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Report No: PAD4717

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED GRANT

IN THE AMOUNT OF SDR35.8 MILLION
(US\$50 MILLION EQUIVALENT)

TO THE

REPUBLIC OF TAJIKISTAN

FOR A

TAJIKISTAN PREPAREDNESS AND RESILIENCE TO DISASTERS PROJECT

February 25, 2022

Urban, Resilience and Land Global Practice
Europe and Central Asia Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective December 31, 2021)

Currency Unit =

TJS 11.2995 = US\$1

US\$1.39959 = SDR 1

FISCAL YEAR

January 1 - December 31

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ABBREVIATIONS AND ACRONYMS

| | |
|--------|---|
| AAL | Average Annual Loss |
| ACTED | Agency for Technical Cooperation and Development |
| ADB | Asian Development Bank |
| ADPC | Asian Disaster Preparedness Center |
| AKAH | Aga Khan Agency for Habitat |
| BCR | Benefit-Cost Ratio |
| CAHMP | Central Asia Hydrometeorology Modernization Project |
| CAPEX | Capital Expenditures |
| CARs | Central Asia Road Links Program |
| CE | Citizen Engagement |
| CERC | Contingent Emergency Response Component |
| CoAC | Committee on Architecture and Construction |
| CoESCD | Committee of Emergency Situations and Civil Defense |
| DCC | Development Coordination Council |
| DFIL | Disbursement and Financial Information Letter |
| DPO | Development Policy Operation |
| DRFI | Disaster Risk Finance and Insurance |
| DRM | Disaster Risk Management |
| DRR | Disaster Risk Reduction |
| E&S | Environmental and Social |
| ESCP | Environmental and Social Commitment Plan |
| ESF | Environmental and Social Framework |
| ESMF | Environmental and Social Management Framework |
| ESS | Environmental and Social Standards |
| ESU | Environmental and Social Unit |
| EU | European Union |
| EWS | Early Warning Systems |
| FA | Financing Agreement |
| FHRC | Flood Hazard Research Center |
| FM | Financial Management |
| FGD | Focus Group Discussion |
| GBAO | Gorno-Badakhshan Autonomous Oblast |
| GDP | Gross Domestic Product |
| GEM | Global Earthquake Model |
| GFDRR | Global Facility for Disaster Reduction and Recovery |
| GHG | Greenhouse Gas |
| GIZ | German Agency for International Cooperation |
| GLOF | Glacial Lake Outburst Flood |
| GNI | Gross National Income |
| GoRT | Government of the Republic of Tajikistan |
| GRID | Green, Inclusive and Resilient Development |
| GRM | Grievance Redress Mechanism |
| HF/SSB | High Frequency / Single Sideband (radio) |

| | |
|---------|--|
| IA | Implementing Agency |
| IAASB | International Auditing and Assurance Standards Board |
| ICT | Information and Communications Technology |
| IDA | International Development Association |
| IFR | Interim un-audited Financial Report |
| IGEES | Institute of Geology, Earthquake Engineering and Seismology |
| INDC | Intended Nationally Determined Contributions |
| INSARAG | International Search and Rescue Advisory Group |
| IPSASB | International Public Sector Accounting Standards Board |
| IRATA | Industrial Rope Access Trade Association |
| IRR | Internal Rate of Return |
| ISA | International Standards on Auditing |
| ISM | Implementation Support Mission |
| JAMBI | Jamoat Basic Indicators |
| JICA | Japan International Cooperation Agency |
| LMP | Labor Management Procedures |
| MCCV | Mobile Command and Control Vehicle |
| MoES | Ministry of Education and Science |
| MoF | Ministry of Finance |
| MoT | Ministry of Transport |
| NCMC | National Crisis Management Center |
| ND-GAIN | Notre Dame-Global Adaptation Index |
| NGO | Non-Governmental Organization |
| NPV | Net Present Value |
| OPEX | Operational Expenditures |
| OSCE | Organization for Security and Cooperation in Europe |
| PBA | Performance Based-Allocation |
| PIG | Project Implementation Group |
| PIU | Project Implementation Unit |
| POM | Project Operational Manual |
| PP | Procurement Plan |
| PPSD | Project Procurement Strategy for Development |
| RCMC | Regional Crisis Management Center |
| RCP | Representative Concentration Pathway |
| REACT | Rapid Emergency Assessment and Coordination Team |
| RPF | Resettlement Policy Framework |
| RRS | Regions under Republican Subordination |
| SAR | Search and Rescue |
| SCES | State Commission on Emergency Situations |
| SCINHP | Strengthening Critical Infrastructure against Natural Hazards Project |
| SDC | Swiss Agency for Development and Cooperation |
| SDGs | Sustainable Development Goals |
| SEA | Sexual Exploitation and Abuse |
| SEP | Stakeholder Engagement Plan |
| SFRARR | Strengthening Financial Resilience and Accelerating Risk Reduction in Central Asia Program |
| SH | Sexual Harassment |

| | |
|--------|---|
| SME | Small and Medium Enterprises |
| STEP | Systematic Tracking of Exchanges in Procurement |
| TOR | Terms of Reference |
| UNDB | United Nations Development Business |
| UNDP | United Nations Development Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UNHCR | United Nations High Commissioner for Refugees |
| UNICEF | United Nations Children's Fund |
| VHF | Very High Frequency (radio) |
| WBG | World Bank Group |
| WFP | World Food Programme |
| WHR | Window for Host Communities and Refugees |

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DATASHEET

BASIC INFORMATION

| | | | |
|--------------|---|--|---|
| Country(ies) | Project Name | | |
| Tajikistan | Tajikistan Preparedness and Resilience to Disasters Project | | |
| Project ID | Financing Instrument | Environmental and Social Risk Classification | Process |
| P177779 | Investment Project Financing | Moderate | Urgent Need or Capacity Constraints (FCC) |

Financing & Implementation Modalities

| | |
|---|--|
| <input type="checkbox"/> Multiphase Programmatic Approach (MPA) | <input checked="" type="checkbox"/> Contingent Emergency Response Component (CERC) |
| <input type="checkbox"/> Series of Projects (SOP) | <input type="checkbox"/> Fragile State(s) |
| <input type="checkbox"/> Performance-Based Conditions (PBCs) | <input type="checkbox"/> Small State(s) |
| <input type="checkbox"/> Financial Intermediaries (FI) | <input type="checkbox"/> Fragile within a non-fragile Country |
| <input type="checkbox"/> Project-Based Guarantee | <input type="checkbox"/> Conflict |
| <input type="checkbox"/> Deferred Drawdown | <input checked="" type="checkbox"/> Responding to Natural or Man-made Disaster |
| <input type="checkbox"/> Alternate Procurement Arrangements (APA) | <input type="checkbox"/> Hands-on Enhanced Implementation Support (HEIS) |

| | |
|------------------------|-----------------------|
| Expected Approval Date | Expected Closing Date |
| 17-Mar-2022 | 31-Mar-2027 |

Bank/IFC Collaboration

No

Proposed Development Objective(s)

(a) To support disaster recovery, strengthen the resilience of critical roads, and enhance disaster risk management capacity; and (b) in the case of an Eligible Crisis or Emergency, respond promptly and effectively to it.



Components

| Component Name | Cost (US\$, millions) |
|--|-----------------------|
| Component 1: Building Road Resilience | 26.00 |
| Component 2: Strengthening Disaster Risk Management Capacity | 22.00 |
| Component 3: Project Management | 2.00 |
| Component 4: Contingent Emergency Response Component (CERC) | 0.00 |

Organizations

Borrower: Republic of Tajikistan

Implementing Agency: Committee of Emergency Situations and Civil Defense
 Ministry of Transport
 Ministry of Finance

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

| | |
|---------------------------|-------|
| Total Project Cost | 50.00 |
| Total Financing | 50.00 |
| of which IBRD/IDA | 50.00 |
| Financing Gap | 0.00 |

DETAILS

World Bank Group Financing

| | |
|---|-------|
| International Development Association (IDA) | 50.00 |
| IDA Grant | 50.00 |

IDA Resources (in US\$, Millions)

| | Credit Amount | Grant Amount | Guarantee Amount | Total Amount |
|-------------------|---------------|--------------|------------------|--------------|
| Tajikistan | 0.00 | 50.00 | 0.00 | 50.00 |



| | | | | |
|--------------|-------------|--------------|-------------|--------------|
| National PBA | 0.00 | 50.00 | 0.00 | 50.00 |
| Total | 0.00 | 50.00 | 0.00 | 50.00 |

Expected Disbursements (in US\$, Millions)

| WB Fiscal Year | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
|----------------|------|------|------|-------|-------|-------|-------|
| Annual | 0.27 | 2.86 | 4.36 | 7.28 | 13.04 | 16.48 | 5.71 |
| Cumulative | 0.27 | 3.14 | 7.49 | 14.77 | 27.81 | 44.29 | 50.00 |

INSTITUTIONAL DATA

Practice Area (Lead)

Urban, Resilience and Land

Contributing Practice Areas

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

| Risk Category | Rating |
|---|---------------|
| 1. Political and Governance | ● Moderate |
| 2. Macroeconomic | ● Low |
| 3. Sector Strategies and Policies | ● Moderate |
| 4. Technical Design of Project or Program | ● Moderate |
| 5. Institutional Capacity for Implementation and Sustainability | ● Substantial |
| 6. Fiduciary | ● Moderate |
| 7. Environment and Social | ● Moderate |
| 8. Stakeholders | ● Moderate |
| 9. Other | |
| 10. Overall | ● Moderate |



COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

Yes No

Does the project require any waivers of Bank policies?

Yes No

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

| E & S Standards | Relevance |
|---|------------------------|
| Assessment and Management of Environmental and Social Risks and Impacts | Relevant |
| Stakeholder Engagement and Information Disclosure | Relevant |
| Labor and Working Conditions | Relevant |
| Resource Efficiency and Pollution Prevention and Management | Relevant |
| Community Health and Safety | Relevant |
| Land Acquisition, Restrictions on Land Use and Involuntary Resettlement | Relevant |
| Biodiversity Conservation and Sustainable Management of Living Natural Resources | Not Currently Relevant |
| Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities | Not Currently Relevant |
| Cultural Heritage | Not Currently Relevant |
| Financial Intermediaries | Not Currently Relevant |

NOTE: For further information regarding the World Bank’s due diligence assessment of the Project’s potential environmental and social risks and impacts, please refer to the Project’s Appraisal Environmental and Social Review Summary (ESRS).

Legal Covenants

Sections and Description



In accordance with Section I.A.1.a of Schedule 2 of the Financing Agreement, the Recipient shall no later than two (2) months after the Effective Date establish and thereafter maintain, throughout Project implementation:

(i) a Project implementation unit within the MOF (“MOF PIU”) with composition, resources and terms of reference acceptable to the Association, and with the following functions, as more fully described in the POM: (A) lead the overall supervision and coordination of Project implementation; (B) combine financial management, monitoring and reporting requirements; and (C) execute of Parts 2.1, 2.4, 2.5, 3 and 4 of the Project, with technical inputs and supervision from relevant agencies such as IGEES, the CoESCD, the Recipient’s Committee of Architecture and Construction (“CoAC”) and relevant departments within the MOF; and

(ii) a Project implementation group within the MOT (“MOT PIG”) with composition, resources and terms of reference acceptable to the Association, responsible for the execution of Part 1 of the Project and the related aspects of Project management under Part 3 of the Project; and

Sections and Description

In accordance with Section I.A.1.b of Schedule 2 of the Financing Agreement, the Recipient shall no later than three (3) months after the Effective Date, establish and thereafter maintain, throughout Project implementation, a unit within the CoESCD (“CoESCD PIU”) with composition, resources and terms of reference acceptable to the Association, responsible for the execution of Parts 2.2 and 2.3 of the Project, and the related aspects of Project management under Part 3 of the Project.

Sections and Description

The Recipient shall carry out the Project in accordance with the Implementation Arrangements set out in Section I, Schedule 2 of the Financing Agreement.

Conditions

| Type | Financing source | Description |
|---------------|------------------|---|
| Effectiveness | IBRD/IDA | The Recipient, through the MOF PIU, the CoESCD PIU, and the MOT PIG has adopted the POM, in form and substance satisfactory to the Association. |
| Disbursement | IBRD/IDA | <p>Description</p> <p>For Emergency Expenditures under Category 3, unless and until all of the following conditions have been met in respect of said expenditures:</p> <ul style="list-style-type: none"> (i) the Recipient has determined that an Eligible Crisis or Emergency has occurred, and has furnished to the Association a request to withdraw Financing amounts under Category 3; (ii) the Association has agreed with such determination, accepted said request, and notified the Recipient thereof; and (iii) the Recipient has adopted the CERC Manual and Emergency |



| | | |
|--|--|---|
| | | Action Plan, in form and substance acceptable to the Association. |
|--|--|---|



I. STRATEGIC CONTEXT

A. Country Context

1. **Between May – July 2021, a series of extreme rainfall events, coupled with significant snowmelt, led to floods and mudflows in several cities and districts in the regions of Khatlon, Soghd and Districts of Republican Subordination.** The most significant impacts were experienced in the Khatlon region during torrential rains from May 6-14, 2021, with significant damages and losses in Kulob City and the Vakhsh, Jomi, Vose, Shasiddin Shohin, Yovon, Dusti, Muminobod, Kushoniyon, Danghara, Farkhor and Khuroson Districts¹. At least seven people were killed and about 18,000 people and over 2,500 households affected. The Government of the Republic of Tajikistan (GoRT) estimates that over 2,700 hectares (ha) of crops were destroyed (agricultural lands and kitchen gardens), over 1,300 cattle were lost, approximately 165 km of roads (main and subsidiary) and many kilometers of irrigation and mudflow diversion channels were damaged, access to safe drinking was interrupted for 14,000 people, and education services were disrupted in 7 schools affecting 6,504 children. The GoRT estimated total damages of US\$9 million, which is likely an underestimation. Disasters of this magnitude, while devastating to those directly affected, are not infrequent in Tajikistan.

2. **In parallel, the COVID-19 pandemic has caused a major economic slowdown in Tajikistan, disproportionately impacting the poor.** Real gross domestic product (GDP) growth slowed to 4.5 percent in 2020, compared to 7.5 percent in 2019. The pandemic also had a negative effect on already low foreign direct investment (FDI), which fell by over 70 percent or 1.8 percent of GDP, in the first half of 2020. Restrictions on labor mobility and economic activity at home and abroad resulted in low migrant remittances (6.3 percent lower on a year-to-year basis), weaker consumer demand, and reduced investments.² A growing share of the population reported reducing their household expenditures, including food consumption (33 percent in August 2021 versus 28 percent in August 2020), and as a result, poverty in 2020 is estimated to have increased to 26.5 percent, reversing the past declining trend.^{3,4} Disposable incomes of consumers dropped, and they are projected to recover slowly, in contrast to many developed countries where excess savings⁵ resulting from lower spending during COVID-19, coupled with government support, are anticipated to drive growth in 2021-2022.

3. **While Tajikistan's economy has started to rebound from the COVID-19-caused slowdown, sustained recovery depends on the pace of vaccination rollout and the resilience of the global economy⁶.** Tajikistan's GDP grew at an annual rate of 8.7 percent in the first half of 2021, supported by the export of precious metals and increased inflows of remittances. Overall, GDP growth is projected at 6 percent in 2021, subject to improved global trade and opportunities for migrants to return to the Russian Federation. Remittances and foreign investment are also projected to rise, reflecting a better growth outlook in Russia and China. At the same time, the county's economic outlook hinges on the availability of vaccines, the pace of vaccination, and the resilience of the global economy in the face of new waves of pandemic. In response to the pandemic, the GoRT developed action plans on *Country Preparedness and Response*⁷ and on *Preventing*

¹ REACT (2021). *REACT Response Plan: Khatlon Mudflows, Tajikistan*. Rapid Emergency Assessment and Coordination Team, June 15, 2021.

² World Bank (2020). *Tajikistan: Economic Slowdown Amid the Pandemic*. Country Economic Update Fall 2020. Washington, D.C.

³ Under the lower-middle-income poverty rate (US\$3.2 in 2011 purchasing power parity), poverty in Tajikistan declined from 15.8 percent in 2017 to 12.7 percent in 2019. In 2020 it is projected to increase to 12.9 percent. See World Bank (2020). *Tajikistan: Economic Slowdown Amid the Pandemic*. Country Economic Update Fall 2020. Washington, D.C.

⁴ <https://www.worldbank.org/en/news/infographic/2021/10/15/poverty-in-tajikistan-2021>

⁵ The excess savings during the first nine months of 2020 are estimated to have ranged from 2.5 percent of GDP in Germany to more than 6 percent in the United States. The Economist (2021). *The World Economy: The US\$3 trillion Question*. March 13, 2021.

⁶ World Bank (2021). *Macro Poverty Outlook for Europe and Central Asia*, Oct. 2021, Washington, DC: World Bank.

⁷ Republic of Tajikistan (2020). *Tajikistan COVID-19 Country Preparedness and Response Plan*. Dushanbe, Tajikistan.



and Reducing the National Economy's Exposure. The first focuses on health and social aspects; the second on food security, resilient livelihoods, institutions, and job creation. The response plans include significant funding increases for healthcare, social assistance, private sector tax relief, and public sector wages and pensions, as well as postponing municipal power and water tariff increases.

4. **Such compound shocks are exacerbated by Tajikistan's continued economic vulnerability.** While between 2000 and 2018 the poverty rate fell from 83 percent of the population to 27.4 percent, the economy grew at an average rate of 7 percent per year, and per capita real income and GDP approximately doubled⁸, the GoRT estimates that about 26.3 percent of the population remain poor (2019), 80 percent of which live in rural areas. A Gross National Income (GNI) per capita of US\$1,060 in 2020 makes Tajikistan a lower-middle income country. With more than 25 percent of households having at least one labor migrant, Tajikistan is one of the world's most remittance-dependent countries⁹. The country has a young population of about 9.5 million, of which more than 70 percent live in rural areas. Social vulnerabilities and fragility risks persist for a number of reasons including the legacy of the 1992–1997 civil war, persistent poverty pockets, especially in lagging regions, income insecurity, under- and unemployment, and security risks emanating from the 1,400-kilometer border with Afghanistan¹⁰. Also, more than 90 percent of the landlocked country's surface is mountainous with only about a third of its 142,000 km² usable for agriculture and agroforestry.

