood.

Nepal is promoting impact-based multi-hazard Early Warning System (EWS) to cover all hazards, simplifying risk communication to all media and all stakeholders and preparing to adopt Common Alert Protocol (CAP) aiming to increase lead-time for MHEWS. The EWS is supported by enforcement of real-time all hazards monitoring mechanisms through seismic stations, hydro-metrological stations, lightning detection centers, all the major glacier lakes monitoring and regular assessment.

The EOCs play vital roles in dissemination of emergency information for rescue and response at the time of disaster events.

The expanded mass media outreach, especially radio, TV and online news portal have contributed to produce and disseminate DRR content. Media's attention and investment is increasing to produce the content on DRR while paying attention to GESI considerations. A recent study indicates that there are 8,953 mass media outlets in Nepal. Of them, 4,789 are print media outlets, 880 FM radios, 164 TV channels and 3,120 online portals¹⁵. It shows there is a huge potentiality to increase the media's role to produce and disseminate quality and comprehensive DRR information.

The telecom companies namely Nepal Telecom and Ncell have been playing significant roles in disseminating flood warning and extreme weather alert information through SMS.

Nepal is developing risk communication strategy, and integration and localization of DIMS (bipadportal) for further enhancing the communication system.

3.3. Disaster Risk Reduction (DRR) Financing

The 15th periodic plan (2019/20 – 2023/24) also provisions for creating a budget line for DRRM. The plan directs to invest revenue from natural resources and increase public, private and community investment in DRRM. In line with 15th plan, Nepal produced and implemented the

¹⁵ Center for Media Research Nepal (2022). Media in Provinces in Nepal. Center for Media Research Nepal

National Strategy for Management of Disaster Risk Financing 2078 (2021). The financial strategy aims at mobilizing the fund for overall DRRM and has identified 15 strategic actions.

National Policy for Disaster Risk Reduction, 2018 aims at allocation of a certain percentage of annual budgets of federal, provincial and local governments in DRRM. It also lays the foundation for establishing disaster management fund at all three tiers of government. In line with the DRR Policy, the federal government has established a Disaster Management Fund of NPR 1 billion (USD 8 million).

Nepal allocates significant amount of annual budget in social security for the most vulnerable people including elderly citizens, elderly single women, Dalit children below 5 years, people with disabilities, marginalized and endangered communities¹⁶. Attempts have been made to expand the scope of social security benefits to address DRRM's needs of the beneficiaries.

Nepal has introduced and adopted risk transfer models and insurance mechanisms for risk financing. Over three dozens micro-insurance policies exist in the sectors of agriculture, livestock and health among others, which cover losses from disasters. Nepal responded to COVID-19 by introducing insurance policy schemes. Resources from Corporate Social Responsibility (CSR) have been mobilized to cover the DRRM cycle to increase public-private finance in DRRM. In addition, Nepal has initiated practice of cash-based assistance for DRRM.

The two telecom companies, Nepal Telecom and Ncell are providing the hydro-met warning message for free.

3.4. Disaster Response and Build Back Better

Nepal implemented earthquake reconstruction program by following principles of Build Back Better (BBB). The program adopted people centered and owners driven approach. Based on the learning from the 2015 Earthquake Damages Reconstruction Program, Nepal has produced frameworks, manuals and guidelines related to the BBB and reconstruction of private houses. Reconstruction Guidelines for multiple hazards have been developed. Nepal shared its approach on earthquake reconstruction by organizing “International Conference on Nepal’s Reconstruction (ICNR)” in December 2021.

The Ministry of Urban Development (MoUD) has taken several initiatives that include preparation of National Plan of Action for Safer Buildings, Guidelines and Procedures for the Safe Settlements and Integrated Settlement following the learning from the reconstruction program. The ministry has developed 185 Integrated Urban Development Plans (IUDP) to address the multi-hazard risk. The MoUD has also prepared National Urban Development Strategy (NUDS 2017), Safer Building Code, and Guidelines along with the necessary modifications in line with the BBB principles. The Safer Settlement Implementation Procedure, 2019 has been implemented in 73 districts out of 77 which has replaced 170,000 thatched roof houses. The National Building Code (Seismic Design NBC 105:2020) has been revised after 2015’s Gorkha Earthquake¹⁷.

