



# Disaster Risk Management in Bhutan (2019-2023)

## *Greater resilience to natural disasters and climate change*

### Hazard and Capacity Overview

Bhutan is prone to natural disasters including earthquakes, floods, glacial lake outburst floods (GLOF), landslides and forest fires. In order to better prepare for disasters, the Royal Government of Bhutan (RGoB) has made substantial progress in Disaster Risk Management (DRM). The 2013 Disaster Management Act established the National Disaster Management Authority and Disaster Management Committees in all 20 dzongkhags (districts), and all dzongkhags have a Disaster Management Contingency Plan in place.

With the increased risk of multiple natural hazards in Bhutan, capacity strengthening of the national disaster management readiness with better coordination, upgraded data systems and increased awareness is a priority for the RGoB. Further, a disaster hitting Bhutan today, with the country in distress due to the COVID-19 pandemic, could have devastating impact on Bhutan and its people.

### COVID-19 Response

WFP works closely with the Department for Disaster Management (DDM) and government partners to support overall COVID-19 coordination and response and in the areas of food security and logistics. This includes preparing for future pandemics, the development of a National Food Security Emergency Action Plan and supporting the National Food Security Reserve securing food stocks for 6 months for the whole populations.

### Focus and Partners

The WFP Country Strategic Plan (CSP) 2019-2023 identifies enhancing resilience to natural disasters and climate change as a focus area with the CSP Strategic Outcome 2: "Government has strengthened capability to address food security and nutrition challenges and prepare for and respond to crises."

WFP Bhutan is the UN lead in Bhutan on DRM and assists the RGoB in five areas: governance and coordination, data preparedness, logistics, emergency telecommunications and food security. To carry out our support, WFP works in close partnership with the RGoB, the World Bank, JICA, UNICEF, UNDP, WHO, the De-Suung (Royal Civil Guard) and the Bhutan Red Cross Society. The following lists the key areas for WFP's support to develop stronger national

resilience to disasters and climate change over the period 2019-2023.

### Governance and Coordination

To enhance governance and coordination in DRM, WFP and the DDM have developed a Roadmap for Disaster Risk Management in Bhutan. The Roadmap, developed in 2019, sets out priority actions for the RGoB, UN agencies and other development partners to respond to identified gaps in DRM. The Roadmap has six focus areas: Disaster Awareness; Data Preparedness; Governance; Coordination; Resourcing; and Sector Preparedness. The Roadmap is currently being updated in light of the COVID-19 pandemic, and to reflect recent progress, in consultation with the DDM.

WFP and DDM will in early 2021 set up a National Disaster Management Coordination Committee with participation from DDM, ministries, government technical institutions, development partners and CSOs. The Committee will be the main coordination arm for DRM stakeholders in Bhutan and meet on a bi-monthly basis.

WFP also supports the DDM with the Disaster Management Contingency Plans (DMCPs) at national and district level in terms of understanding the current gaps and identifying areas for strengthening the implementation and use of DMCPs. WFP will work with DDM to introduce simplified user friendly DMCPs.

### Data Preparedness through the 72 Hours Rapid Assessment Approach

To strengthen data preparedness to disasters, WFP supports the RGoB in setting-up and implementing the "72 Hours Rapid Assessment Approach" to estimate the likely impact of a disaster and enable a response within that timeframe. The 72 Hours Approach provides critical information to immediately respond to disasters, based on the most recent information and on a database with pre-disaster vulnerability data such as demographics, poverty, food insecurity, and access to roads, health stations and schools.

This offers a solid basis to make operational decisions even in extremely complex situations with information being refined through continuous updates as new data

become available. The methodology is ranking affected areas based on geographic impact and population vulnerability by overlaying information on to Spatial Data Infrastructure.

### Earthquake Impact Assessment Modelling

To further strengthen data preparedness, WFP partnered with Durham and Newcastle Universities to develop an assessment model of earthquakes in Bhutan.

