SAVING LIVES
CHANGING LIVES

WFP's Assistance to Disaster Risk Reduction in Bhutan (2019-2023)

Greater resilience to natural disasters and climate change

Hazard and Capacity Overview

Bhutan is prone to hazards like earthquakes, floods, glacial lake outburst floods (GLOF), landslides and forest fires. To be better prepared for disasters, the Royal Government of Bhutan (RGoB) has made substantial progress in Disaster Risk Reduction (DRR). The 2013 Disaster Management Act established the National Disaster Management Authority and Disaster Management Committees in all 20 districts. All districts now have a Disaster Management Contingency Plan (DMCP) in place.

With the country facing increased risks of multiple natural hazards, capacity strengthening of the national disaster management in terms of readiness and coordination, upgraded data systems and increased awareness are a priority for the RGoB. A disaster hitting Bhutan today, as the country faces the socio-economic pressure of COVID-19, could have devastating impacts on the country 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 in the areas of food security and logistics. This includes capacity support to the frontliners, preparing for future pandemics, and supporting the National Food Security Reserve in securing food stocks for six months for the whole population.

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 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 on DRR and supports DRR coordination for development partners through regular DRR sector meetings and knowledge sharing platforms. WFP supports the RGoB in DRR in five areas of governance and coordination, data preparedness, logistics, emergency telecommunications, and food security. WFP works in partnership with the Department of Disaster Management (DDM), Ministry of Agriculture and Forests (MoAF), RGoB, World Bank, JICA, UNICEF, UNDP and WHO. 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 DRR, WFP and DDM in consultation with relevant government stakeholders are completing the Roadmap for Disaster Risk Management 2022-2026 in Bhutan. It covers Bhutan's hazard profile, national preparedness level and actions to strengthen the RGoB's DRR framework, systems, institutional coordination and mainstreaming DRR in development planning, budgeting and implementation for enhancing national disaster preparedness and response capacity in the country.

WFP assists the RGoB and development partners in conducting national and regional multi-hazard simulation exercises to enhance national coordination and capacity to respond to multiple disasters and emergencies. We assist DDM with Disaster Management Contingency Plans (DMCPs), at the national and district levels, to understand current gaps, identify areas for strengthening implementation and use of DMCPs, and strengthen capacity and technical skills of disaster management officers.

WFP supports immediate capacity gaps in emergency mobility and communication, by strengthening the coordination capacity and communication platforms of frontliners. This includes equipping response hubs in the capital city with adequate communication material and developing clear Standard Operating Procedures for effective disaster response.

Data Preparedness through the 72-Hour Approach, Digital Vulnerability Database and PRISM

To strengthen data preparedness for disaster risk reduction, WFP continues to support the RGoB in setting-up and implementing the 72-Hour Rapid Assessment Approach and building the Digital Vulnerability Database. This will help estimate the likely impact of a disaster and enable a response within 72 hours.

The 72-Hour Approach provides critical information to immediately respond to disasters, based on a pre-disaster vulnerability database with data on demographics, poverty, food insecurity, access to roads, health stations and schools, combined with data from the actual disaster event. This offers a basis to make operational decisions even in extremely complex situations, with information being refined through continuous updates.

The 72-Hour Approach ranks affected areas based on the geographic impact and population vulnerability using overlay models, and produces reports with recommendations for sector response to the disaster every 12 hours after the disaster event. WFP has started engaging with DDM on upgrading the 72-Hour Approach through the Platform for Real-time Impact and Situation Monitoring (PRISM).

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PRISM automatizes the 72-Hour approach and pulls information from existing information systems and overlays information from satellites, drones and other data systems to enhance the understanding of a disaster impact and facilitate a rapid lifesaving response. The automatization will provide more comprehensive and granular impact data for more targeted and faster disaster responses.

Drone technology and remote sensing

WFP corporately uses drones for data collection, cargo delivery and connectivity and is working on several projects to integrate machine learning with drone technology. As part of WFP's capacity strengthening assistance to governments, WFP will in early 2022 train government agencies and development partners in the use of drones for DRR and climate change monitoring. It will cover subjects like drone technology, use of drones for impact assessment and mapping including glacial mapping, data analysis and image processing, drone policies and regulations, and drone flying. WFP handed over a drone to the National Land Commission Secretariat of Bhutan, to support Early Warning System strengthening through topographical areas surveying and remote sensing.

Disability inclusion in disaster response

WFP is in the process of technically strengthening the capacity of the Government in this area.

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.

A house damaged by earthquake in Bhutan

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

DDM and WFP are working with national partners to identify earthquake preparedness and mitigation measures across eight clusters of 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. It will be further elaborated by sectors and tested through a multiple hazard disaster simulation exercise in May 2022. In line with this, WFP will also train DDM and relevant government officials in carrying out simulation exercises.

Glacial Lakes Outburst Flood Research

According to climate projections, the mean annual temperature in Bhutan will increase by 0.8 – 1°C by 2039 from 2010. 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.

WFP has partnered with Newcastle University on GLOF modelling for early warning. With 567 glacial lakes in Bhutan, the probability of GLOF occurrence in Bhutan is high. 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 downstream. This research project will provide vital information to support early warning and prevention activities and will further feed into the 72-Hour Approach and Digital Vulnerability Database.

Logistics

WFP supports logistics preparedness capacity strengthening in Bhutan. In partnership with the RGoB and development partners, WFP conducted a gap analysis and capacity needs mapping to improve logistics preparedness, and co-led the development of a National Logistics Preparedness Action Plan. The Action Plan will support Bhutanese authorities operationalise the existing logistics coordination mechanism and contribute to enhanced emergency logistics readiness.

Furthermore, WFP is providing technical guidance to enable the RGoB and partners to swiftly respond to various type of disasters by strengthening the ministries' logistics desks to address storage, handling and transportation during emergencies. Recognising the immediate needs in storage systems for food and emergency supplies during the COVID-19 pandemic, WFP has so far provided DDM with eight mobile storage units, augmenting storage capacity by approximately 4,000 MT, and is currently securing containers for the DDM to store search and rescue equipment.

WFP also assists DDM in establishing a humanitarian staging area and potential regional hubs that can be utilised as a strategically located infrastructure for emergency response. WFP and relevant government partners are in the process of conducting a joint Logistics Capacity Assessment. This will enable collection of information and validate availability of logistics infrastructures during emergency response and widen the coverage of logistics partners' information across the country.

Emergency Telecommunications

Through leadership in the Emergency Telecommunication (ETC) Working Group, WFP is working with partners to further strengthen the ETC sector. 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.

Food Security

WFP supports the RGoB on food security preparedness and response during the 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 supporting the RGoB and private partners on food safety and quality management under the National Food Security Reserve. It is also supporting development of national guidance, training for food safety and quality management at the warehouse, transportation at retailor level, carrying out advocacy and awareness campaigns on social media, and providing financial assistance and infrastructure support.

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

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