¹⁶ Estimated expenditure for fiscal year 2078/89 (2021/2022). MoF, GoN 2078 (2021)

¹⁷ DPNNet (2022). Proceedings: Learning and sharing national conference on disaster risk reduction (NCDRR)

For effective response and build-back-better, Nepal has developed and implemented relevant policies and programmes, including Integrated Procedure for Grant to Disaster Affected Private Houses, Building Code Enforcement, and Development of Trauma Centers along major highways to respond health emergencies in case of road accidents. The NDRRMA coordinates reconstruction activities by managing multi-donor Reconstruction Trust Fund, JICA-Rural Recovery Project, World Bank (WB) supported Climate Adaptation and Resilience for South Asia (CARE) project and GCF supported project.

3.5. COVID-19 Recovery

The GoN promptly and strategically responded to COVID-19. Among the response measures, following three strategies are important.

- I. Focus on 10 pillars of response to COVID-19¹⁸.
- II. Adopt cluster approach to respond to COVID-19 with the support from the UN Nepal¹⁹. While all the clusters for humanitarian response were activated to the level they needed. The health cluster had an additional nine sub-clusters
- III. Response through budgetary mechanism. The government increased the Health Sector budget from 5.11% in fiscal year 2019/2020²⁰ to 7.8% in 2020/2021²¹. The total budget, however, was reduced by 3.8% in 2020/2021. The government also coordinated internationally to access international financial and technical supports.

With the strategic action points, the GoN performed the response competently with 98.8% recovery and limited the death at 1.2% (as of 6 May 2022).

Nepal has used Covishield, Vero Cell, Moderna, J&J and Pfizer vaccines. As of 6 May 2022, full dose of vaccine has been administered to 19,658,950 individuals and additional doses to 3,593,072 individuals.

Learning from COVID-19

Following are Nepal's learning from COVID-19^{22 23}

- The health sector preparedness was lacking for a pandemic like COVID-19. Disaster Preparedness and Response Plans (DPRP) prepared at national and sub-national levels focused primarily on recurrent health problems. The capacity to anticipate a pandemic like COVID-19 was inadequate. It is imperative to build a sustainable health emergency preparedness system to deal with pandemics as well.

¹⁸ MoHP. (2021). Responding to COVID-19: Health sector preparedness, response and lessons learnt. Ministry of Health and Population, Kathmandu

¹⁹ COVID-19 Nepal: Preparedness and Response Plan (CPRP), UN Nepal, Jan2021

²⁰ Budget Speech of Fiscal Year 2019/2020, Government of Nepal, Ministry of Finance, 2019

²¹ Budget Speech of Fiscal Year 2020/2021, Government of Nepal, Ministry of Finance, 2020

²² MoHP. (2021). Responding to COVID-19: Health sector preparedness, response and lessons learnt. Ministry of Health and Population, Kathmandu

²³ Nepal Human Development Report 2020. Beyond Graduation: Productive Transformation and Prosperity Government of Nepal, National Planning Commission, Singha Durbar, Kathmandu, Nepal

- The current investment for health facilities and capacity was inadequate to respond to the pandemic, impacts of which can cost higher compared to the investment. It is essential to invest in national health and research systems to enhance laboratory capacity and that of the workforce and boost up their morale.
- Joining hands with private sector is vital for their potential roles in finance, technology and supplies among others.
- Uniform and integrated data and reporting systems and its use played crucial roles. Management and sharing of real-time and right risk information to the right person by using advanced technology is of utmost need for community trust.
- Strong coordination among three tiers of government and community engagements are important and essential. Despite the existence of institutions in all levels, there is a need for a clear coordination mechanism. The local governments have played crucial roles to manage the holding centers and isolation camps to respond to COVID-19.
- International support for skill, technology and funding are vital. Social participation and collaborative approaches have helped the country to tackle the pandemic.
- Changes in personal behavior, such as hand-washing, wearing face masks, isolation and sanitization helped stem the tide of infections.
- Initially Nepal considered COVID-19 pandemic as a common health issue. As a result, Nepal missed to address the pandemic with a comprehensive disaster response right from the beginning.

3.6. SDGs and Climate Action

Disaster Risk Reduction National Policy (2018) has the long-term vision to contribute to Sustainable Development Goals by making the nation safer, climate adaptive and resilient to disasters. The policy has special focus on flood, inundation and drought resistant and climate change adaptive agricultural systems. Most DRRM actions aim to build resilience to climate induced disasters and adaptive capacity to climate change.