The modelling was completed in March 2020 and presented quantifiable potential earthquake impacts in terms of fatalities, injuries and displaced persons in Bhutan's districts in 110 possible scenarios. Populations living in the Himalayan region are the most at-risk to earthquake disasters globally. In the worst-case, an earthquake with the magnitude of 8.5 occurring in Bhutan may result in approximately 9,000 fatalities, 10,000 people with serious injuries and 45,000 people displaced nationally. There are 5 different scenarios in which more than 5,000 fatalities occur nationally.



Caption: A house damaged by an Earthquake in Bhutan

DDM and WFP Bhutan held a workshop in November 2020 with national partners to identify earthquake preparedness and mitigation measures across 8 clusters, namely Public Order, Food Security, Health, Logistics, WASH, Housing, Emergency Telecommunications, Power and Energy. Measures such as reinforcing buildings - and prepositioning of water, food and medicine to remote areas - to save lives and livelihoods and build stronger national earthquake resilience were identified and will be further elaborated by sectors and tested through a Functional Simulation Exercise in 2021.

### Glacial Lakes Outburst Flood Research

According to climate projections, the mean annual temperature in Bhutan will increase by 0.8 degrees Celsius by 2039. This will increase the risk of climate change related disasters, such as GLOFs, with the potential to undermine the country's resilience and ability to safeguard lives, livelihoods and development progress.

The third data preparedness component is a partnership with Newcastle University on the impact of GLOFs. With 2,674 glacial lakes in Bhutan, GLOFs occur relatively regularly causing both casualties and infrastructural damage. Thus, the project seeks to quantify potential triggers, and subsequently undertake numerical modelling to translate GLOF hazards to downstream flood risk. Bhutan is particularly vulnerable to GLOFs, as the population and hydropower infrastructure are concentrated in the main river valleys. This

research project will provide vital information to support early warning and prevention activities and will further feed into the 72 Hours Rapid Assessment Approach.

### Logistics

WFP supports logistics preparedness and capacity strengthening in Bhutan. In collaboration with government partners, WFP will develop a Strategic Logistics Capacity Strengthening Plan, based on capacity needs mapping of the national humanitarian supply chain. This will be complemented by setting up a National Logistic Cluster to support Bhutanese authorities to increasingly engage and contribute to enhanced coordination in logistics.

Further, WFP is providing technical guidance to enable the RGoB and partners to quickly respond to various type of disasters through strengthening the logistics desk to address storage, handling and transportation during emergencies. Recognizing the immediate needs in storage systems for food and emergency supplies during the COVID-19 pandemic, WFP has provided DDM with 8 mobile storage units. WFP also assists DDM in establishing a humanitarian staging area and potential regional hubs that could be utilized as organized infrastructure for emergency response.

### Emergency Telecommunications

Through WFP's leadership of the Emergency Telecommunication (ETC) Working Group, WFP is working with partners to further strengthen sector ETC. WFP conducted an Information and Communications Technology Capacity Assessment to identify priority actions to ensure the continuity of telecommunications activities during an emergency. Based on this, WFP, the RGoB and development partners drafted an ETC preparedness and response action plan to enhance coordination and capacities in ETC. WFP will develop a Strategic Emergency Telecommunication Capacity Strengthening Plan to enhance capacities of national partners.

### Food Security

WFP supports the RGoB on food security preparedness and response during the COVID-19 pandemic. This includes assistance to the development of a National Food Security Emergency Action Plan for COVID-19 and development of SOPs for targeting and food distribution. Further, WFP is providing assistance to the RGoB and private partners on food safety and quality management under the National Food Security Reserve, with development of national guidance - and delivering training - for food safety and quality management at the warehouse, transportation and at retailers level; running social media awareness campaigns; and providing financial assistance as well as infrastructure support.

To increase coordination among the food security partners, WFP will set-up a food security cluster in 2021 with government and development partners. Further, WFP also assists the RGoB to understand the effects of climate change on food security using WFP's Consolidated Livelihood Exercise for Analysing Resilience (CLEAR).

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