5. **To strengthen its long-term economic resilience, the country is moving toward a green economy.** The *National Development Strategy 2015-2030* prioritizes the development of "green economy," and the medium-term development program 2021-2025 focuses on achieving the Sustainable Development Goals (SDGs) and adopting adaptation measures to climate change as transition to green economy. Forestry and agriculture are recognized as two of the key sectors for the transition. Some of the conditions identified for green economy include efficient economic management, careful use of natural resources and involvement of civil society institutions in monitoring, control and use of natural resources¹¹. More than 60 percent of the water resources of the Central Asia Region are generated from glaciers in Tajikistan¹². The country's natural endowments also include rivers with existing and potential hydropower, potential extractive mining, as well as mountain and eco-tourism sites.

6. **Tajikistan is also committed to reducing the impacts of climate shocks, as reflected in the *National Strategy for Adaptation to Climate Change to 2030***¹³. The Strategy identifies climate change adaptation needs as "circumstances that require a new or different set of information, resources and actions to ensure the safety of property and the public", pursuing three goals: (i) reducing the vulnerability of the most vulnerable populations, priority sectors and cross-cutting areas to climate change and extreme climate events; (ii) prioritizing climate adaptation investments that can be financed through sectoral investment plans and budgets, private sector investment, multilateral and bilateral development partners; and (iii) designing, implementing, monitoring, and assessing climate risk management and adaptation measures needed to reduce current and future vulnerability to climate change and extreme weather events.

7. **Tajikistan is however projected to become a hotspot for in and out-migration due to climate change.** According to the World Bank *Groundswell* report the impact of climate change is projected to increase migration dynamics in Central

⁸ <https://tradingeconomics.com/tajikistan/gdp-per-capita>

⁹ World Bank (2019). *Country Partnership Framework FY19 – FY23*

¹⁰ World Bank. (2019). *Country Partnership Framework FY19 – FY23*

¹¹ *National Review Towards a Green Economy in Tajikistan*, elaborated in preparation for the UN International Conference on Sustainable Development (RIO+20) <https://sustainabledevelopment.un.org/content/documents/1021tajikistan.pdf>

¹² GoRT (2018). *The First Biennial Report of The Republic of Tajikistan on Inventory of Greenhouse Gases under the UN Framework Convention on Climate Change*. Dushanbe.

¹³ GoRT (2019). *National Strategy for Adaptation to Climate Change of the Republic of Tajikistan for the Period up to 2030*, Order No. 482, Dushanbe.



Asian countries. By 2050, under an optimistic climate change scenario (RCP2.6¹⁴), the number of migrants in the region is projected to reach 1.7 million, or 2.4 percent of the population. Under the optimistic scenario, climate migrants will make up 20 percent of all internal migrants in the region, and under a more inclusive development scenario, the share should be up to 38 percent. The lower elevation areas of southern Tajikistan (including Dushanbe) are projected to become climate in-migration hotspots by 2050. The Ferghana Valley in Tajikistan is expected to become an out-migration hotspot due to projected decreases in water availability and crop productivity.¹⁵

8. **Tajikistan may also start to experience an influx of Afghan refugees and migrants, following the recent events in Afghanistan¹⁶.** The Taliban's August 2021 takeover of Afghanistan precipitated forced displacement within the country and across its borders. The drivers of displacement are complex and include the fear of persecution or reprisals from the Taliban due to certain ethnic, religious or political affiliations, or any affiliation with the former government or allied forces; recurring violence and conflict; food insecurity; climate-induced shocks; loss of livelihoods; and other factors. From January 1, 2021 to September 20, 2021, the United Nations High Commissioner for Refugees (UNHCR) recorded approximately 35,400 Afghans arriving in neighboring countries who are likely to need international protection. This figure includes 5,300 new arrivals who approached UNHCR and its partners in Tajikistan¹⁷ and the 4,056 Afghan refugees who arrived in Tajikistan before the Taliban offensive. While there is uncertainty regarding the timing and volume of further refugee flows into Tajikistan, the GoRT anticipates that up to 50,000 are likely to cross over into the country.¹⁸

B. Sectoral and Institutional Context

9. **Tajikistan faces high disaster risk.** Frequent local flash floods, mudflows, rock falls, and avalanches significantly burden households and livelihoods. The greatest risks at the national and regional levels are earthquakes and floods, with annual average losses due to earthquakes estimated at 4.3 percent of GDP and 1.4 percent of GDP for floods. A major earthquake with return period of 250 years could affect up to 70 percent of GDP and cause capital losses of up to 34 percent of GDP, while a 100-year flood would affect up to 8 percent of GDP¹⁹. With 93 percent of Tajikistan covered by mountains, much of the country is unsuitable for agriculture and inaccessible during the winter²⁰. At least 10 percent of Tajikistan's population lives on degraded lands²¹, while soil erosion affects about 70 percent of arable land.²² At the same time, forest cover (currently only 3 percent) and pastureland (which accounts for about 80 percent of agricultural land²³) have been deteriorating.

10. **Tajikistan is highly vulnerable to climate change.** The country is projected to experience temperature rises significantly above the global average, for example, under the highest emissions pathway (RCP8.5), warming could reach

¹⁴ A Representative Concentration Pathway (RCP) is a greenhouse gas (GHG) concentration trajectory adopted by the UN Intergovernmental Panel on Climate Change. It uses four pathways - RCP2.6, RCP4.5, RCP6, and RCP8.5 – for climate modeling which are considered possible depending on the volume of GHG emitted in the years to come and are labelled after a possible range of radiative forcing values in the year 2100 (2.6, 4.5, 6, and 8.5 W/m², respectively).

¹⁵ Clement, Viviane; Rigaud, Kanta Kumari; de Sherbinin, Alex; Jones, Bryan; Adamo, Susana; Schewe, Jacob; Sadiq, Nian; Shabahat, Elham (2021). *Groundswell Part 2: Acting on Internal Climate Migration*. World Bank, Washington, DC.

¹⁶ World Bank (2021) *DRAFT Tajikistan Refugee Needs Assessment*. Sept. 23, 2021.

¹⁷ UNHCR. 20 September 2021. External Update Afghanistan Situation #6.

¹⁸ Ministry of Finance letter to World Bank Country Manager Ozan Sevimli requesting finance to support communities and refugees, Oct.15, 2021.

¹⁹ World Bank and GFDRR (2015). *Europe and Central Asia: Country Risk Profiles for Floods and Earthquakes*.

²⁰ Out of Tajikistan's 142,000 sq km, about a third can be used for agricultural and agroforestry purposes.)

²¹ Government of Tajikistan (2016). *National Development Strategy of The Republic of Tajikistan (up to 2030)*, Dushanbe.

²² World Bank (2018). *Systematic Country Diagnostic*.

²³ GoRT (2014). *Third National Communication of the Republic of Tajikistan under the United Nations Framework Convention on Climate Change*.



5.5°C by the 2090s, compared with the 1986–2005 baseline²⁴. Warming trends are projected to be even stronger for maximum and minimum temperatures, and there is a high likelihood that temperatures in Tajikistan will more regularly surpass 40°C, particularly in lowland regions. Increased temperatures, paired with increased possibilities for aridity and drought incidence can cause expansion of arid land, which could also affect agricultural yields. The potential for decrease of the country’s mountain glaciers is likely to reduce the regularity of water flows and may result in the drying of some watersheds. Due to political, geographic, and social factors, Tajikistan is recognized as vulnerable to climate change impacts. In the Notre Dame-Global Adaptation Index (ND-GAIN)²⁵ Tajikistan ranks 100th out of 182 countries, with a score of 46.8, and vulnerability of 0.390 and readiness of 0.327. Relative to other countries, its current vulnerabilities are manageable but improvements in readiness will help it better adapt to future challenges.

11. Climate change is expected to increase the intensity and frequency of extreme climate and disaster events. Projected increases in extreme rainfall intensity and frequency will increase flood, flash flood and mudflow risk. Up to 36 percent of Tajikistan’s land area may be at risk of landslides, and climate changes are projected to compound this risk.²⁶ A similar proportion of the nation faces high risk of mudflows, and the majority of the country faces some level of exposure.²⁷ The erosive capacity of rainfall is likely to increase, likely increasing the risk of landslides and exacerbating soil erosion issues.²⁸ At present, Tajikistan faces an annual median probability of severe meteorological drought of around 3 percent; droughts during the summer months will likely increase, as will the risks from glacial lake outburst floods (GLOFs). Table 1 summarizes the projected trends of disaster risks due to climate change.

12. Extreme weather events in May-July 2021 reflect growing disaster risk²⁹. Most of the 2021 floods and mudflows originated in existing high-risk river channels, with damages enhanced by increased human exposure. Overgrazing and deforestation are likely to have exacerbated the disasters. While the rainfall events were extreme, they will become more frequent due to climate change. In addition, a shift of snow melt by up to one month earlier in the year could increase the likelihood that extreme rainfall coincides with high soil moisture and base flows, further increasing the future risks of such events.

²⁴ World Bank & Asian Development Bank (2021). *Climate Risk Country Profile: Tajikistan*.

²⁵ <https://gain.nd.edu/our-work/country-index/>

²⁶ World Bank (2017). *A rocky future? Ensuring Central Asia’s mountains are climate and disaster resilient*.

²⁷ ADRC (2006). *Tajikistan: Country report for Asian Disaster Reduction Center*. URL: <https://www.adrc.asia/countryreport/TJK/2005/english2.pdf> [accessed 14/08/2019]

²⁸ Duulatov, E., Chen, X., Amanambu, A.C., Ochege, F.U., Orozbaev, R., Issanova, G. and Omurakunova, G. (2019). “Projected Rainfall Erosivity Over Central Asia Based on CMIP5 Climate Models. *Water*”, 11(5), p.897. DOI: <https://doi.org/10.3390/w11050897>

²⁹ World Bank & GFDRR (2021). *Assessment of Contributing Factors of the May 2021 Disasters in Tajikistan*.



Table 1. Trends of extreme events in a change climate.³⁰

| Projected Impacts of Climate Change on Extreme Events | | Projected Changes in Climatic Parameters | | | | | | | | | | | |
|---|-------------|--|-----------------------|--------------------|-----------------------------|-------------------------|------------------------|----------------------|---------------------|------------------------|------------------------|--------------------|------------------------|
| | | Extreme maximum temperature | Duration of heat wave | Spring temperature | Extreme minimum temperature | Number of freezing days | Number of warming days | Annual precipitation | Heavy precipitation | Seasonal precipitation | Long-lasting dry spell | Actual Evaporation | Climatic Water balance |
| | | +++ | +++ | + | + | - | + | ++ | + | ++ | ++ | - | ++ |
| Trend of Extreme Events | Heat Wave | ↑↑ | ↑ | | | | | | | | | | |
| | Cold Wave | | | | ↑ | ↑ | | | | | | | |
| | Drought | ↑ | ↑ | | | | ↑ | | | | ↑↑ | ↑ | ↑ |
| | Wildfire | ↑ | ↑ | | | | | | | ↑ | | | |
| | Flooding | | | | | | | | ↑ | ↑ | | | |
| | Flash Flood | | | ↑ | | | | | ↑ | | | | |
| | GLOF | ↑ | | ↑ | | | ↑ | | | | | | |
| | Avalanche | ↑ | | ↑ | | | | | ↑ | | | | |
| | Mudslide | ↑ | | | | | | | ↑ | | | | |
| | Landslide | | | | | | | | ↑ | | | | |

13. The GoRT is committed to holistic disaster risk management (DRM) through the *National Disaster Risk Reduction Strategy 2019-2030*³¹, which seeks to decrease existing risks and prevent new ones in order to build Tajikistan's resilience and risk management capacity. The Strategy aims to shift focus from disaster response to ex-ante risk reduction, including building the capacity to plan and implement holistic DRM. However, this shift is still in its infancy. The Strategy commits the GoRT to pursue four objectives: (i) reduce the number of deaths, persons affected, and material damage caused by natural disasters including climate change; (ii) ensure that all stakeholders have access to disaster risk information; (iii) mainstream disaster risk management into the development process; and (iv) improve disaster preparedness and response mechanisms.

14. The *National Strategy for Adaptation to Climate Change to 2030* also commits the country to reduce the vulnerability of the population and priority sectors to climate change and extreme weather events³². This builds on Tajikistan's Third National Communication under the United Nations Framework Convention on Climate Change (UNFCCC), which identified priority measures to enhance resilience to climate change and the impacts of extreme hydro-meteorological events³³. These include broader DRM measures and specifically for the transport sector to consider climate change predictions and possible consequences when planning the construction of new or reconstruction of existing facilities and roads, and building protection infrastructure and enhance the criteria for long-term functionality.

³⁰ World Bank & GFDRR (2021). *Assessment of Economic Impacts from Disasters Along Key Corridors – Final Report*.

³¹ GoRT (2018). *National Disaster Risk Reduction Strategy 2019-2030*, Dushanbe.

³² GoRT (2019). *National Strategy for Adaptation to Climate Change of the Republic of Tajikistan for the Period up to 2030*, Order No. 482, Dushanbe.

³³ GoRT (2014). *Third National Communication of the Republic of Tajikistan under the United Nations Framework Convention on Climate Change*.



15. **DRM is pursued via the “Unified State System on the Prevention and Liquidation of Emergency Situations”, but its institutionalization is still in progress.** The Unified System was approved by the Government in 2014 and aimed to coordinate the relevant state institutions to implement the activities under the Law of the Republic of Tajikistan “On Protection of the Population and Territories from Natural and Man-Caused Emergency Situations.”³⁴ The Unified System is coordinated by the State Commission of the Government of the Republic of Tajikistan on Emergency Situations (SCES), established in 2002 and chaired by the President. Similar Commissions have been established at the national, regional, city, district, jamoat and organizational levels, mirroring the national structure and membership (all relevant government entities) and chaired by the most senior official at each respective level. Institutionalization of the Unified System and the SCES sub-national commissions are still work in progress.

16. **The capacity of the Committee for Emergency Situations and Civil Defense (CoESCD) - the central state entity responsible for management of man-made and natural emergency situations and disasters - needs to be strengthened to enable the country to effectively plan and implement holistic DRM in response to growing disaster risks imposed by the climate change.** Established in 1994 and having regional departments in Soghd, GBAO, Khatlon, and Dushanbe City, the CoESCD serves as Deputy Chair of the SCES, supporting the Commissions at all levels. While coordinating national DRM, the CoESCD remains preoccupied with disaster response but its technical, financial, and human resources are overstretched; it has established Search and Rescue (SAR) teams in Dushanbe and regional centers including Khatlon, however, these possess limited capacity and equipment.

17. **Development partners play a key role in supporting DRM,** within the frameworks of the National Platform for Disaster Risk Reduction (NPDRR) and the Rapid Emergency Assessment and Coordination Team (REACT). By bringing together many humanitarian agencies, development partners and international non-governmental organizations (NGOs), REACT provides significant humanitarian/relief support while also promoting the broader DRM agenda. Notable support to DRM and specifically the CoESCD is currently being provided by the World Bank, Asia Development Bank (ADB), United Nations Development Program (UNDP), Switzerland and Japan. Several NGOs are also active in DRM. The World Bank’s *Strengthening Critical Infrastructure against Natural Hazards Project* (SCINHP) is rebuilding and reinforcing 18 bridges in GBAO, as well as river embankments in Khatlon. Other World Bank and development partner projects, primarily in the water and agriculture sectors also contribute to risk reduction in terms of livelihood and infrastructure resilience. Several NGOs support community-based and local-level risk reduction, for example, Caritas Switzerland, Helvetas, Agency for Technical Cooperation and Development (ACTED), German Agro Action and the Aga Khan Agency for Habitat (AKAH).

Urgent Need of Assistance for Flood and Mudflow Reconstruction

18. **In response to the impacts of climate and weather shocks, including a recent series of extreme rainfall events which led to floods and mudflows in numerous cities and districts, the GoRT requested the World Bank to provide assistance for post-disaster reconstruction and recovery on August 12, 2021**³⁵. The request highlighted not only the immediate damages and needs from the May-July 2021 flood and mudflows, as mentioned above but also the negative economic impacts of COVID-19 and frequent, recurrent and increasing extreme hydrometeorological events due to climate change. The GoRT is implementing a plan aimed at rehabilitation of the destroyed and damaged residential properties including social institutions, road and energy infrastructure, irrigation systems, as well as water supply and sewerage systems, but lacks sufficient resources to cover all needed rehabilitation activities. In this regard, financing for fast-track recovery of the affected cities and regions was requested to support economic recovery, strengthen climate

³⁴ <https://kchs.tj/sites/default/files/pdf/zakon/go.pdf>

³⁵ GoRT letter ref. 6-26 (22941) signed by First Deputy Prime Minister Davlatali Said



resilience, improve the livelihoods of vulnerable groups and ensure that the affected population enjoy decent normal living standards.

19. Most of the GoRT response to the disasters has focused on humanitarian needs rather than reconstruction³⁶.

The GoRT responded rapidly by evacuating the affected population and when possible salvaging their assets. A workforce and heavy equipment were made available for debris removal, clearing of roads, and restoration of other essential services, including electricity and water supply. Essential healthcare was provided through local facilities and mobile teams of medical staff deployed to the affected areas. While construction of new houses and rebuilding of damaged houses is ongoing, some displaced population has been sheltering in tents. The private sector and individuals have made generous donations, while the international community has provided immediate food and non-food relief items (food packages, bedding and kitchen sets, hygiene sets). This support is being pursued under the joint GoRT and international partners' response plan, which is costed at US\$14 million and is planned to be implemented until March 2022, covering: water, sanitation and hygiene; food security and livelihoods; agriculture; shelter and non-food items; protection; health; education and early recovery. Early recovery has so far focused on restoration of housing and livelihoods. At the same time, urgent investments to rehabilitate other critical public infrastructure are needed. This includes urgent reconstruction of priority roads and bridges to re-establish resilient local and regional connectivity which the GoRT has not been able to finance from its own funds.