The Climate Change Policy (2019) has eight sectoral focuses and four cross-cutting focuses. Of them, DRRM is one. National Adaptation Plan (NAP) has been formulated in line with the policy to help integrate CCA and DRRM in practice. At the action level, NAP intends to promote shock responsive practices, multi-hazards EWS, development of federal and provincial strategies and action plans on mitigation of climate induced disasters, development of regulatory framework for domestic and industrial fire control and mitigation, and promote culture of safety and build climate resilience through land use planning²⁴. One of priorities of adaptation component of Nepal's Nationally Determine Contributions (NDC) 2020 is to establish multi-hazard monitoring and early warning system covering all the provinces by 2030²⁵.

At the local level, the local governments prepare integrated DRRM and climate change plan by using Local Disaster Risk Reduction and Climate Resilience Planning Guideline. The Local Disaster Preparedness and Response Plan (LDPRP) also address the issue of climate change in DRRM. Application of climate change risk assessment tools, methodologies and guidelines informs the climate risk to development programs from local to federal level.

²⁴ GoN, National Adaptation Plan (NAP) 2021-2050, Summary for Policymakers

²⁵ GoN, 2020. Second Nationally Determined Contributions (NDC). Government of Nepal, Kathmandu

Nepal's SDG targets for climate action focus on climate smart villages, climate smart farming, climate change education and GHG mitigation²⁶. It intends to integrate climate change measures into policies, strategies and planning to strengthen the resilience and adaptive capacity of people and stakeholders to natural and climate-related disasters.

Nepal's SDG target for poverty reduction has witnessed remarkable achievement. But it is challenged by disasters such as COVID 19²⁷ and the earthquake. Without addressing disaster and climate risk in all the targets, the SDG achievement will be strenuous. The federal government has prepared a resource book for localizing SDG, 2020²⁸ that helps the local governments assess the potentials while they deliver the SDG targets.

Under federalism, significant responsibilities have been delegated to local governments for development and disaster risk reduction. However, most development works at local level including road construction fail to meet prescribed standards²⁹. It is essential that the local governments rightly understand the risk of disaster to development, and they rightly address the issues at local level.

3.7. Leave No One Behind

Nepal's DRR policy and the subsequent DRR action plan provision the representation and meaningful participation of women, children, senior citizen, people with disabilities and people from economically and socially marginalized communities in all steps and structures of disaster risk reduction. The policy directs that the public physical infrastructure should be friendly to senior citizen, women, children and people with disabilities.

DRRM Act directs the responsible committees to prepare and deliver especial DRRM plan and program for vulnerable people including women, children, senior citizens, marginalized groups and communities, and people with disabilities.

The objective of having nine thematic groups in NPDRR is to ensure none of the stakeholders is excluded. The specific guidelines and procedures prepared for reconstruction and relief distributions during the post-disaster phase have developed criteria to identify and select the most vulnerable and the affected people and communities. The DRR finance strategy also ensures the access of most vulnerable communities to disaster insurance. The DRRM Act ensures engagement and involvement of experts from vulnerable groups while expert support and inputs are sought.

A stakeholders' network for LNOB has been formed and is active in advocating and promoting LNOB in the country.

4. Capacity Strengthening

Nepal aims to reduce disaster related deaths, injuries, affected families and increase resilience from local to national level by strengthening DRRM across the levels and sectors of the government,

²⁶ NPC, 2017. NEPAL Sustainable Development Goals, Status and Roadmap: 2016-2030. NPC, GoN

²⁷ NPC (2020). Nepal's Sustainable Development Goals Progress Assessment Report 2016–2019, NPC, GoN

²⁸ NPC 2077 (2020). Resource book for localizing SDGs, NPC/ GoN

²⁹ NPC, 2017. NEPAL Sustainable Development Goals, Status and Roadmap: 2016-2030. NPC, GoN

communities and private sectors through boosting resilience of whole of society.

Nepal is currently focusing on the capacity building of province and local level governments on DRRM that include technical, formulation of relevant policy and legal documents and mainstreaming and integrating DRRM in development plans and programs. Innovative approaches like the E-learning Platform are being promoted. Some specific training and capacity building activities include climate change risk assessment, training of rescue divers, drills and simulation training to district emergency operation centers (DEOCs), impact-based multi-hazard early warning system. All 753 local governments are expected to complete DRRM training via MOFAGA by 2022.

National capacities on DRRM need to adhere to the international standards. For example, UN accredits Search and Rescue (SAR) skills that meet its standards. For such skills, the government needs to collaborate with the international partners such as INSARAG (International Network for Search and Rescue Group). DRRM research and training program are the areas that need strengthening for effective delivery of DRRM objectives as envisioned by the DRRM policies and strategies.

