

REDUCING MULTI-HAZARD RISKS ACROSS TAJIKISTAN

Protecting Communities Through Quality Infrastructure

AT A GLANCE

Country Tajikistan

Risks Seismic and hydrometeorological risks to critical infrastructure

Area of Engagement Promoting resilient infrastructure

In Tajikistan, the Government is investing in improving infrastructure to connect communities, improve economic outcomes, and achieve a more resilient future for its citizens.

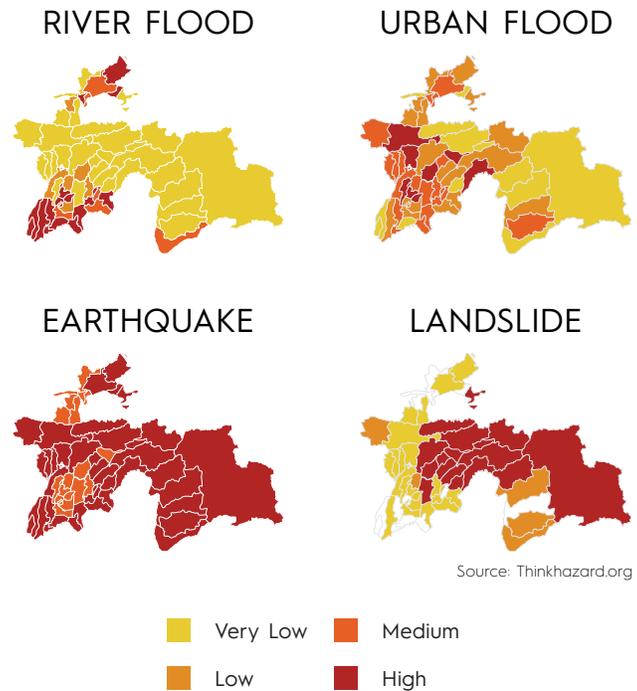
A HAZARDOUS LANDSCAPE

Tajikistan's steep mountainous terrain make it highly susceptible to many natural hazards, including earthquakes, floods, landslides, and avalanches. Shocks like these are a recurring obstacle to sustainable development and put at risk more than 15 years of poverty reduction efforts. From 1992 to 2016, natural disasters affected 7 million people in Tajikistan – more than 80 percent of the total population – and caused economic losses worth \$1.8 billion.

Climate change is exacerbating Tajikistan's vulnerabilities, given that 30% of glaciers are predicted to disappear by 2050. Tajikistan also remains one of the most isolated countries in the world – a situation made worse by landslides, debris flows and floods that can render bridges unsafe and roads impassable and, through time, weaken the flood defenses which protect its most exposed communities. Over and above this chronic challenge is the threat of rare but potentially devastating earthquakes, with more than 60% of the country located in zones of high seismic risk.

To secure a resilient future for the country, it is critical that the Government protect communities and livelihoods through safer, more reliable transport networks and flood defense, and strengthened emergency services.

Hazard levels in Tajikistan, by district



FROM DISASTER TO A STRATEGY FOR RESILIENCE

In 2015, a destructive earthquake led to landslide debris flow in the Gorno-Badakhshan Autonomous Region (GBO) of Tajikistan. The Global Facility for Disaster Reduction and Recovery (GFDRR) and the World Bank partnered with the Government of the Republic of Tajikistan, and its key institutions (Ministry of Finance, Committee of Emergency Situations and Civil Defense, Agency for Land Reclamation and Irrigation, Ministry of Transport and others) to:

- ▶ Undertake a rapid risk assessment;

- ▶ Provide guidance for establishing an emergency management plan and restoring transport links; and
- ▶ Initiate a \$1.2 million technical assistance program to promote risk-informed infrastructure development and to strengthen the capacity of emergency preparedness.

These recommendations formed the foundation for a \$50 million World Bank investment program to reinforce Tajikistan's adaptive capabilities by strengthening critical infrastructure assets in some of the country's most remote areas, and enhance wider preparedness measures, including an overhaul of its national emergency response services. It is estimated that this investment will directly benefit 650,000 citizens (8% of Tajikistan's population).

LESSONS LEARNED

Risk-informed design of critical infrastructure in hazard-prone areas is essential for sustainable development.

Tajikistan's infrastructure is gradually deteriorating as a result of insufficient maintenance and repeated exposure to natural hazards. An important objective is to blend hazard information and climate change scenarios with local knowledge in the design of newly constructed and/or rehabilitated infrastructure assets to improve resilience overtime.

Community engagement with public works maximizes ownership and reduces the risk of infrastructure failure.

In Tajikistan, the Khashar – a tradition of community-level mobilization – encourages communities to get together and contribute through voluntary labor to local infrastructure projects, such as bridge repairs or cleanup of irrigation canals. To optimize the sustainability of investments and encourage bottom-up maintenance, this program will engage with local stakeholders and promote inclusive action through the Khashar mobilization mechanism.



Improved services for
650,000
citizens

TRADE AND CONNECTIVITY REINFORCED

Rapid risk assessment and extensive consultations enabled government to prioritize risk reduction measures, ensuring improved connectivity and trade from Tajikistan's poorest and most isolated area, Gorno-Badakhshan Autonomous Oblast (GBAO), to Dushanbe. Restoration of the international M41 route, which connects Dushanbe with China (one of Tajikistan's major trading partners) will stimulate longer term economic growth and related poverty reduction efforts in remote areas.

IMPROVED RISK INFORMATION

In mountainous areas, hazard scenarios and potential climate change effects were directly incorporated into engineering designs of 18 bridges to increase the span and deepen their foundations to boost resistance to future debris impacts.

RIVER FLOOD RISKS MITIGATED

To improve river flow in downstream areas in the Khatlon Region, selected dykes and river embankments will be reconstructed and/or reinforced. This will improve household safety, prevent erosion and reduce disruption to the agricultural activities that are critical for 63% of the country's population.

"This project is a good illustration of how Tajikistan can simultaneously reduce disaster risks while preserving development gains."

-- Mr. Abdusalom Qurboniyon, Minister of Finance, Republic of Tajikistan.