20. Major transport corridors in multiple regions were impacted by climate-related hazards.

The situation in the country was exacerbated by a magnitude 5.8 earthquake in the Rasht Valley on July 10, 2021, which led to further local damages and impacts to the social and economic infrastructure³⁷. Similar to the floods, several humanitarian and development partners have been providing support for social recovery including housing, but local and regional connectivity remains constrained. In the mountainous context where many villages are remote and rely on single road connections to access relatives, services, markets and employment opportunities, reconstruction and climate-proofing of roads are critical to recovery. While the REACT Response Plan for the May floods and mudflows identified rehabilitation of 150 km of roads and 21 bridges in Khatlon as immediate recovery needs³⁸, this has not yet been pursued.

21. The 2021 floods and mudflows also exposed gaps in the climate and disaster risk management system.

Global and regional weather forecasting models indicated a high probability for heavy precipitation in Khatlon two days before the disasters, with forecasts 12 hours before the event predicting localized extreme rainfall events³⁹. Unfortunately, this information appears not to have been properly translated into local early warning, evacuation and other preparedness activities. In addition, most damages occurred in locations that could relatively easily be identified as high risk⁴⁰, indicating insufficient availability and use of risk information for disaster and climate resilient infrastructure planning and design, land management and urban development. The GoRT's post disaster needs assessment has relied heavily on the humanitarian needs assessment delivered primarily by international partners through REACT⁴¹, which does not provide a robust understanding of reconstruction and recovery needs, indicating insufficient capacities in disaster and climate change event impacts and recovery needs assessments.

³⁶ *ibid*

³⁷ REACT (2021). *Situation Update #2 - 5.8 Magnitude Earthquake, Rasht Valley, Tajikistan*. Rapid Emergency Assessment and Coordination Team, July 17, 2021.

³⁸ REACT (2021). *REACT Response Plan: Khatlon Mudflows, Tajikistan*. Rapid Emergency Assessment and Coordination Team, June 15, 2021.

³⁹ Uzhydromet (2021). Response to World Bank enquiry, Centre of Hydrometeorological Service at Cabinet of Ministers of the Republic of Uzbekistan, letter no. 07-01/46, May 26, 2021.

⁴⁰ World Bank & GFDRR (2021). *Assessment of Contributing Factors of the May 2021 Disasters in Tajikistan*.

⁴¹ REACT (2021). *REACT Response Plan: Khatlon Mudflows, Tajikistan*. Rapid Emergency Assessment and Coordination Team, June 15, 2021.



A Critical Need for Building Disaster and Climate Change Resilience, and Ensuring Resources are Available in Case of Shocks

22. **National investments in Tajikistan’s preparedness for emergency situations have been low, resulting in limited readiness to respond, particularly for climate shocks.** To help offset limited domestic resourcing, development partners regularly provide resources to support preparedness at all levels. The Bank’s SCINHP is supporting establishment of a National Crisis Management Center (NCCM) with relevant Information and Communications Technology (ICT) system and procuring of Mobile Command and Control Vehicles (MCCV) in Dushanbe. SCINHP has also delivered a national seismic hazard assessment and micro-zonation for Dushanbe. The Organization for Security and Cooperation in Europe (OSCE) and European Union (EU) are supporting the renovation of the CoESCD Training Center at Karatag, Shahrinav District, while ADB is supporting development of a CoESCD five-year business development plan and rehabilitation of the Lake Sarez early warning system. However, more efforts are needed to strengthen the country’s preparedness for emergency situations, including weather shocks and other types of hazards, to overcome existing deficiencies in Tajikistan’s readiness to adequately respond to them.

23. **Financial liquidity to respond and recover from shocks is limited.** Despite the May-July 2021 floods not being historically exceptional events (floods affecting similar or higher numbers of people have occurred at least eight times during the last 31 years⁴²), the GoRT has requested additional financial resources required for rapid response and reconstruction. While under SCINHP a national Disaster Risk Financing Strategy was developed and is expected to be formally adopted in 2022, development of layered risk financing mechanisms is needed. In the meantime, Tajikistan should ensure existing disaster and crisis response and recovery financing opportunities such as contingent emergency response arrangements are pursued.

24. **Rapid expansion of the built environment requires increased capacity for disaster and climate change risk-informed planning, design and construction at the national and local levels.** Poorly managed urbanization not following disaster-informed zoning has resulted in many residential buildings being built in unsafe locations⁴³, and construction norms are often not followed leading to housing and other structures being vulnerable to natural hazards including earthquakes, floods, mudflows, landslides, extreme precipitation (rain and snow), high winds, avalanches and extreme temperatures. For example, in Dushanbe at least 8 percent of residents live in buildings facing high seismic risk⁴⁴. Public buildings such as schools and hospitals are also at high risk of being affected by natural and climate-related disasters. According to the United Nations Children’s Fund (UNICEF), many schools face seismic and weather-related risks, and inadequate school infrastructure presents a significant danger to children’s lives and wellbeing, and severe disruption to education⁴⁵. An influx of at least semi-permanent and low-income refugees would likely take residence in high-risk buildings including abandoned and/or poorly maintained structures not fit for housing and put more vulnerable people at risk (especially children and those requiring medical attention). Any disaster shock impacting critical infrastructures will reduce the availability of already stretched services.

25. **Natural and climate-related disasters to the road network are estimated to cost US\$45 million per year or 0.5 percent of GDP⁴⁶.** This is expected to rise to about US\$80 million per year over the next decade. In this vulnerable mountainous context, roughly one-third of these losses stem from communities being severed from public services and

⁴² World Bank & GFDRR (2021). *Assessment of Contributing Factors of the May 2021 Disasters in Tajikistan*.

⁴³ World Bank (2013). *Tajikistan: Reinvigorating Growth in the Khatlon Oblast*, Report No. 80022-TJ.

⁴⁴ World Bank & GFDRR (2020). *Earthquake Risk in Multifamily Residential Buildings, Europe and Central Asia Region*.

⁴⁵ <https://www.unicef.org/tajikistan/safe-environment>

⁴⁶ World Bank & GFDRR (2021). *Assessment of Contributing Factors of the May 2021 Disasters in Tajikistan*.



livelihood opportunities. To increase the resilience of roads against hazards such as floods, mudflows, landslides, rock falls, avalanches and earthquakes, several different types of protection measures are needed, including avalanche galleries, snow barriers, retaining walls, flexible rockfall barriers, rockfall drapes, debris flow barriers, larger culverts, strengthened bridges, road realignments, replacement of soft/swamp material, roadbed raising, and surface water drains. However, on roads with limited traffic and/or only a small number of disasters, these kinds of structural investments often do not produce enough economic return to justify investment. Instead, solutions that do not involve infrastructure investments may be more economically sound. Particularly for avalanches, this could include, for example, improved hazard monitoring and forecasting to temporarily close roads during high-risk periods.

26. **The 2021 refugee needs assessment also identifies several relevant support and investment priorities related to disaster and climate change resilience.** Pillars 2 and 3 of the World Bank response to forced displacement aims to support host governments in two main efforts: to (i) strengthen systems for enhancing resilience in refugee-receiving areas through programs and projects that address the medium- to long-term socioeconomic impacts of displacement and the long-standing development issues faced by host communities and refugees; and (ii) mitigate the specific vulnerabilities of refugees. Several relevant sectoral short- and medium-term needs have been identified for Tajikistan to prepare for a potential influx of Afghan refugees, including: raising risk awareness and strengthening local DRM and first response capacities; assessing housing, schools, health facilities, and roads for disaster and safety risks; strengthening national and local preparedness systems; expanding disaster and emergency response capacity in host communities, especially if population rapidly increases; reducing areas of congestion/dangerous sections of roads from Khatlon and GBAO to Dushanbe to improve movements of people and goods; and continue to strengthen key transport corridors⁴⁷. IDA19 has committed US\$80 million from its Window for Host Communities and Refugees (WHR) which is being allocated to other World Bank sectoral and primarily social projects. While the proposed project will respond to some of the identified needs listed above, it is not benefitting from IDA19 WHR resources. However, the proposed project will provide a structured conduit for future support to refugees and host communities should the need arise, and additional financing become available (for example from the IDA20 WHR), aligned with the World Bank refugee needs assessment.

27. **Parallel investment in reconstruction, risk reduction and preparedness will enable better holistic DRM, climate change adaptation, crisis management and resilience building.** Recognizing that a risk-informed reconstruction process cannot replace investments in disaster risk reduction and prevention, by integrating longer-term preparedness and risk reduction activities in an emergency reconstruction project, the GoRT will be able to upgrade specific assets and systems to build long-term preparedness and resilience fully informed by the DRM gaps and needs exposed during the 2021 floods and mudflows⁴⁸. Given their urgency, the project-supported reconstruction activities aim to be delivered in the first two to three years of project implementation, while longer-term preparedness and resilience investments will be pursued during the entire project duration.

C. Relevance to Higher Level Objectives

28. **The project is aligned with the World Bank Europe and Central Asia (ECA) Green Transition Priority to low-carbon and sustainable economies.** In particular, 'Natural Disaster and Climate Resilience' will be directly supported by enhancing preparedness for and readiness to respond to disaster and climate risks, and by strengthening the resilience of roads to natural hazards.

⁴⁷ World Bank (2021) *DRAFT Tajikistan Refugee Needs Assessment*. Sept. 23, 2021.

⁴⁸ World Bank (2018). *Building Back Better: Achieving Resilience through Stronger, Faster and More Inclusive Post-Disaster Reconstruction*.



29. **The proposed project is well-aligned with the Country Partnership Framework (CPF) for FY19-FY23⁴⁹, and in particular, the third objective, Improving Resilience of Residents in Local Communities, of the first CPF focus area.** This CPF objective includes implementation of DRM to increase resilience to climate and ecological challenges, which is essential for supporting livelihoods and social welfare. The CPF also identifies road infrastructure as an urgent priority, partly because the existing road network has been poorly maintained and has deteriorated substantially while being exposed to natural hazards.

30. **The project will be an important contribution to Tajikistan’s INDCs⁵⁰, National Strategy for Adaption to Climate Change to 2030⁵¹, and National Disaster Risk Reduction Strategy 2019-2030⁵².** Apart from the ambitious climate mitigation target of keeping GHG emissions at 60 percent-70 percent of 1990 levels by 2030, Tajikistan considers climate change adaption a key area of its INDCs. The GoRT aims to ensure the reduction of the adverse impacts of climate change and related disasters, by the modernization of the hydrometeorological services, and a range of strategic DRM programs over the next decade. The GoRT is calling for additional financial resources to advance this agenda, and the project will help fill this gap.

31. **The project supports implementation of the World Bank Group (WBG) Action Plan on Climate Change Adaptation and Resilience⁵³.** In particular, the project will help increase adaptation financing and mainstream systematic climate risk management at the country and sector levels. Aligned with priority investments outlined in the Action Plan, this will be achieved by increasing availability and use of climate risk information and early warning, improving financial protection, protecting lives and livelihoods and making critical infrastructure more resilient. The project will support implementation of the draft WBG ECA Climate Change Action Plan (2021-2025) by increasing climate and disaster resilience of vulnerable people and critical infrastructure, itself aligned with the broader WBG Climate Change Action Plan (2021-2025): supporting green, resilient, and inclusive development⁵⁴.

32. **The project also aligns with the WBG Green, Resilient and Inclusive Development (GRID) approach⁵⁵.** Endorsed by the Development Committee at the 2021 Spring Meetings, “From COVID-19 Crisis Response to Resilient Recovery - Saving Lives and Livelihoods while Supporting GRID” outlines crisis response as an opportunity to support green, resilient and inclusive recovery that tackles rising poverty and deepening inequality while addressing both the immediate devastation wrought by COVID-19 and the longer-term challenge of Climate Change. The project will help Tajikistan prepare for, mitigate and adapt to a wide range of risks and uncertainties, including financial shocks, regional spillovers, natural hazards, climate change, and pandemics, helping the country avoid diverting scarce resources to repeated cycles of shock, restructuring, recovery, and rebuilding. The project helps ensure that the recovery does not leave anyone behind by strengthening preparedness to protect lives and livelihoods of vulnerable communities and protecting the connectivity of villages.

⁴⁹ <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/962981557781100857/tajikistan-country-partnership-framework-for-the-period-of-fy19-fy23>

⁵⁰ INDCs towards the achievement of the global goal of the UNFCCC by the Republic of Tajikistan.

<https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Tajikistan%20First/INDC-TJK%20final%20ENG.pdf>

⁵¹ GoRT (2019). *National Strategy for Adaptation to Climate Change of the Republic of Tajikistan for the Period up to 2030*, Order No. 482, Dushanbe.

⁵² GoRT (2018). *National Disaster Risk Reduction Strategy 2019-2030*, Dushanbe.

⁵³ <https://documents1.worldbank.org/curated/en/519821547481031999/The-World-Bank-Groups-Action-Plan-on-Climate-Change-Adaptation-and-Resilience-Managing-Risks-for-a-More-Resilient-Future.pdf>

⁵⁴ <https://openknowledge.worldbank.org/handle/10986/35799>

⁵⁵ <https://thedocs.worldbank.org/en/doc/9385bfef1c330ed6ed972dd9e70d0fb7-0200022021/green-resilient-and-inclusive-development-grid>



II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

33. (a) To support disaster recovery, strengthen the resilience of critical roads, and enhance disaster risk management capacity; and (b) in the case of an Eligible Crisis or Emergency, respond promptly and effectively to it.

34. Disaster recovery will pursue the urgent reconstruction of priority roads and bridges in Khatlon damaged during the May-July 2021 floods and mudflows, which the GoRT has not been able to finance out of its own resources. These will re-establish resilient local and regional connectivity and access to markets and services and be rehabilitated using climate- and disaster-resilient designs, materials and works. Disaster recovery also considers potential future needs that could be delivered through the Contingent Emergency Response Component (CERC) if an eligible disaster or crisis occurs during project implementation. The roads to be made more resilient will develop and pursue detailed climate- and disaster-resilient designs and engineering, with “critical” referring to the high importance of the selected road segments to the economy and national, regional and local connectivity. Disaster risk management capacity will focus on strengthening preparedness and readiness-to-respond to climate change and increasingly frequent weather shocks.

PDO Level Indicators

35. Progress toward achieving the development objectives will be measured through the following key performance indicators:

- (a) People in flood affected areas benefitting from rehabilitated roads (number, gender disaggregated, climate adaptation)
- (b) People benefitting from more resilient roads (number, gender disaggregated, climate adaptation)
- (c) People benefitting from improved access to disaster information and strengthened response systems and services (number, gender disaggregated, climate adaptation)

B. Project Components

36. **Project Overview.** The proposed project will respond to urgent needs by resiliently reconstructing roads that were damaged during the May-July 2021 floods and mudflows. The project is also envisioned to continue building the foundation of the GoRT’s long-term climate and disaster resilience program started under SCINHP and is based on high demand for continued support to overall DRM, climate change adaptation, reconstruction, and resilience of critical infrastructure in the country. It will further enhance infrastructure resilience by strengthening and protecting critical road segments, thus reducing disaster risk, enhancing climate change adaptation, and avoiding potential damage for the long term. The project will also strengthen the GoRT’s sub-national capacity for DRM to address increasing countrywide disaster risks, especially for climate-related hazards such as floods, mudslides, rock falls, avalanches and landslides, as well as earthquakes.

37. The project consists of the four components described in the following sections (see Annex 2 for details).



Component 1: Building Road Resilience (estimated cost: US\$26 million)

38. This component will finance designs and capital works for selected segments of the primary road network to increase its resilience to natural hazards including adaptation to climate change. All roads financed under this component will develop and pursue detailed climate- and disaster-resilient designs and engineering, while the corresponding capital works will be implemented with use of climate-resilient materials and technological solutions to ensure the improved resilience of all project-financed road infrastructure to extreme weather and, as such, its adaptation to climate change. Capital works will include reconstruction and repair of roads damaged during the May-July 2021 floods and mudflows and reinforcement of all project-supported road segments against floods, mudflows, landslides, rock falls, erosion, avalanches and earthquakes. The focus of the component will be resilience and protection against climate-related risks, while works will also be pursued in a climate-change and seismically resilient manner. Weather resistant paving and construction materials will be utilized, slope stabilization pursued to further protect against climate risks, and resurfacing and retrofitting will utilize climate-resilient materials.

Sub-component 1.1: Rehabilitation of roads damaged by the 2021 floods (estimated cost: US\$6 million)

39. The project will finance the rehabilitation of priority roads and associated infrastructure damaged by the 2021 floods. Climate-resilient rehabilitation and reconstruction of roads and bridges damaged during the 2021 floods and mudflows will be pursued in Vakhsh, Vose, Shasiddin Shohin and Muminobod Districts in the Khatlon region, re-establishing more resilient regional and local connectivity. Rehabilitation will follow a build-back-better approach for all project-financed roads to enhance adaptation to climate change and associated road resilience to minimize future risks from similar hazards, including for several bridges. This activity will be implemented by the MoT Project Implementation Group (PIG).