For strengthening the capacity of both communities and stakeholders the GoN has been undertaking a number of capacity strengthening activities including following:

- Technology and Equipment for risk mapping, monitoring, early warning and disaster response
- Building local government capacity to DRRM
- Strengthening national DRRM Database
- DRRM in different levels of school curriculum
- Mock-drills and simulation exercises for different hazard induced disaster response
- Development of Search and Rescue (SAR) teams with SAR equipment as per INSARAG Standards
- Fire brigade with advance technologies including Robotic Fire Fighting
- National emergency logistic capacity – infrastructure, technology, equipment, and human resource
- Humanitarian Clusters to disaster response and recovery
- Strengthening indicator-based disaster resilience measurement tools – such as Flood Resilience Measurement for Communities (FRMC)

5. Challenges

Nepal's key challenges to deliver DRRM objectives include the following.

- I. The overall challenge for Nepal is to effectively deliver its DRRM strategic action plan and meet the targets within the stipulated timeline. Despite adoption of significant number of policies and strategies for DRRM, achieving targets is challenging. Local and provincial governments are comparatively new institutional set up and they require huge technical and human resources to take over DRRM responsibilities.
- II. National capacity to respond to mega disasters is not to the desired standard. Nepal responded and managed the recent mega disasters like 2015 earthquake, COVID-19, and

floods and landslides events, but with great efforts and support from all level of national and international partners and at the cost of development. Therefore, Nepal needs skills like SAR operations and others at par with the international standards.

- III. Nepal's capacity to anticipate mega disasters with high confidence and prepare for them is inadequate. Such mega disasters could be due to economic shocks, biological hazards, climate events, seismic or geological hazards. Our recent past experiences including from the COVID-19 event have given lessons like this.
- IV. Disasters in Nepal have regional and international linkages. It is very true for climate events as the air and the flood travel across the borders with cross-border impacts. There is a high need for regional coordination and collaboration to address the trans-border impacts of disaster. Regional weather and trans-border river monitoring and sharing of information are equally challenging.
- V. Financing DRRM is another challenge for Nepal. Firstly, the overall resources available to the government from its revenue are limited, and secondly, priority for financing DRRM is always secondary to the development, especially the infrastructure development programs.

6. Ways forward

For Nepal, the tasks ahead are to deliver the policies in action across the three tiers of government and stakeholders. Key areas of focus in the coming days for DRRM include the following.

- Nepal will focus on strengthening DRRM governance and technical capacity at federal, provincial and local levels. Working documents including guidelines for localizing national DRRM strategic action plans, multi-hazard risk assessment tools and methodologies, preparing risk sensitive development plans and embedding risk in investment decisions, etc. will be developed and adopted. The working document will ensure the inclusion of vulnerable communities and groups.
- NPDRR will be strengthened and the platform will be established at local levels to enhance the coordination between stakeholders at grassroots levels including engagement of vulnerable communities. NPDRR will enhance participation of development partners and vulnerable communities in programing and planning of DRRM and their delivery. The coordination across the tiers of government will be strengthened by developing and implementing guiding document in line with DRRM Act and Regulation.
- The disaster information management system (DIMS) initiated in 2019 will be fully strengthened, maintained, systematized and operationalized in all 753 local levels (nationwide) for real time data sharing. DIMS will ensure disintegrated information by social groups (gender, age, disadvantaged and marginalized groups, indigenous people, disability, etc.) in addition to hazards and impacts to different sectors at various levels in different geographical locations.

- Nepal will enhance and strengthen regional and global coordination and collaboration, especially with its immediate neighbors, China and India, with whom we share the regional climate change issues that are linked by air and water.
- International coordination will also be enhanced with UN and relevant partners for building national capacity to bring it to international standards as for example in SAR and accessing international funds for DRRM.
- Government will invest in DRRM research and education to build national capacity to enhance knowledge and skill on understanding risk. Assessment of multi-hazard disaster risk at national, provincial and local levels will be a focal area for providing risk information to the development programs.
- Nepal anticipates that the seventh GPDRR will provide solutions to enhance capacity of poor and vulnerable countries, robust strategies to manage unanticipated emergencies like COVID-19 and adverse impacts of climate change. We expect a separate international funding mechanism for DRRM under the UN System for the poor and the most vulnerable countries to help them achieve the SFDRR targets.