Sub-component 1.2: Protection and reinforcement of priority roads (estimated cost: US\$20 million)

40. The project will finance the reinforcement and protection of one or more segments of priority roads at significant risk of natural hazards posed by climate change, including reconstruction, repair and new installation of measures. This will include rehabilitation of two critical bridges on the Dushanbe-Rudaki road in the Rudaki District (RRS), which is key for transport of goods and equipment between the capital and the south of the country, as well as reinforcement and protection of high-risk locations primarily between Labidjar and Karamik in the corridor connecting Dushanbe with the Kyrgyz Republic through the Rasht Valley (including Roghun, Rasht, Tojikobod and Lakhsh Districts, RRS), which is important for international trade. Sub-component 1.2 may also support reinforcement of roads in the districts supported under Sub-component 1.1. To increase the resilience of roads against hazards such as floods, mudflows, landslides, rock falls, avalanches and earthquakes, capital works financed under this sub-component will pursue climate change-resilient reconstruction, repair and new installations of measures including but not limited to avalanche galleries, snow barriers, retaining walls, flexible rockfall barriers, rockfall drapes, debris flow barriers, larger culverts, strengthened bridges, road realignments, replacement of soft/swamp material, roadbed raising, and surface water drains. The focus will be protection and resilience to climate-related risks including measures directly on the road (culverts, drainage, etc.), measures stabilizing slopes and riverbanks immediately adjacent to the road, and further removed measures to reduce hazards reaching the road (avalanche, mudflow and rock fall netting, fences and barriers). While targeting the reduction of climate risks, these will also be designed and built seismically resistant.

41. Training and capacity building will be financed to enhance the MoT's, as well as its regional and local road maintenance departments' abilities to design, implement and maintain structural and non-structural resilience measures,



considering climate change projections and the possible consequences. This sub-component also includes procurement of heavy specialized machinery for MoT to prepare for emergency response and maintenance of its infrastructure assets. The technical specifications for procurement of such machinery will be prepared with due attention to climate change mitigation factors and promotion of appropriate technological solutions. This activity will be implemented by the MoT PIG.

Component 2: Strengthening Disaster Risk Management Capacity (estimated cost: US\$22 million)

42. This component is intended to strengthen the country's technical and institutional capacity for DRM and climate change resilience and adaptation through selected activities that focus on climate and disaster risk understanding and identification, disaster and climate-change preparedness, and financial protection against disasters. Activities aim to address capacity gaps exposed during the May-July 2021 floods and mudflows and identified as priorities under the national climate change adaptation and DRM strategies, building on activities completed and ongoing under SCINHP, in particular expanding and connecting technical and institutional capacities developed at national level to sub-national levels.

Sub-component 2.1: Strengthening regional crisis management centers and systems (estimated cost: US\$9 million)

43. The project will finance (a) necessary works to build or renovate facilities to host CoESCD's regional crisis management centers (RCMCs) in Khujand, Khorog and Bokhtar; (b) purchasing of required information and communication technology equipment to be installed within the RCMCs, integrated with the national systems being installed in the NCMC and under sub-component 2.2; (c) purchasing of additional mobile command and communication vehicles for the improved crisis management systems at the regional/local levels, as needed, to perform as RCMCs; (d) consultancy services for expanding the national operations manual for RCMCs; and (e) capacity building for relevant staff and operators of the RCMC and users of mobile command and communication vehicles, as needed. Importantly, all the designs and civil works of RCMC facilities will be executed with risk-informed climate- and natural-hazard resilient designs, energy efficiency solutions and technologies, and climate-resilient materials and technical solutions, and the same will be promoted as part of the national operations manual for RCMCs. This activity will be implemented by the MoF Project Implementation Unit (PIU).

Sub-component 2.2: Modernizing disaster communication and information systems (estimated cost: US\$5.5 million)

44. The project will finance (a) enhancing existing radio communication networks across the country and setting up new radio communication networks at least in large cities and population centers; (b) enhancing other ICT networks like microwave, satellite, fiber optics, etc.; (c) enhancing/developing umbrella disaster management software integrated for current/future early warning systems and current emergency management software platforms; (d) enhancing/developing an interagency platform for data exchange to facilitate real-time data sharing between disaster monitoring, forecasting and management agencies (CoESCD, Tajikhydromet, etc.); (e) supporting policy development, facilitating and populating a geo-node/website to facilitate consolidated access to existing and new disaster-related geospatial data and information; (f) developing dissemination channels (website, SMS services, smartphone app, etc.) to facilitate real-time public access to forecasts and warnings of climate and weather hazards; and (g) supporting Tajikhydromet access and use of real-time products from the new CoESCD weather radar in Hissar. This activity will be implemented by the CoESCD PIU.

Sub-component 2.3: Capacity building for emergency response (estimated cost: US\$6 million)



45. The project will finance (a) international community certification trainings for professional search and rescue (SAR) teams; (b) public trainings for disaster preparedness, including improved awareness about climate change and associated risks to increased likelihoods of disasters, and climate change mitigation measures which could be pursued at the level of households, public institutions, etc.; (c) preparation of disaster preparedness and climate adaptation modules for different stakeholders (public agencies, vulnerable citizens, industrial zones, small and medium enterprises (SMEs), health workers, etc.); (d) construction, provision of equipment and capacity building for a water rescue training center at Nurek Reservoir with all designs and civil works executed with risk-informed climate- and natural-hazard resilient designs, energy efficiency solutions and technologies, and climate-resilient materials and technical solutions; and (e) reinforcement/additional capacity for the existing emergency response training center in Karatog (built under EU-OSCE project). This activity will be implemented by the CoESCD PIU, and the majority of funds will be committed to the water rescue center (activity (d)).

Sub-component 2.4: Strengthening the basis for structural and seismic resilience (estimated cost: US\$1 million)

46. The project will finance (a) establishment of a seismic response monitoring system for priority and representative structures and natural ground locations in Dushanbe, with potential to include equipment for on-site examination of such structures and buildings; (b) continued updating of building standards; (c) training and workshops in the application of updated building codes and standards including energy efficiency considerations to mitigate climate change; and (d) building monitoring and enforcement capacities of IGEES. This activity will be implemented by the MoF PIU, with technical inputs and supervision from the IGEES. The Committee of Architecture and Construction (CoAC) will also need to be engaged in activities (b), (c) and (d).

Sub-component 2.5: Disaster risk financing (estimated cost: US\$0.5 million)

47. The project will finance (a) consulting services to assess the requirements, fiscal realities, needed legislation and regulations, and subsequently designing priority mechanisms to enable establishment and functioning of disaster risk financing instruments; and (b) technical capacity-building activities of the relevant MoF and other involved government entities will also be financed. The potential disaster risk financing mechanisms will help the GoRT ensure sufficient liquidity to respond and recover from climate change and natural hazard shocks. This activity will be implemented by the MoF PIU, with technical inputs and supervision from the relevant departments within the MoF.

Component 3: Project Management (estimated cost: US\$2 million)

48. This component will support incremental operating costs for the implementing agencies (IAs)—the MoF, CoESCD, and MoT — for project execution, including overall project administration and management, prioritization of subprojects, management of social and environmental safeguard issues, financial management (FM), procurement, contract administration, project reporting, and monitoring and evaluation (M&E).

Component 4: Contingent Emergency Response Component (CERC) (estimated cost \$0 million)

49. The objective of this component is to enhance Tajikistan’s capacity to respond to climate shocks, natural disasters and other eligible crises⁵⁶. An eligible crisis or emergency eligible for financing is an event that has caused, or is likely

⁵⁶ To compensate for the absence of a fast-disbursing instrument for IDA countries, the World Bank encourages the introduction of a Contingent



imminently to cause, a major adverse economic and/or social impact to the Recipient, associated with a natural or man-made crisis or disaster. Rapid disbursement will allow the GoRT to request a reallocation of project funds to partially cover emergency response and recovery costs. This component could be used to reallocate project funds or channel additional funds to fully or partially replenish funds reallocated to the CERC should they become available as a result of an eligible emergency⁵⁷.

50. **Project financing.** All project costs (US\$50 million) will be financed by Tajikistan’s IDA19 national performance-based allocation (PBA), as summarized in Table 2.

Table 2. Summary of estimated project costs.

| Components | IA | US\$ millions |
|---|---------------------|---------------|
| Component 1: Building Road Resilience | MoT | 26.00 |
| Sub-component 1.1: Rehabilitation of roads damaged by the 2021 floods | MoT | 6.00 |
| Sub-component 1.2: Protection and reinforcement of priority roads | MoT | 20.00 |
| Component 2: Strengthening Disaster Risk Management Capacity | | 22.00 |
| Sub-component 2.1: Strengthening regional crisis management centers and systems | MoF | 9.00 |
| Sub-component 2.2: Modernizing disaster communication and information systems | CoESCD | 5.50 |
| Sub-component 2.3: Capacity building for emergency response | CoESCD | 6.00 |
| Sub-component 2.4: Strengthening the basis for seismic resilience | MoF | 1.00 |
| Sub-component 2.5: Disaster risk financing | MoF | 0.50 |
| Component 3: Project Management | MoF | 2.00 |
| Component 4: Contingency Emergency Response Component (CERC) | MoF | 0.00 |
| Total Financing Required | | 50.00 |
| | Total MoT | 26.00 |
| | Total MoF | 10.50 |
| | Total CoESCD | 11.50 |

51. **Project’s potential role to address refugee issues.** Should Tajikistan experience an influx of Afghan refugees, the project would help the GoRT address potential refugee and host community needs. Sub-components 2.1-2.3 will enhance the CoESCD’s capacities to respond to disasters and crises in Khatlon and GBAO, in particular through enhancing/constructing NCMCs in Bhoktar and Khorog, and by strengthening communication systems and staff capacities. Improved readiness to respond will better enable CoESCD to respond to both refugee and host community urgent needs and support their adaptation to climate change, further bolstered by increased availability of response financing enabled by sub-component 2.5 and component 4 (CERC). Component 1 will improve the climate and disaster-resilience of roads in areas where refugees may be housed temporarily, improving connectivity for local communities, refugees and potential delivery of relief goods.

Emergency Response Component (CERC) in all IDA operations. A CERC is a financing mechanism to strengthen a borrower’s country response and recovery capacity by allowing World Bank investment project funds to be quickly reallocated to emergency recovery activities after an eligible emergency has occurred or is about to occur. This financing mechanism averts the need for time-consuming project restructuring because the budget line is already there.

⁵⁷ Once the requirements for activating it are met, uncommitted funds from the project are reallocated to the CERC and made available for crisis or emergency response. To facilitate a rapid response, a formal project restructuring is deferred to within six months after the CERC is activated.



52. The project is therefore designed in a manner that can easily and quickly be scaled up should the need arise to provide additional support to prepare for or respond to a potential future influx of Afghan refugees. As the 2021 inflow of Afghan refugees surpassed the 0.1 percent population threshold, resources from the IDA20 WHR will be available, should the GoRT request them. The project could absorb and disburse such additional resources as additional financing to further strengthen roads under Component 1 and DRM systems and disaster preparedness under Component 2, or as immediate emergency response under Component 4 (CERC), in all cases focusing on areas where refugees may be housed and their host communities.

53. **Synergies with other existing and planned Bank projects.** The proposed project is aligned with several ongoing and planned World Bank projects, aiming to leverage coordination and avoid duplication. While the *Fourth Phase of the Central Asia Road Links Program (CARs-4)* focuses on road rehabilitation in the Sughd, Khatlon and GBAO regions, the project has considered the specific locations of planned works under CARs-4 and is designed to complement them. Sub-component 1.1 will support reconstruction of damaged locations that support the CARs-4 objective of improving the resilience and safety of regional connectivity infrastructure, while sub-component 1.2 will strengthen a road corridor not covered by CARs-4, but also contributing to enhancing the efficiency and robustness of cross-border trade (which is the CARs-4 PDO), specifically with the Kyrgyz Republic.

54. The pipeline *Tajikistan Digital Foundations Project* aims to include an activity to establish a dedicated disaster readiness and response network, in addition to data recovery and backup systems, early warning systems to respond to climate-related disasters, as well as information dissemination systems. Component 2.2 of the proposed project will help identify mutually reinforcing activities on this topic for the *Tajikistan Digital Foundations Project* to help deliver holistic and integrated DRM information systems. Component 2.2 will ensure that improved weather and river forecasting facilitated by the *Central Asia Hydrometeorology Modernization Project (CAHMP)* is better disseminated to stakeholders, while further strengthening forecasting by assisting Tajikhydromet to utilize products from the new CoESCD weather radar. The pipeline *Learning Environment – Foundation of Quality Education Project* aims among other activities to improve the resilience of secondary schools, specifically to support schools to be structurally equipped to withstand natural disasters and facilitate a learning environment that protects the fundamental safety of students and ensures operational continuity in the face of shocks like pandemics and climate-induced hazards. If Component 2.3 of the proposed project supports school preparedness, it would therefore select schools in coordination with the *Learning Environment – Foundation of Quality Education Project* and the Ministry of Education and Science, while Component 2.4 will explore completing the seismic risk to schools, informing potential parallel investments in school resilience.

55. **Climate screening and co-benefits.** As the project focuses on reducing climate and disaster risks, it has been thoroughly assessed for climate and natural hazard, exposure, vulnerability and risk. The PDO, which is *to support disaster recovery, strengthen the resilience of critical roads, and enhance disaster risk management capacity, and, in the case of an Eligible Crisis or Emergency, respond promptly and effectively to it*, will contribute to higher-level impacts of increasing the country's climate resilience and preparedness to respond to climate and disaster risks, specifically those due to floods, flash floods, mudflows, landslides, erosion, rock falls, avalanches, and earthquakes, pursuing appropriate resilience measures that integrate detailed risk information into their design. The potential climate change impacts on these hazards' magnitudes and frequencies have also been assessed, as reviewed in the Sectoral and Institutional Context, and are integrated into project design. By design the project, therefore, faces high disaster and climate risk, but also contributes towards significant climate co-benefits by reducing climate change vulnerability and building resilience of vulnerable people and critical infrastructure.

56. By reducing the vulnerability of the most vulnerable populations to climate change and extreme weather,



prioritizing climate change adaptation investments, and designing and implementing climate risk management and adaptation measures needed to reduce current and future vulnerability to climate change and extreme weather events, the project will support Tajikistan in achieving its climate change adaptation priorities and goals as set out in the *National Strategy for Adaptation to Climate Change of the Republic of Tajikistan for the Period up to 2030*⁵⁸, INDCs⁵⁹ and Third National Communication under the UNFCCC⁶⁰. Strengthening infrastructure and DRM capacity to reduce risk and increase resilience to both climate change and seismic hazards is not mutually exclusive. Given the frequency of climate-related hazards, the focus of this project is to reduce the impacts of hydrometeorological events, however, it will also serve to reduce seismic risks, integrating seismic considerations into designs, works and systems. For Component 1 this means designing and financing capital works for road protection infrastructure against climate-related risks that are also seismically resilient, while for Component 2 this means developing structures and systems to enhance understanding of climate change risks and improve emergency response to and recovery from frequent hydrometeorological disasters, which are projected to become even more frequent due to the climate change, with these structure and system also able to handle rarer earthquake events.

57. **Gender.** Ensuring that the voice of women is heard in disaster preparedness can have a transformative effect on the communities in which they live/serve. Many studies have shown that women can help identify disaster risks for themselves and for girls that may not be understood by male planners. They can also help build security for their families, including increased income or awareness of personal preparedness and health. Including women in preparedness and recovery helps reduce stereotypes and discrimination about women's roles.⁶¹

58. Tajikistan faces high disaster risk that affects hundreds of thousands of people annually. Climate-related disasters impact human populations in many areas including agricultural production, food security, water management and public health. The level of impacts and coping strategies of the population depends heavily on their socioeconomic status, socio-cultural norms, access to resources, poverty, as well as gender. Research has also shown that disaster effects are not gender neutral, as women and children are among the highest risk and most vulnerable groups. Key factors that account for the differences between women's and men's vulnerability to disaster and climate change risks include gender-based differences in time use, access to assets and credit, treatment by formal institutions which can constrain women's opportunities, limited access to policy discussions and decision making, and a lack of sex-disaggregated data for policy change⁶². Few women in Tajikistan are involved in disaster preparedness and humanitarian response decision-making⁶³.

59. This is also true of their domestic life. The World Bank Tajikistan Country Gender Assessment (2020) points to a downward trend in women's decision-making power due to the prevailing social norms and re-emerging stronger gender stereotypes, with 49 percent of married women (aged 15 to 49) saying they were not making decisions either alone or jointly regarding their own health care, household purchases, and visits to family or friends. This represents a 15 percent increase from 2012 in favor of men. In rural areas at a community level these norms and gender stereotypes are commonly stronger than in urban settings due to the prevalence of conservative views and traditions.

60. Women's representation in elected bodies at the community level is low. Councils must have between 15 and 40 seats, depending primarily on the population and number of settlements in the municipality (each village is entitled to at

⁵⁸ GoRT (2019). *National Strategy for Adaptation to Climate Change of the Republic of Tajikistan for the Period up to 2030*, Order No. 482, Dushanbe.

⁵⁹ INDCs towards the achievement of the global goal of the UNFCCC by the Republic of Tajikistan.

<https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Tajikistan%20First/INDC-TJK%20final%20ENG.pdf>

⁶⁰ GoRT (2014). *Third National Communication of the Republic of Tajikistan under the United Nations Framework Convention on Climate Change*.

⁶¹ World Bank & GFDRR (2021). *Gender Dimensions of Disaster Risk and Resilience: Existing Evidence*.

⁶² World Bank Group (2016). *Gender Equality, Poverty Reduction, and Inclusive Growth*.

⁶³ UN WOMEN Central Asia



least one deputy seat). There were 10,337 local deputies elected for 427 rural and township jamoats in the last round of local elections in 2016. A total of 1,572 of all deputies, or about 15.2 percent of the total deputy corps, were women. The largest proportion of women deputies (21.2 percent) was elected in Khatlon, while the smallest proportion (15 percent) was elected in the least populous region of the country, GBAO⁶⁴.

61. **Through its implementation, the project will require greater women's engagement, specifically in disaster preparedness.** Under Component 2 to enhance women's voice and engagement in disaster preparedness, the project will ensure that women have an opportunity to express their needs, and these needs are heard and taken into account. The project will regularly conduct focus group discussions to ensure that women are represented and have an opportunity to voice their perceptions and concerns. Furthermore, the project will promote women's involvement and ability to influence preparedness and response decision-making at the community level. The indicator for this gap will measure women facilitators being hired by the CoESCD both at the national headquarters in Dushanbe and at the regional offices. The new hires are going to be part of the existing structures. Table 3 summarizes the project gender gaps, actions and indicators.

Table 3. Gender gaps, actions and indicators.

| Gender Gaps | Actions | Indicators |
|---|---|---|
| <ul style="list-style-type: none"> Few women in Tajikistan are involved in disaster preparedness and humanitarian response decision-making at the community level. | <p>Under Component 2</p> <ul style="list-style-type: none"> Carry out FGDs with community members to ensure that women are represented and have an opportunity to voice their perceptions and concerns and influence the preparedness and response decision-making at the community level. Hire and train women facilitators; and undertake outreach, training and advocacy activities about DRM preparedness that specifically target women and address their needs. Conduct capacity building activities of relevant local women's organizations to undertake outreach, training and advocacy activities on DRM preparedness that specifically target women and addresses their specific needs. | <ul style="list-style-type: none"> Women facilitators hired and trained by the CoESCD to undertake outreach, training, and advocacy activities (Percentage) Baseline 0. Target 35 percent. |

62. **Citizen engagement (CE).** There will be active participation and engagement of stakeholders and local communities (including women) in preparation of disaster preparedness modules to be supported under the project. The CoESCD PIU (the IA for sub-components 2.2 and 2.3) will initiate a survey in the targeted regions to assess training needs of various stakeholders (local governments, local communities, vulnerable citizens, women, industrial zones, SMEs, health workers, etc.) in disaster resilience and preparedness. Survey results will be incorporated into the training modules. The project will likely also involve schools in the decision-making processes to strengthen disaster preparedness. Consultations will be conducted with relevant stakeholders to collect feedback for developing dissemination channels (website, SMS services, smartphone apps, etc.) to facilitate real-time public access to forecasts and warnings. The CE process will empower citizens and communities, including women, in disaster preparedness and response decision-making processes.

⁶⁴ UNDP Jamoat Basic Indicators dataset 'JAMBI'



63. There will be a robust grievance redress mechanism (GRM) in place throughout the project cycle to ensure the efficient and effective addressing of grievances against project activities. During implementation, it is envisioned that the IAs will carry out beneficiary satisfaction surveys in selected regions to evaluate stakeholder satisfaction on CE activities and grievance management. The Project will consider adequate budget with resources in the Procurement Plan (PP) for citizen engagement activities and GRM functionality.

C. Project Beneficiaries

64. The rehabilitation of the CoESCD RCMCs will most directly benefit people living in the cities where they are located, namely Bokhtar (population 111,800), Khorog (30,500) and Khujand (183,600), for a total of 325,000 people. The entire population of the regions officially covered by the RCMCs, namely Khatlon (3,348,300), GBAO (228,900) and Soghd (2,707,600), will also potentially gain enhanced access to DRM and response services (total 6,284,800).⁶⁵ The roughly 260,000 people annually affected by emergencies who will have access to improved emergency response services should be considered indirect beneficiaries of this investment, as well as least some of the Afghan refugees that may enter Tajikistan, which may rise to 50,000 in 2022. The numbers of people benefitting directly from DRM and preparedness training, as well as enhanced early warning services, will be determined during project implementation. Representatives and staff of the CoESCD, MoT, IGEES, Tajikhydromet and MoF will also benefit from technical and institutional capacity building in DRM planning, implementation and monitoring.

65. Reconstruction of roads and bridges in Khatlon damaged by the 2021 flood and mudflows will benefit the residents of the Vakhsh, Vose, Shasiddin Shohin and Muminobod Districts, with a total population of 566,000. Rehabilitation of two bridges on the Dushanbe-Rudaki road will benefit the 518,000 residents of Rudaki District, while also ensuring an improved flow of goods and equipment between Dushanbe and the south of the country. Strengthening of roads to climate change and disaster risks in the Labidjar to Karamik corridor will directly benefit the residents of Roghun, Rasht, Tojikobod and Lakhsh Districts, with a total population of 343,400. This activity will also indirectly benefit over 1 million people in Dushanbe, Vakhdat city, Fayzobod and Nurobod Districts, with the road supporting local and access to services and markets as well as international trade by providing a vital link to the Kyrgyz Republic.

D. Results Chain

66. **Theory of Change.** The problems which underlie the theory of change are recently damaged critical roads, limited capacity to design and construct resilient roads, and insufficient disaster response and preparedness capacities lead to natural hazards and climate shocks causing significant negative impacts and disruptions. These will be addressed through a range of activities described in the component section, which will achieve the PDO. Figure 1 summarizes the project theory of change.

⁶⁵ GoRT Agency on Statistics (2020). *Population of the Republic of Tajikistan as of January 1, 2020.*

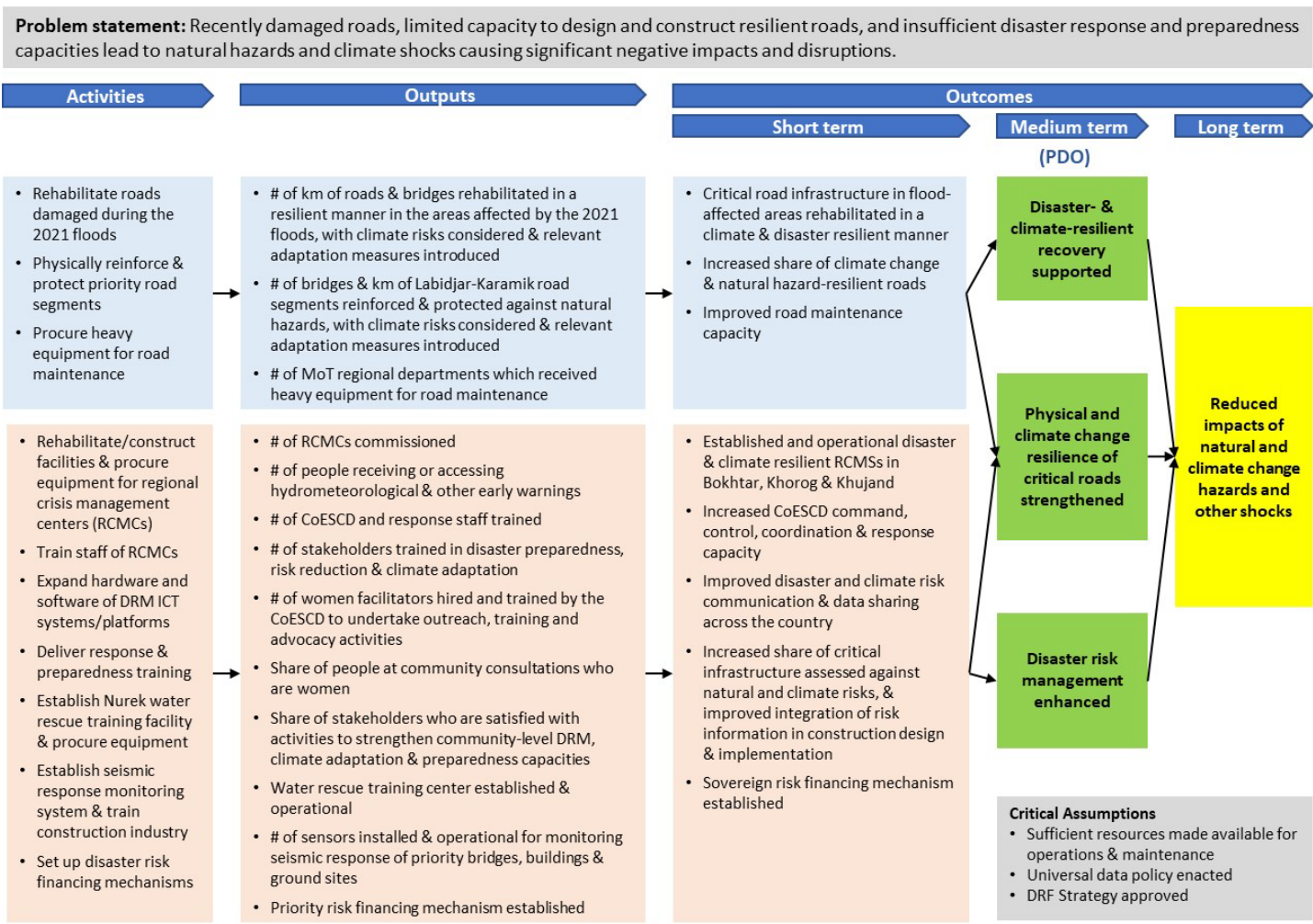


Figure 1. Project Theory of Change.

E. Rationale for Bank Involvement and Role of Partners

67. **Disaster, climate change and crisis resilience are under-funded priorities for the GoRT.** It is recognized that climate and disaster shocks undermine growth, sustainable development, and potentially, stability in the country. Yet, given the limited domestic resources, more immediate priorities receive greater national financing than management of shocks and building resilience. The opportunity for mobilizing additional IDA19 resources enables the WBG to expand support to this critical priority, while recognizing current increased risks due to potential and ongoing shocks such as COVID-19, extreme climate events and political instability of neighboring Afghanistan.

68. **The WBG will add value by providing policy and operational good practice guidance in DRM and climate change adaptation.** The WBG brings significant global and regional experience in planning and implementing holistic DRM and climate risk management and also provides insights on the policy, regulatory and institutional enabling environment to mainstream the DRM in national development and climate change adaptation strategies. Informed by experiences under SCINHP and other related national, regional projects, the WBG is also familiar with the national context, actors,



opportunities, and constraints in DRM and climate change adaptation. The support will focus on technical guidance, for example, advanced ICT systems for DRM and weather data, modern construction methods for resilient roads, fiduciary aspects including risks, results monitoring, capacity development, and knowledge development.

69. **Several development partners are active in DRM in Tajikistan.** ADB and UNDP in particular provide direct support to CoESCD, while other UN agencies, SDC, GIZ, JICA, EU, OSCE and AKAH also engage broadly on DRM. Several NGOs are also active in this field at sub-national and local levels. Coordination through REACT tends to primarily focus on to humanitarian response and broader DRM policy dialogue, while the disaster risk reduction (DRR) sub-group of the Development Coordination Council (DCC) is often limited to information sharing.

70. **Proactive coordination will be pursued.** While the WBG does not intend to assume leadership roles in REACT or the DCC DRR sub-group, by leveraging the significance of SCINHP and the proposed project, it will take a leading role in setting the tone for scaling up DRM. In particular, for support to the CoESCD, the WBG will work closely with ADB and UNDP to avoid duplication and ensure the consolidation of investments. For road resilience, the WBG will continue to coordinate engagements with active partners such as JICA and CARs-4.

F. Lessons Learned and Reflected in the Project Design

71. The proposed project's design incorporates lessons learned from both international and local projects implemented in Tajikistan, specifically in the areas of DRM, such as climate change adaptation, flood risk management, and resilient critical infrastructure. These are discussed in the following paragraphs.

72. **Applying risk information to enhance climate change adaptation and the planning and design of critical infrastructure is crucial.** A central theme of the proposed project is to mainstream the application of hazard information and ensure that rehabilitated and constructed assets are less susceptible to damage caused by the likely climate change-induced recurrence of natural hazards in their vicinity. The fact that most of the damages experienced during the 2021 floods and mudflows occurred at known high-risk river locations⁶⁶ indicates that more needs to be done to mainstream hydrometeorological hazard, exposure, vulnerability, risk information and climate change projections into development planning, land management and infrastructure design.

73. **A combination of structural and non-structural investments is needed to strengthen road resilience.** The recent World Bank assessment of road resilience indicates that depending on the frequency and magnitude of climate-related hazards, as well as the use and importance of the road, in order to protect a specific road segment, an optimized combination of interventions is needed⁶⁷. For example, while avalanche galleries may be most resilient, they are expensive and can still require rapid response if vehicles are trapped inside following an event. Up-slope high strength fences may, in some cases, be more efficient to prevent avalanche triggering in the first place. Similarly, targeted early warning systems may be most adaptive and affordable for some road segments and hazards.

74. **Preventive maintenance can significantly reduce risk and minimize operational/maintenance costs in the long term.** Experience shows proactive maintenance can substantially reduce medium- and long-term operation and maintenance costs for most infrastructure. Additionally, effective preventive maintenance can prolong the life of the design and reduce the risk of infrastructure failure, particularly due to climate risks. While good infrastructure management is the necessary basis for resilient infrastructure, it is also important to define institutional mandates and

⁶⁶ World Bank & GFDRR (2021). *Assessment of Contributing Factors of the May 2021 Disasters in Tajikistan*.

⁶⁷ World Bank & GFDRR (2021). *Assessment of Economic Impacts from Disasters Along Key Corridors – Final Report*.



strategies for infrastructure resilience; introduce resilience in the regulations and incentive systems of infrastructure sectors, users, and supply chains; improve decision making through data, tools, and skills; and provide appropriate financing—especially for risk-informed master plans, asset design, and preparedness⁶⁸.

75. **Ownership by the responsible institution is critical for efficient and effective project implementation.** Particularly for highly complex and technical activities, it is important that the benefitting agency or ministry operating and maintaining investments following project completion take a lead role in implementing and procuring the associated goods and works. This ensures the activities are responsive to the institutional needs to fulfill public mandates, and that they are adapted to operational realities and capacities, as highlighted by the SCINHP Mid-Term Review. To support this approach, the proposed project includes the CoESCD as an implementing agency.

76. **Meeting a GoRT's immediate liquidity needs is essential to ensuring timely post disaster, climate shock and crisis response.** In the aftermath of a catastrophe, most governments in affected regions experience difficulty in quickly raising emergency funds. Resources often flow from other line ministry budgets, disrupting existing development programs. The GoRT has some contingent funds available at both national and local levels, but the 2021 floods and mudflows showed that they are insufficient. Once these limited contingent resources are used, it appears the impacted communities are often left to fend for themselves. To address this risk, the proposed project includes a CERC to finance immediate response and recovery needs and aims to start implementing the Disaster Risk Financing Strategy.

III. IMPLEMENTATION ARRANGEMENTS

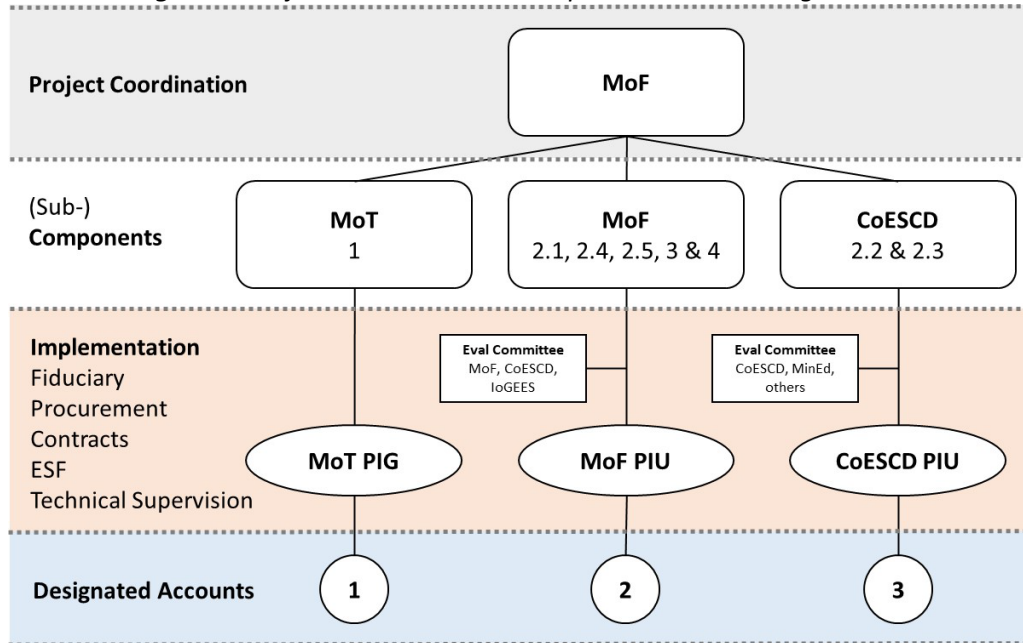
A. Institutional and Implementation Arrangements

77. **Implementing Agencies (IAs).** The project will have three IAs, namely the MoF, MoT and CoESCD. The MoF PIU will lead the overall supervision and coordination of project implementation, combined financial management (FM), and monitoring and combined reporting (component 3). The MoF PIU will also execute sub-components 2.1, 2.4 and 2.5 (RCMC construction, seismic risk assessment and disaster risk financing), and Component 4 (contingent emergency response), with technical inputs and supervision from relevant agencies such as the CoESCD, IGEES and relevant departments within the MoF. Sub-components 2.2-2.3 (strengthening disaster preparedness), will be implemented by the CoESCD PIU. Component 1 (road resilience) will be implemented by the MoT PIG. The CoESCD and MoT will be in charge of the procurement, FM, technical inputs and supervision, and environmental and social framework (ESF)-related aspects of their respective activities. A summary of the implementation arrangements is shown in Figure 2, and the detailed implementation arrangements are provided in Annex 1.

⁶⁸ World Bank & GFDRR (2019). *Lifelines – The Resilient Infrastructure Opportunity*. Sustainable Infrastructure Series.



Figure 2. Project institutional and implementation arrangements.



78. **CoESCD and MoT central and field support.** The CoESCD PIU and MoT PIG will each be staffed with at least a coordinator and environmental, social, procurement and FM specialists. Each will also have relevant technical specialists, specifically a construction engineer and ICT expert at CoESCD, and a construction/road engineer at MoT. Additionally, there will be a limited number of project-supported field-based technical specialists, based at the relevant CoESCD and MoT regional and district offices.

79. **Establishment of CoESCD PIU.** As a sub-unit of the existing project financed by the Asian Development Bank (ADB), the CoESCD PIU will follow the same implementation structure as the existing project unit. The PIU sub-unit will have senior CoESCD staff, such as the Chairman or Deputy Chairman, who shall be assisted by a Deputy Head of Project. In addition, significant fiduciary and E&S capacity building, including hiring of relevant specialists, will be needed at the PIU, who shall support key CoESCD staff in implementation of the project activities. Given that project financing will be required to establish the PIU team, a dated covenant (as opposed to an effectiveness condition) is justified to facilitate disbursement and support the establishment of the CoESCD PIU. The MoF PIU will implement the CoESCD’s sub-components until the PIU is established.

B. Results Monitoring and Evaluation Arrangements

80. The Results Framework, presented in Annex 1, was developed in coordination with the GoRT, and the World Bank’s core indicators have been included where applicable. The MoF PIU will be responsible for monitoring and reporting of the performance indicators defined for this project, which will be reported to the World Bank periodically. The PIU will assign a dedicated staff to coordinate M&E with the MoT and CoESCD in keeping track of progress and the outcomes of project activities (financed by Component 4). The Project Operational Manual (POM) will provide specific details regarding M&E responsibilities, including data collection requirements, timing, and use of the information.



81. Thematic areas that will be supervised and monitored include (a) social and environmental compliance, (b) regular technical quality supervision, and (c) periodic monitoring of physical and financial progress. If a significant hazard event occurs during the implementation of the project, the performance of any already or partially implemented activities potentially affected by the hazard will be assessed. When possible the investment's resilience with regards to the experienced hazard will be reviewed to understand any potential shortcomings in design or implementation.

C. Sustainability

82. **Physical and financial sustainability.** Continued support of cost-effective disaster- and climate-resilient principles will improve the sustainability of the critical public infrastructure in need of rehabilitation or reconstruction, in particular roads. The GoRT recognizes that the sustainability of infrastructure investments and physical development planning depends on better understanding adaptation options to strengthen resilience to disaster and climate risks. Optimal quality of infrastructure works will be guaranteed by the use of best practices for preparation and engineering design, construction supervision, and technical audits. The MoF and CoESCD are, for example, paying close attention to ensuring investments under and informed by the project are risk-informed by applying natural and climate hazard assessment information to improve sustainability. Similarly, under SCINHP the MoT has shown proactivity in utilizing disaster and climate risk information more systematically, firstly to inform the priority road investments identified under this project, but also more broadly by integrating it into its road asset database and management system. Finally, the critical road segments that will be strengthened under this project are expected to support local socioeconomic development, including local trade and access to public services.

83. **Institutional sustainability.** Project activities are part of a broader strategic dialogue on DRM that the World Bank continues to support in Tajikistan. A key outcome of the project will be the improved capacity of the GoRT and relevant line ministries to engage in long-term planning to build and maintain disaster- and climate-resilient infrastructure investments. Of particular emphasis is analytical and technical support to improve the GoRT's approach to strengthening critical infrastructure against natural hazards, focused specifically on data-driven decision-making that involves long-term planning while enhancing understanding of the effects of short-term events. To ensure long-term sustainability of the public infrastructure reconstructed or rehabilitated under this project, the GoRT will be required to furnish adequate plans for routine and periodic asset maintenance. For investments in support of the CoESCD, its engagement as an IA will strengthen institutional ownership of the project's relevant investments and help ensure sufficient budget and capacities are committed to maintaining goods and works procured under the project (under SCINHP the CoESCD was not an IA).

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

84. **Technical analysis.** The project builds on technical analysis and operational experience undertaken by the Bank and development partners. Component 1 investments in road resilience are informed by a detailed technical and economic assessment of climate and disaster risks and a potential suite of interventions to protect and strengthen roads undertaken over the past two years⁶⁹. The approach recognizes that in certain contexts, non-structural investments such as early warning systems and smart signage can be more effective and efficient than traditional infrastructure approaches. Component 2 on strengthening disaster and climate risk management capacity represents a logical

⁶⁹ World Bank & GFDRR (2021). *Assessment of Economic Impacts from Disasters Along Key Corridors – Final Report*.



continuation and scaling up of SCINHP's component 1, which itself was informed by a detailed capacity and needs assessment for DRM⁷⁰. Since then, GFDRR has rolled out the *Ready2Respond*⁷¹ framework for emergency preparedness and response, which provides a knowledge base, implementation tools and techniques to inform and design relevant investments. Component 2 aligns with the *Ready2Respond* framework and has been further informed by and aligns with ADB, AKAH, UNDP and OSCE analytics and projects. Activities on seismic risk information and disaster risk financing adopt the most recent advances and approaches promoted by the Global Earthquake Model (GEM), global good practice in seismic building codes and the Bank's Disaster Risk Financing and Insurance (DRFI) Program.

85. **Economic analysis.** The potential benefits of the proposed project investments are quantified as avoided damages and depend primarily on two metrics: (i) the damage baseline, i.e., the average amount of disaster damages experienced every year ("average annual loss" = AAL), and (ii) the rate of savings to apply over this base, i.e., how much the specific project investments will reduce the AAL. While Component 1 decreases damage by protecting and reinforcing the resilience of roads, Component 2 aims to reduce post-disaster impacts, therefore it delivers impact downstream of Component 1 on the DRM value chain. Uncertainties are handled by sourcing data either directly or adapting assumptions from relevant literature as well as expert judgement. A conservative approach is used to avoid overly optimistic estimates of benefits and hence contribute to the robustness of the conclusions. Residual uncertainties are explicitly reflected through a tailored probabilistic modelling approach.

86. **The mean project internal rate of return (IRR) is calculated at 15.1 percent, with only 3.9 percent of probabilistic hazard scenarios yielding an IRR below the acceptable minimum threshold of 5 percent.** In more than 20 percent of the most favorable scenarios, the IRR is exceptionally high, i.e., above 20 percent. This indicates a very high likelihood for robust economic efficiency. Individually, Components 1 and 2 yield mean IRRs of 15.7 percent and 13.3 percent respectively, with the probability of performance below the 5 percent threshold of negligible and 25 percent, respectively. The relatively higher risk of underperformance for Component 2 is due to low levels of income and population density which implies that there is less potential for savings, and thus more limited quantifiable risk. The details of the economic analysis are reviewed in Annex 3.

B. Fiduciary

(i) Financial Management

87. **The overall FM residual risk rating of the project is assessed as Moderate.** MoF through the existing PIU, MoT through its PIG and CoESCD through its PIU will be responsible for financial management (FM) functions under the project. Overall, FM arrangements at all three implementing agencies are adequate to implement the project and meet the minimum requirements of the Bank's Policy and Directive on Investment Project Financing. However, the following actions will need to be in place before the project implementation at the CoESCD, within 30 days after project effectiveness: (i) FM/accounting staff, acceptable to the Bank, shall be hired to support the Chief Accountant on a daily basis (ii) the accounting system shall be installed and have inbuilt controls to ensure data security, integrity and reliability, and the functionality of automatic generation of IFRs. Additionally, by project effectiveness, the FM sections of the POM, acceptable to the Bank, shall be developed and approved.

88. **With regard to the FM Covenants to be included in the Disbursement and Financial Information Letter (DFIL),**

⁷⁰ World Bank & GFDRR (2018). *Capacity and Needs Assessment on Disaster Risk Management for the Committee of Emergency Situations and Civil Defense*, performed by the Asian Disaster Preparedness Center (ADPC) and AKAH.

⁷¹ <https://www.gfdr.org/en/publication/ready2respond-framework-emergency-preparedness-and-response>



the following should be noted: (i) combined interim unaudited financial reports (IFRs) formats have been agreed with IAs and will be submitted by the MoF PIU to the Bank within 45 days after the end of the calendar quarter; and (ii) the project’s annual audited combined financial statements are to be submitted to the Bank within 6 months after the end of the audit period. An audit will be carried out by independent auditors acceptable to the Bank (funded out of the project); the terms of reference will be pre-agreed with the Bank. MOF PIU is responsible for submission of combined IFRs and audit reports to the Bank. Details with respect to disbursements will be included in the Disbursement and Financial Information Letter.

(ii) Procurement

89. **Procurement of goods, works, and services will be carried out in accordance with the World Bank Procurement Regulations for IPF Borrowers** dated November 2020, and the provisions stipulated in the Financing Agreement (FA). The project will be subject to the Bank’s Anticorruption Guidelines dated October 15, 2006 and revised in January 2011 and as of July 1, 2016.

90. **The residual procurement risk under the project is currently assessed as moderate.** The IAs MoF, CoESCD and MoT will have overall responsibility for conducting procurement under the project. The MoF will serve as the primary GoRT counterpart and the overarching institution responsible for project implementation. While there is some existing procurement capacity in the procurement units and the staff do have some experience under projects financed by the Bank. This capacity is however limited and, in some cases, not stable, such that risk mitigation approaches including project-financed hiring of additional procurement specialists, close supervision and implementation support, and training will be needed. The details of implementation are provided in Annex 1.

C. Legal Operational Policies

| | Triggered? |
|---|------------|
| Projects on International Waterways OP 7.50 | No |
| Projects in Disputed Areas OP 7.60 | No |

D. Environmental and Social

91. **The social and environmental risks are considered moderate at this stage because the risks are predictable and expected to be temporary and/or reversible, and site specific.** The risks and impacts can be substantially avoided or mitigated through the project design and implementation modalities.

92. Adverse environmental impacts associated with the project activities are mainly road and bridge rehabilitation works. The main adverse environmental impacts related to project operations may include generation of dust, noise, debris generation, and movement of machinery at subproject sites. The adverse environmental impact may accelerate soil erosion, surface water pollution, loss of topsoil, and greenery. However, these impacts are moderate risk is temporary, and reservable in nature and scope. Moreover, the ESMF as a principal document would spells-out site-specific Environmental and Social Management Plans (ESMPs) for individual subprojects to effectively mitigate, minimize negative E&S impacts. Use of construction materials that are hazardous to human health, for example, asbestos and asbestos-containing materials (ACM), will not be permitted. Any pre-existing ACM rehabilitation waste will be collected, transported, and finally disposed of by applying special protective measures following hazardous waste handling



standards and using procedures, as given in the World Bank Group EHS Guidelines.

93. The renovation and rehabilitation activities can cause limited risk relating to labor and working conditions (inadequate accommodation for migrant workers, lack of adequate water, sanitation facilities, etc.), discrimination in hiring, lack of functional GRM for workers to raise workplace concerns, gender disparity, including unequal pay, health and personal injury, etc. The labor compliance risks are manageable by applying labor management procedures (LMP) which will be developed within two months after Project effectiveness. The other adverse social impacts relate to the community health and safety risks, such as labor influx, sexual exploitation and abuse (SEA) and sexual harassment (SH), the transmission of communicable diseases, and child and forced labor during the construction phase. However, the Implementing Agencies- IAs (MoF PIU and CoESCD PIU and MoT PIG), especially MoT demonstrated their capacity to mitigate such impacts under the ongoing SCINHP project. The Project is assigned a low risk for sexual exploitation and abuse (SEA) and sexual harassment (SH) at this stage. The renovation and rehabilitation activities are expected to cause only minor temporary or permanent land/asset impacts, for which a Resettlement Policy Framework (RPF) will be prepared.

94. There is also a potential risk of community exposure to COVID-19 infection by the Project workers during the construction phase. The Project will exercise appropriate precautions against introducing the infection to local communities. Additionally, addressing such risks will benefit from Interim Guidance on COVID-19 has been disclosed on April 07, 2020. The guidance will help the borrower address key issues associated with COVID-19 and consolidate the advice being applied from local medical health authorities.

95. Since the exact locations and the nature of subproject activities are not known at this stage, it is difficult to determine associated risks to the activities of the subprojects. The project has therefore adopted a framework approach in the form of developing an Environmental and Social Management Framework (ESMF). The ESMF, RPF and LMP will be deferred to the Project implementation stage, and will be developed, consulted, and disclosed within 90 days after Project effectiveness. The ESMF will include terms of reference for the environmental and social screening report. The screening report will form the basis to develop environmental and social (E&S) instruments, including the site-specific Environmental and Social Management Plans (ESMPs). It will also include requirements for assessment of social risk in connection to refugees and host community issues and other potential conflict issues.

96. The ESMF will also include a positive and negative list for Contingency Emergency Response Component (CERC). It will also provide guidance about those activities which may proceed as soon as the CERC is activated with no additional environmental and social assessment, and those that would require assessment (E&S instruments, such as ESMP), consultation, disclosure prior to initiation.

97. The environmental and social requirements set out in the ESF standards, that are applicable during the Project preparation stage will be deferred to the Project implementation stage. This is due to the fact that this Project is being prepared under Paragraph 12 of the IPF Policy for Projects in the situation of urgent need of assistance.

98. The relevant ESF standards to address social and environmental risks are: Assessment and Management of Environmental and Social Risk and Impacts (ESS1), Labor and Working Conditions (ESS2), Resource Efficiency and Pollution Prevention and Management (ESS3), Community Health and Safety (ESS4), Land Acquisition, Restrictions, and Land Use and Involuntary Resettlement (ESS5), and Stakeholders Management and Information disclosure (ESS10). The details of all ten Standards are summarized in the appraisal ESRS. The following mandatory instruments have been prepared disclosed prior to Project appraisal: (i) Preliminary Stakeholder Engagement Plan (SEP), and (ii) Environmental



and Social Commitment Plan (ESCP).

99. The ESCP includes appropriate actions with time-bound commitments, including requirements for E&S staffing.

100. The IAs will set up an Environmental and Social Unit (ESU) within the PIUs and PIG of the PREPARED Project, and the MoF PIU, CoESCD PIU and MoT PIG will each be staffed with at least one dedicated environmental specialist, one social specialist at HQ level where the MoF PIU and MoT PIG will assign two experienced E&S officers in each provincial office. Additionally, the relevant PIG will engage two short-term E&S consultants (one environmental expert and one social expert) to develop E&S instruments (such as ESMF, RPF, LMP, including updating of the Preliminary SEP) as well as to provide E&S capacity building trainings.

101. **Citizen Engagement.** The Preliminary Stakeholder Engagement Plan (SEP) includes stakeholder mapping and analysis, information about citizen engagement activities, and Grievance Redress Mechanism (GRM). It also addresses timing and methodologies for meaningful and participatory consultation, including information disclosure to all stakeholders. The SEP is a living document which will be updated throughout the Project cycle.

102. The Project will scale up the existing GRM system of the Strengthening Critical Infrastructure against Natural Hazards Project (SCINHP- P158298) to address grievances. Different grievance uptake channels are open for project beneficiaries and other stakeholders to register their grievances. The project will extend the existing GRM in the target regions of the project, which are not covered by the SCINHP. The MoF will prioritize hiring one GRM focal officer to manage project grievances, also bolster the ESF capacity, including GRM training and capacity building of the relevant staff.

103. The Project Result Framework includes two Citizen Engagement (CE) Indicators. During the implementation stage, it is envisioned that the IAs will carry out beneficiary satisfaction surveys in the selected regions to evaluate stakeholder's satisfaction.

104. The ESMF, RPF and LMP (including the preliminary SEP) will be subject to meaningful consultation with local governments level, and details about consultation will be incorporated in the final documents. The E&S documents will be publicly disclosed on the IAs website and in the World Bank's website after Bank's review and clearance .

V. GRIEVANCE REDRESS SERVICES

105. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.



VI. KEY RISKS

106. **The overall project risk is rated moderate, taking into account the mitigation measures considered in project design.** One SORT Risk category is rated substantial, as described below, macroeconomic risk is rated low, and the rest are rated moderate. Where relevant and appropriate, the risk ratings align with the most recent recalibrated SORT risk ratings for SCINHP (ISR Sequence No. 9).

107. **Risks related to the national enabling environment are moderate to low.** Political and governance risk is considered Moderate as the 2021 floods and mudflows have yet again increased recognition of the significant natural hazard and climate risks facing the country and the impacts they can have on infrastructure, people and the economy. DRM has therefore been reinforced as a national priority and given the existing *National Disaster Risk Reduction Strategy 2019-2030* and proactivity of the GoRT to implement it as well as climate change adaptation commitments, the risk of sector strategies and policies is also considered Moderate. While there remains a continued risk of COVID-19 impacts, as this project will be financed by a grant, macroeconomic risk is considered low.

108. **The risk for institutional capacity for implementation and sustainability is substantial due primarily to CoESCD's lack of implementation experience.** While the CoESCD will establish a new PIU as a sub-unit of the existing ADB PIU to implement this project, it only has experience in implementation of an ADB project, such that significant fiduciary and E&S capacity building will be needed. While PIU capacity is built during the initial project implementation phase, the experienced and coordinating MoF PIU will provide guidance to the CoESCD regarding implementation of initial project activities, thereby helping to mitigate risks, including those related to fiduciary issues, which is therefore rated as Moderate. Once the CoESCD PIU is fully functional, the team will consider downgrading the risk.

109. **Project technical design risk is considered moderate.** This is primarily because the design mimics SCINHP, which has proven to be a successful approach. To help mitigate the involved risk, the project will benefit from Bank-financed technical assistance to navigate the complex institutional landscape with regards to certain activities planned under sub-components 2.2 and 2.3, both in terms of multiagency collaboration and peripheral multiple development partner involvement. This is with particular regards to common DRM information systems and platforms, where potentially sensitive data policies come into play, as well as to training activities, goods and works, where for both topics several development partners are concurrently providing support to the CoESCD.

110. **The social and environmental risks are considered moderate as the risks are predictable and expected to be temporary and/or reversible, and site specific.** Adverse environmental impacts associated with the project activities are mainly associated with road and bridge rehabilitation works including potential generation of dust, noise and debris, movement of machinery, accelerated soil erosion, surface water pollution, and loss of topsoil and greenery. The activities can cause limited social risk relating to labor and working conditions, discrimination in hiring, lack of a functional GRM for workers to raise workplace concerns, gender disparity, including unequal pay, health and personal injury, etc. Other limited adverse social impacts relate to community health and safety risks, and renovation and rehabilitation activities are expected to cause only minor temporary or permanent land/asset impacts. The social and environmental risks and impacts can be substantially avoided or mitigated through the project design and implementation modalities.



VII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Tajikistan

Tajikistan Preparedness and Resilience to Disasters Project

Project Development Objectives(s)

(a) To support disaster recovery, strengthen the resilience of critical roads, and enhance disaster risk management capacity; and (b) in the case of an Eligible Crisis or Emergency, respond promptly and effectively to it.

Project Development Objective Indicators

| Indicator Name | PBC | Baseline | End Target |
|---|-----|----------|--------------|
| To pursue resilient recovery | | | |
| People in flood affected areas benefitting from rehabilitated roads (Number) | | 0.00 | 566,000.00 |
| of which are female (Percentage) | | 0.00 | 50.00 |
| To increase physical resilience of critical infrastructure | | | |
| People benefitting from more resilient roads (Number) | | 0.00 | 861,000.00 |
| of which are female (Percentage) | | 0.00 | 50.00 |
| To increase preparedness, response and recovery capacity | | | |
| People benefitting from improved access to disaster information and strengthened response systems and services (Number) | | 0.00 | 6,284,800.00 |
| of which are female (Percentage) | | 0.00 | 50.00 |



Intermediate Results Indicators by Components

| Indicator Name | PBC | Baseline | End Target |
|--|-----|----------|--------------|
| Component 1: Building Road Resilience | | | |
| Roads rehabilitated (CRI, Kilometers) | | 0.00 | 24.00 |
| Roads rehabilitated - rural (CRI, Kilometers) | | 0.00 | 0.00 |
| Roads rehabilitated - non-rural (CRI, Kilometers) | | 0.00 | 24.00 |
| Bridges rehabilitated and reinforced in a climate- and earthquake-resilient manner (Number) | | 0.00 | 8.00 |
| High risk sites protected against climate change, hydrometeorological and seismic hazards (Number) | | 0.00 | 50.00 |
| Heavy equipment delivered to MoT regional departments (Number) | | 0.00 | 10.00 |
| Component 2: Strengthening Disaster Risk Management Capacity | | | |
| Regional crisis management centers commissioned (Number) | | 0.00 | 3.00 |
| People receiving or accessing hydrometeorological and other early warnings (Number) | | 0.00 | 1,000,000.00 |
| CoESCD and response staff trained (Number) | | 0.00 | 100.00 |
| of which are female (Percentage) | | 15.00 | 30.00 |
| Stakeholders trained in disaster preparedness, risk reduction and climate adaptation (Number) | | 0.00 | 5,000.00 |
| of which are female (Percentage) | | 0.00 | 50.00 |
| Women facilitators hired and trained by the CoESCD to undertake outreach, training and advocacy activities (Percentage) | | 0.00 | 35.00 |
| Stakeholders satisfied with activities to strengthen community-level DRM, climate adaptation and preparedness capacities | | 0.00 | 70.00 |



| Indicator Name | PBC | Baseline | End Target |
|--|-----|----------|------------|
| (Percentage) | | | |
| Women representation in community consultations (Percentage) | | 0.00 | 40.00 |
| Water rescue training center established (Yes/No) | | No | Yes |
| Sensors installed for monitoring seismic response of priority bridges, buildings and ground sites (Number) | | 0.00 | 61.00 |
| Establishment of priority national risk financing mechanism (Yes/No) | | No | Yes |
| Component 3: Project Management | | | |
| Grievances addressed within the time specified in the project operations manual (Percentage) | | 0.00 | 80.00 |

Monitoring & Evaluation Plan: PDO Indicators

| Indicator Name | Definition/Description | Frequency | Datasource | Methodology for Data Collection | Responsibility for Data Collection |
|---|---|--------------|--|--|------------------------------------|
| People in flood affected areas benefitting from rehabilitated roads | Number of people served by the rehabilitation of roads damaged during the 2021 floods and mudflows, disaggregated by sex and including Afghan refugees. | Semiannually | Project progress reports combined with population data | Construction supervision engineer inspection of road works | MoT PIG |
| of which are female | Percent of people served by the rehabilitation of roads | Semiannually | Project progress | Construction supervision engineer | MoT PIG |



| | | | | | |
|--|--|--------------|--|---|------------------------|
| | damaged during the 2021 floods and mudflows who are female, including Afghan refugees. | | reports combined with population data | inspection of road works | |
| People benefitting from more resilient roads | Number of people served by reinforced and protected roads, disaggregated by sex and including Afghan refugees. This does not include the people in the 2021 flood affected areas benefitting from reconstructed roads, which is captured in PDO Indicator 1. | Semiannually | Project progress reports combined with population data | Construction supervision engineer inspection of road works | MoT PIG |
| of which are female | Percent of people served by reinforced and protected roads who are female, including Afghan refugees. | Semiannually | Project progress reports combined with population data | Construction supervision engineer inspection of road works | MoT PIG |
| People benefitting from improved access to disaster information and strengthened response systems and services | Number of districts benefitting from improved information and service delivery from the CoESCD. | Semiannually | Project progress reports | Construction supervision engineer reports, ICT installation reports | CoESCD PIU and MoF PIU |
| of which are female | Percent of people benefitting from improved | Semiannually | Project progress | Construction supervision engineer | CoESCD PIU and MOF |



| | | | | | |
|--|--|--|---------|-----------------------------------|-----|
| | information and service delivery from the CoESCD who are female, including Afghan refugees | | reports | reports, ICT installation reports | PIU |
|--|--|--|---------|-----------------------------------|-----|

Monitoring & Evaluation Plan: Intermediate Results Indicators

| Indicator Name | Definition/Description | Frequency | Datasource | Methodology for Data Collection | Responsibility for Data Collection |
|---|--|--------------|--------------------------|---|------------------------------------|
| Roads rehabilitated | | Semiannually | Project progress reports | Supervision construction engineer inspections | MoT PIG |
| Roads rehabilitated - rural | | | | | |
| Roads rehabilitated - non-rural | | Semiannually | Project progress reports | Supervision construction engineer inspections | MoT PIG |
| Bridges rehabilitated and reinforced in a climate- and earthquake-resilient manner | Number of bridges rehabilitated and/or reconstructed under sub-components 1.1 and 1.2 | Semiannually | Project progress reports | Supervision construction engineer inspections | MoT PIG |
| High risk sites protected against climate change, hydrometeorological and seismic hazards | Number of high risk road sites protected through avalanche galleries, snow barriers, retaining walls, flexible rockfall barriers, rockfall drapes, debris flow barriers, larger culverts, strengthened bridges, road | Semiannually | Project progress reports | Supervision construction engineer inspections | MoT PIG |



| | | | | | |
|--|--|--------------|--------------------------|--|------------------------|
| | realignments, replacement of soft/swamp material, roadbed raising, and surface water drains. | | | | |
| Heavy equipment delivered to MoT regional departments | Number of pieces of heavy equipment/machinery delivered to MoT regional departments to support improved road maintenance and post-disaster clean up and rehabilitation. | Semiannually | Project progress reports | MoT procurement records | MoT PIG |
| Regional crisis management centers commissioned | Construction works of regional crisis management centers in Bokhtar, Khorog and Khujand completed, ICT systems installed, and centers inaugurated. | Semiannually | Project progress reports | Construction supervision engineer inspections | MoF PIU and CoESCD PIU |
| People receiving or accessing hydrometeorological and other early warnings | Number of people receiving disaster early warnings or accessing them through various channels/technologies. | Semiannually | Project progress reports | CoESCD relevant departments and potentially telecoms operators | CoESCD PIU |
| CoESCD and response staff trained | Number of CoESCD staff and first responders receiving professional training in INSARAG, IRATA and other international community certification trainings (water rescue, urban rescue, flood/running water rescue, mountain rescue, K-9, open field(nature) rescue, etc.), | Semiannually | Project progress reports | CoESCD training reports | CoESCD PIU |



| | | | | | |
|--|---|--------------|--------------------------|---|------------|
| | disaggregated by sex. | | | | |
| of which are female | Percent of CoESCD staff and first responders receiving professional training in INSARAG, IRATA and other international community certification trainings (water rescue, urban rescue, flood/running water rescue, mountain rescue, K-9, open field(nature) rescue, etc.) of which are female. | Semiannually | Project progress reports | Training reports | CoESCD PIU |
| Stakeholders trained in disaster preparedness, risk reduction and climate adaptation | Number of stakeholders including public, public agencies, vulnerable citizens, SMEs, health workers, etc. receiving DRM training, disaggregated by sex. | Semiannually | Project progress reports | Training reports | CoESCD PIU |
| of which are female | Percent of stakeholders including public, public agencies, vulnerable citizens, SMEs, health workers, etc. receiving DRM training of which are female. | Semiannually | Project progress reports | Training reports | CoESCD PIU |
| Women facilitators hired and trained by the CoESCD to undertake outreach, training and advocacy activities | Percent of facilitators hired and trained to undertake DRM outreach, training and advocacy activities. | Semiannually | Project progress report | CoESCD staffing and contracting reports, training reports | CoESCD PIU |



| | | | | | |
|--|---|--------------|--------------------------|---|--------------------------|
| Stakeholders satisfied with activities to strengthen community-level DRM, climate adaptation and preparedness capacities | Stakeholders (local communities, vulnerable citizens, male/female, schools) satisfied with activities to strengthen community-level disaster risk management and preparedness capacities. | Annual | Project progress reports | Training evaluations and reports, surveys | CoESCD PIU |
| Women representation in community consultations | Percentage of women representatives in project community consultations and events. | Semiannually | Project progress report | Surveys, FGDs and training evaluation/reports | CoESCD PIU |
| Water rescue training center established | Construction, provision of equipment and capacity building for a water rescue training center at Nurek Reservoir | Semiannually | Project progress reports | Supervision construction engineer inspections | CoESCD PIU |
| Sensors installed for monitoring seismic response of priority bridges, buildings and ground sites | Number of seismic response sensors installed on priority bridges, buildings and sites in Dushanbe | Semiannually | Project progress reports | IoGEES reporting | MoF PIU |
| Establishment of priority national risk financing mechanism | Establishment of one priority sovereign risk financing mechanism such as a fund as facilitated under the Disaster Risk Financing Strategy. Successful completion does not imply potential capitalization. | Semiannually | Project progress report | Government/MoF decree | MoF PIU |
| Grievances addressed within the time specified in the project operations manual | Percentage of GRMs received address in a timely | Semiannually | Project progress | GRM implementation and reporting | MoF PIU with inputs from |



| | | | | | |
|--|------------------------------|--|----------------------|--|------------------------|
| | manner as defined in the POM | | reports, GRM reports | | CoESCD PIU and MoT PIG |
|--|------------------------------|--|----------------------|--|------------------------|

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|



ANNEX 1: Implementation Arrangements and Support Plan

COUNTRY: Tajikistan

Tajikistan Preparedness and Resilience to Disasters Project

A. Project Institutional and Implementation Arrangements

1. **The MoF PIU will lead the overall supervision and coordination of project implementation**, combined FM, and combined monitoring and reporting (as shown in Figure 2). The MoF PIU will also execute Sub-Components 2.1, 2.4 and 2.5 (under Component 2: Strengthening Disaster Risk Management Capacity) and Component 4 (Contingent Emergency Response Component), including aspects related to procurement and safeguards, with technical inputs and supervision from relevant agencies, such as the CoESCD and IoSEE, and relevant departments within the MoF. Sub-Component 2.2 and 2.3 activities related to disaster preparedness will be implemented by the CoESCD, and Component 1 activities related to the reconstruction of bridges will be implemented by the MoT. Both the CoESCD and MoT will be in charge of the procurement, FM, technical inputs and supervision, and safeguard-related aspects for their respective activities.

Ministry of Finance

2. **The MoF will serve as the primary GoRT counterpart and the overarching institution responsible for project implementation.** The MoF is experienced in executing World Bank–financed projects, as well as coordinating various line ministries and technical agencies. This implementing arrangement—with the MoF as the overarching institution—was determined to be optimal, given the multisectoral nature of the project.

3. The PIU within the MoF will be responsible for tasks for all components and activities of the project. This will include the following:

- Overall project management and coordination.
- Combination of FM reports from the CoESCD and MoT.
- Combination of audited financial statements under the project.
- Administration of third-party audits, ensuring quality of project activities.
- Semiannual project progress reports, combining all components and activities.
- Monitoring of the Results Framework.
- Hiring and management of consultants, as needed, for the overall project management and coordination.

The PIU will also be the entity primarily responsible for coordinating with the World Bank and other IAs.

4. As indicated, the MoF will be responsible for executing sub-components 2.1, 2.4 and 2.5. Specific tasks undertaken by the PIU for these components, in addition to those for all components and activities mentioned above, include the following, among others:

- Procurement, including preparation of ToRs/bidding documents, evaluation reports, contract management, and so on.
- Hiring and management of consultants, as needed
- Management of environment and social safeguard aspects
- FM



- Reporting and monitoring of project progress

5. The relevant departments within the MoF will be responsible for providing technical inputs and supervision for the preparation of a financial protection strategy for mitigating fiscal shocks caused by natural disasters under Component 2, to be executed by the MoF PIU.

6. Detailed procedures for the implementation for all components will be described in the annex of the POM.

Committee of Emergency Situations and Civil Defense

7. **The CoESCD PIU will be the agency responsible for implementing, coordinating, and managing all activities under Subcomponents 2.2 and 2.3**, including relevant tasks for procurement, contract management, safeguards, and technical inputs and supervision. FM, reporting of project progress, and monitoring of activities under the subcomponent will be conducted by the CoESCD PIU and combined by the MoF PIU for the entire project. The CoESCD PIU may also hire management consultants, as needed, for the subcomponent.

8. The CoESCD will also be responsible for providing technical inputs and supervision for the procurement of necessary works to be executed by the MoF PIU for modernizing the RCMCs under Sub-Component 2.1. In addition, the CoESCD will be responsible for all necessary administrative procedures, including obtaining relevant permits and clearances, and for the full operationalization of the CMCs.

Ministry of Transport

9. **The MoT PIG will be the agency responsible for implementing, coordinating, and managing all activities under Component 1**, including tasks relevant to procurement, contract management, safeguards, and technical inputs and supervision. FM, reporting of project progress, and monitoring of activities under the subcomponent will be conducted by the MoT PIG and combined by the MoF PIU for the entire project. The MoT PIG may also hire management consultants, as needed, for the subcomponent.

Institute of Geology, Earthquake Engineering and Seismology

10. **The IGEES will be responsible for providing technical inputs and supervision** for the procurement of potential necessary goods. Procurement will be executed by the MoF PIU and the goods used for the seismic hazard assessment for improved disaster risk identification under Sub-Component 2.4. In addition, the IGEES will be responsible for the implementation of the seismic hazard assessment, using the potentially procured equipment.

11. **The MoES and CoAC will also be involved in specific project activities.** CoESCD would work with the Ministry of Education and Science (MoES) to potentially support school preparedness, and the IGEES will potentially work with the Committee on Architecture and Construction (CoAC) for improving building codes and national construction/engineering design capacities under Sub-Component 2.4.

B. Procurement

12. **Procurement under the project will be carried out by the MoF PIU, CoESCD PIU and MoT PIG.** The MoF PIU will serve as the primary GoRT counterpart and the overarching institution responsible for project implementation, and will



also conduct some procurement under sub-components 2.1, 2.4 and 2.5. The CoESCD PIU will be the agency responsible for implementing, coordinating, and managing all activities under Subcomponents 2.2 and 2.3, and the MoT PIG will be the agency responsible for implementing, coordinating, and managing all activities under Component 1.

13. **Standard Procurement Documents.** The World Bank's Standard Procurement Documents, Requests for Proposals, and Forms for Consultant Contracts shall be used for Open International Competition. For the national open tendering the project will use pre-agreed documents.

14. **Project Procurement Strategy for Development (PPSD).** The Project Procurement Strategy for Development (PPSD) is being prepared by the Borrower with the purpose of identifying the most appropriate procurement approach for the project. The PPSD needs to be finalized in the first three months of the project implementation. The investments under the project mainly include rehabilitation/construction of buildings and roads, procurement of goods and hiring of consultants.

15. **Systematic Tracking of Exchanges in Procurement (STEP).** The project will implement STEP, a World Bank planning and tracking system, which will provide data on procurement activities and establish benchmarks. The details of the procurement activities, presently being prepared in the Procurement Plan, would be transferred into STEP. No activities procured outside STEP will be considered as eligible. Activities first need to be added to STEP and be approved by the Bank before the procurement process can start through STEP

16. **Procurement Capacity Assessment of MoF, CoESCD, and MoT.** The procurement assessment of the IAs reveals that there is some existing procurement capacity in the procurement units and the staff does have some experience under projects financed by the Bank. However, because this capacity is limited and, in some cases, not stable, the procurement risk is **High**.

17. **To mitigate the risk the following measures have been agreed:**

- MoF: The PIU that is currently handling procurement under the Bank-financed SCINHP project will also manage procurement under this project.
- CoESCD: The project implementation structure currently handling procurement under the project financed by ADB may also manage procurement under this project. To cope with the additional work, a procurement specialist will be financed by this project.
- MoT: The PIGs currently handling procurement under the SCINHP and CARs-4 projects have experience in implementation. The SCINHP PIG will also handle procurement under this project. For the PIG to cope with the additional work, a procurement specialist will be financed by this project.

18. Keeping in mind the above mitigation measures the procurement risk under the project will be **Moderate**.

19. **Record keeping.** All records pertaining to award of tenders, including bid notification, register of sale and receipt of bids, bid opening minutes, bid evaluation reports and all correspondence related to bid evaluation, communication sent to/with the Bank in the process, bid securities, and approval of invitation/evaluation of bids will be retained by all three IAs.

20. **Governance and Oversight Arrangements.** (*Audit Arrangements - External Audit*) The Chamber of Account and office of Anti-Corruption conduct regular procurement audits and share the findings with IAs in a timely manner.



21. **Frequency of Procurement Supervision by the World Bank.** In addition to the prior review, supervision shall be carried out by the World Bank team. There will be two Implementation Support Missions (ISMs) per year. In addition to prior review, World Bank staff or World Bank-appointed Consultants shall carry out post procurement audits once per year.

22. **Governance and Anticorruption agenda.** All the contract opportunities and contract awards will be widely published on the Internet, country procurement agency website, IAs websites, and when required in the United Nations Development Business (UNDB). The IAs will set up a system to ensure that the staff/consultants who handled the procurement process/contract management/contract execution do not join the consultants/contractors. This will be reviewed during ISMs. Other actions are (a) alerting implementing agencies’ officials/staff about any fraud and corruption issues; (b) alerting bidders against adopting fraudulent and corrupt practices; (c) awarding contracts within the initial bid validity period, and closely monitoring the timing; (d) taking action against any corrupt bidder in accordance with the procurement regulation of the Bank; (e) preserving records and all documents regarding public procurement; (f) publishing contract award information (Contract Award Notice) in UNDB online through STEP, Country Procurement Agency’s website, and agencies’ websites within 10 (ten) Business Days from the Borrower’s Notification of Contract Award to the successful Bidder/Proposer/Consultant; (g) ensuring timely payments to the suppliers/contractors/consultants and imposing liquidated damages for delayed completion; and (h) enforcing a procurement filing system.

23. **Procurement Complaints Handling.** The IAs will be guided by the World Bank’s Procurement Regulations for Borrowers for Goods, Works, Non-Consulting, and Consulting Services and applicable to IPF hereinafter referred to as ‘Regulations’. The IAs will inform the World Bank as soon as the procurement complaint is received and subsequently the outcome. The IAs should update complaints in the STEP regardless of being prior or post reviewed by the Bank and maintain/update all the documents in the system. The IAs also should have a system to register and monitor the receipt and resolving of complaints. The progress of such action will be reviewed by the Bank during ISMs.

24. **Incremental Operating Cost.** The costs which are to be borne by the project would be procured using the administrative procedures, which were reviewed and found acceptable to the World Bank.

25. **Methods of Procurement & Related Thresholds and Prior Review Thresholds for the project:**

Table 1-1. Goods, Works and Non-Consulting Services

| Procurement Method | Threshold for Methods (US\$) |
|---|-------------------------------------|
| Open International (Goods) | 1,000,001 |
| Open National (Goods) | 1,000,000 |
| Open International (Works) | 5,000,001 |
| Open National (Works) | 5,000,000 |
| Open International (Non-Consulting Services) | 1,000,001 |
| Open National (Non-Consulting Services) | 1,000,000 |
| RFQ (Goods) | 100,000 |
| RFQ (Works) | 200,000 |
| Framework Agreements using Open National Approach (as per clause 6.58 to 6.59 of the Procurement Regulations) | As per requirement. |



Table 1-2. Consulting Services: Selection Methods and Thresholds

| Selection Method | Threshold |
|---------------------|--|
| CQS for Firms | US\$300,000 equivalent or less |
| QCBS, QBS, FBS, LCS | Depending on the nature and complexity of assignment |

Table 1-3. Procurement Prior Review Threshold (USD millions)

| Type of Procurement | Moderate |
|---|------------|
| Works (including turnkey, supply and installation of plant and equipment, and public-private partnership) | 15,000,000 |
| Goods, information technology (IT), and non-consulting services | 4,000,000 |
| Consultants: firms | 2,000,000 |
| Consultants: individuals ^a | 400,000 |

^aThe above thresholds apply for consultants/advisors and not contracted/PIU staff.

26. The requirement for prior or post review as specified above may change in consultation with the Bank during the implementation phase of the project. Based on the monitoring and reassessment of the risk, if necessary and appropriate, as determined by the Bank, the Bank may advise to revise the prior and/or post review requirements in the Procurement Plan.

27. **Use of National Procurement Procedures.** In accordance with paragraph 5.3. of the Procurement Regulations, when approaching the national market (as agreed in the Procurement Plan), the Tendering with Unlimited Participation procurement method set forth in the Law of the Republic of Tajikistan “On Public Procurement of Goods, Works and Services”, # 168 dated March 3, 2006 (as amended by Law #815, the “Law of the Republic of Tajikistan on “Introduction of Amendments and Additions to the Law of the Republic of Tajikistan on “Public Procurement of Goods, Works and Services”” dated April 16, 2012) may be used subject to the following conditions:

- The request for bids/request for proposals document shall require that bidders/proposers submitting bids/proposals present a signed acceptance at the time of bidding, to be incorporated in any resulting contracts, confirming application of, and compliance with, Bank Anti-Corruption Guidelines, including without limitation the Bank’s right to sanction and the Bank’s inspection and audit rights.
- The request for bids/request for proposals document, including contract forms, acceptable to the Bank shall be used.
- The request for bids/request for proposals document and contract shall provide the right to the Bank to review procurement documentation and activities.
- Borrower shall put in place an effective complaints review mechanism and shall disclose the details in all the bidding documents. All complaints shall be recorded by the Borrower in the appropriate tracking and monitoring system, as agreed between the Bank and the Borrower.
- No preference shall be applied under competitive bidding following national market approach.

Other national procurement arrangements that may be applied by the Borrower such as tendering with limited participation, request for quotations, direct contracting, shall be used on the above stated conditions.

Note: In case of conflict/contradiction between the World Bank’s procurement procedures and any national rules and regulations, the World Bank’s procurement procedures will take precedence.



C. Financial Management and Disbursements

31. The FM arrangements at all three IAs were reviewed as part of financial management assessment for the project and have been assessed as acceptable for the project's implementation. The project FM assessment undertaken in November 2021 confirmed that: (i) the FM/accounting staff at MoF PIU and MoT PIG has experience in Bank-financed projects; (ii) the internal control and filing systems in place are overall adequate; (iii) results from the latest annual audit of the Bank-financed projects implemented at MoF PIU and MoT PIG were satisfactory, and (iv) the IFRs on the Bank-financed projects were mostly received on time and in general found to be acceptable to the Bank. The adoption of a Project Operational Manual acceptable to the Bank will be an effectiveness condition for the project. However, the following actions will need to be in place before project implementation at the CoESCD, within 30 days after project effectiveness: (i) FM/accounting staff, acceptable to the Bank, shall be hired to support the Chief Accountant on a daily basis, who will be overall responsible for project finance; and (ii) the accounting system shall be installed and have inbuilt controls to ensure data security, integrity and reliability, and the functionality of automatic generation of IFRs. With the mitigation measures proposed, residual FM risk for the proposed project is assessed as **Moderate**.

32. The Project will produce a full set of quarterly interim un-audited financial reports (IFRs) to be submitted to the Bank within 45 days of the end of each calendar quarter. The MoF PIU will prepare combined IFRs under the project and submit them to the Bank.

33. The audit of the Project will be conducted (i) by independent private auditors acceptable to the Bank, on terms of reference (TOR) acceptable to the Bank; and (ii) according to the International Standards on Auditing (ISA) issued by the International Auditing and Assurance Standards Board (IAASB). The annual audits of the Project financial statements will be provided to the Bank within six months after the end of each fiscal year, and at the Project closing. The Project audit will be conducted under the Block Audit arrangements managed by the State Investment Committee and paid out of the project funds.

34. The Recipient has to disclose the audited financial statements of the Project within one month of their receipt from the auditors and acceptance by the Bank, by posting the reports on its official website. Following the Bank's formal receipt of these reports from the Borrower, the Bank will make them publicly available according to the World Bank Policy on Access to Information.

35. **Planning and Budgeting.** Under the project, MoF PIU will be responsible for the preparation of combined annual budgets based on budget plans received from the CoESCD and MoT. The final plans and budgets shall be approved by all three IAs. The annual budget shall be based on the procurement plan, which is regularly updated by the procurement specialist. All changes in the procurement plan are reviewed and agreed in advance with the Bank, and only then changes are incorporated in the annual budget. Once reviewed and endorsed by the MoF, the project budget is included into the State Budget.

36. **Accounting and Reporting.** Cash basis will be applied for the Project accounting, and IPSAS "Financial Reporting Under the Cash Basis of Accounting" issued by the International Public Sector Accounting Standards Board (the IPSASB) will be used for the Project financial reporting. The accounting policies and procedures will be documented in the project FM Chapter (part of POM). The accounting at MoF PIU and MoT PIG for the project is automated, using 1C and accounting software and has the capability to produce interim financial reports in accordance with formats agreed with the Bank. A new system will be installed at the CoESCD to meet the requirements for accounting and reporting under the project.



37. **Internal Controls and Audit.** MoF PIU and MoT PIG have overall adequate internal control system in place for implementation of the project, including adequate segregation of duties among the FM/accounting staff. The FM Manual that is part of POM will be developed to reflect the FM arrangements and controls under the project. There are overall adequate auditing arrangements: no pending audits for the active projects implemented by MoF and MoT, and the auditors issued unmodified (clean) opinions on the projects' financial statements, which are received timely, with no critical recommendations in the management letters.

38. **FM Supervision** will be carried out annually as part of the project supervision plan, and support will be provided on a timely basis to respond to client needs. The World Bank will conduct risk-based FM implementation support and supervision within 12 months of the project effectiveness date, and then at appropriate intervals, as part of its project implementation and supervision missions. During project implementation, the World Bank will supervise the project's FM arrangements in the following ways: (a) it will review the project's quarterly IFR and annual audited project financial statements and the auditor's management letters and remedial actions recommended in the auditor's management letters; and (b) during the World Bank's on-site missions, it will review the following key areas: (i) project accounting and internal control systems; (ii) budgeting and financial planning arrangements; (iii) disbursement arrangements and financial flows, including counterpart funds, as applicable; and (iv) any incidences of corrupt practices involving project resources.

39. **Disbursement.** The FM/accounting staff of the MoF PIU and MoT PIG are fully aware of the Bank disbursement policies and procedures. However, the CoESCD has no previous experience in WB-funded projects implementation and will need trainings on Bank's disbursement policies and procedures. In addition, in application of section 5.2 of the Disbursement Guidelines for IPF, the use of a Designated Account is not permitted under this new operation due to the recipient's failure to refund undocumented advances to Designated Accounts within two months after the disbursement deadline date under two recently closed projects. Disbursements from the financing grant account will be made in accordance with the Disbursement Guidelines for Investment Project Financing (dated May 2017) and will use three disbursement methods: direct payments, reimbursement, and special commitments. Applications for reimbursements will be supported with statements of expenditures, while direct payments will be supported with records. Once the "lapsed loan" situation is resolved, three separate Designated accounts will be opened under each of IAs. The detailed disbursement arrangements are provided in the Disbursement and Financial Information Letter (DFIL).



ANNEX 2: Detailed Project Description

COUNTRY: Tajikistan

Tajikistan Preparedness and Resilience to Disasters Project

1. **Project Overview.** The proposed project is envisioned to continue building the foundation of the GoRT's long-term resilience program started under SCINHP and is based on high demand for continued support to overall DRM, climate change adaptation, reconstruction, and resilience of critical infrastructure in the country. As an initial step, the project will target areas that were affected by floods and mudflows in May-July 2021 and finance reconstruction of road infrastructure to reduce disaster risks and avoid potential damage in the long term. The project will further strengthen the GoRT's sub-national capacity for DRM and climate change adaptation to address increasing countrywide disaster risks, including floods, mudslides, rock falls, avalanches, landslides, and earthquakes.

2. The project consists of the four components described in the following paragraphs.

Component 1: Building Road Resilience (estimated cost: US\$26 million)

3. This component will finance designs and capital works for selected segments of the primary road network to increase its resilience to natural hazards and climate change. Capital works will include reconstruction and repair of roads damaged during the May-July 2021 floods and mudflows, and reinforcement of prioritized road segments against floods, mudflows, landslides, rock falls, erosion, avalanches and earthquakes. A national prefeasibility, site-specific hazard assessment study has been prepared⁷², which, apart from providing historical climatic and hazard-specific data, will ensure that projected climate change impacts are considered in the development of the hazard scenarios that will inform the designs for resilient roads. The focus of the component will be resilience and protection against climate-related risks, while works will also be pursued in a seismically resilient manner. Weather resistant paving and construction materials will be utilized, slope stabilization pursued to protect against climate risks, and resurfacing and retrofitting will utilize climate resilient materials.

Sub-component 1.1: Rehabilitation of roads damaged by the 2021 floods (estimated cost: US\$6 million)

4. The GoRT estimated that some 165 km of roads were damaged during the May-July 2021 floods and mudflows. The project will finance the rehabilitation of priority roads (as specified in the POM) and associated infrastructure damaged by the 2021 floods. Climate-resilient rehabilitation and reconstruction of roads and bridges damaged during the 2021 floods and mudflows will be pursued in Vakhsh, Vose, Shasiddin Shohin and Muminobod Districts in the Khatlon region, re-establishing more resilient regional and local connectivity. Rehabilitation will follow a build-back-better approach to enhance adaptation to climate change and associated road resilience to minimize future risks from similar hazards, including for several bridges. Climate- and seismic-resilient rehabilitation designs will be developed and implemented for the following road segments and bridges:

- Damaged sections of the Muminobod-Ghesh-Childukhtaron, Muminobod-Momandiyon and Vakhsh-Dangara roads.
- Two bridges on the Dushanbe-Kulma road (km 158 and 165), including any required slope stabilization and

⁷² World Bank & GFDRR (2021). *Assessment of Economic Impacts from Disasters Along Key Corridors – Final Report*.



protection.

- One bridge each on the following roads: Tugarak-Qurbonov M village-Faizovi R village (km 0.5), Shobhika-Navobod (km 4.5), Tugarak-Sarichashma-Sh. Shohin (km 21) and Vakhsh-Isoev-Guliston, including any required slope stabilization and protection.

This activity will be implemented by the MoT PIG.

Sub-component 1.2: Protection and reinforcement of priority roads (estimated cost: US\$20 million)

5. The project will finance the reinforcement and protection of one or more segments of priority roads at significant risk of natural hazards posed by climate change, including reconstruction, repair and new installation of measures. The selected road segments will align with those identified as priorities under SCINHP's *Economic Impacts of Disasters along Key Transport Corridors*⁷³ assessment. This will include rehabilitation of two critical bridges on the Dushanbe-Rudaki road in the Rudaki District (RRS), as well reinforcement and protection of high-risk locations primarily between Labidjar and Karamik in the corridor connecting Dushanbe with the Kyrgyz Republic through the Rasht Valley (including Roghun, Rasht, Tojikobod and Lakhsh Districts, RRS), thereby supporting international trade. Sub-component 1.2 may also support reinforcement of roads in the districts supported under Sub-component 1.1. Capital works will include climate change-resilient reconstruction, repair and new installations of measures including but not limited to avalanche galleries, snow barriers, retaining walls, flexible rockfall barriers, rockfall drapes, debris flow barriers, larger culverts, strengthened bridges, road realignments, replacement of soft/swamp material, roadbed raising, and surface water drains.

6. The objective will be to increase the disaster and climate change resilience of the selected road segment(s) in a holistic manner, starting with a detailed risk assessment and through to climate-resilient design and implementation of a cost-effective and sustainable set of measures. Training and capacity building will be financed to enhance the MoT's, as well as its regional and local road maintenance departments' abilities to design, implement and maintain structural and non-structural resilience measures, in particular for technologies new to Tajikistan that are often located a significant distance upslope from the road being protected (such as high strength debris and avalanches fences). This sub-component also includes procurement of heavy specialized machinery for MoT to prepare for emergency response and maintenance of its infrastructure assets. The technical specifications for procurement of such machinery will be prepared with due attention to climate change mitigation factors and promotion of appropriate technological solutions.

7. Climate- and seismic-resilient structural and protection designs will be developed and implemented for the following road segments:

- Two major bridges on the Dushanbe-Rudaki road crossing the Kafarnigan River at km 9.800 and crossing the Elok River at km 11.000, including any required slope stabilization and protection.
- Informed by the recent World Bank assessment⁷⁴, detailed feasibility and design studies for climate- and seismic-resilient road upgrading and protection for the Labidjar-Karamik international road. The focus will be protection and resilience to climate-related risks including measures directly on the road (culverts, drainage, etc.), measures stabilizing slopes and riverbanks immediately adjacent to the road, and further removed measures to reduce hazards reaching the road (avalanche, mudflow and rock fall netting, fences and barriers). While targeting the reduction of

⁷³ <https://www.worldbank.org/en/country/tajikistan/publication/tajikistan-the-economic-impacts-of-disasters-along-key-transport-corridors>

⁷⁴ World Bank & GFDRR (2021). *Assessment of Economic Impacts from Disasters Along Key Corridors – Final Report*.



climate risks, these will be designed and built seismically resistant. Following this detailed assessment, the priority measures will be selected and implemented based on the current project budget. Any remaining measures can be considered for future implementation if relevant and appropriate additional financing is mobilized for the project.

- Detailed feasibility and design studies for full rehabilitation and improvement of the “Khatlon” tunnel in Norak City, as well as for a priority bridge site connecting Ayni to the rest of the country, including any required slope stabilization and protection. Future implementation of these designs would only be considered if relevant and appropriate additional financing is mobilized for the project.

This activity will be implemented by the MoT PIG.

Component 2: Strengthening Disaster Risk Management Capacity (estimated cost: US\$22 million)

8. This component is intended to strengthen the country’s technical and institutional capacity for DRM and climate change resilience and adaptation through selected activities that focus on disaster risk identification, disaster preparedness, and financial protection against disasters. Activities aim to address capacity gaps exposed during the May-July 2021 floods and mudflows and identified as priorities under the national climate change adaptation and DRM strategies. It will build on activities completed and ongoing under SCINHP, in particular expanding and connecting capacities developed at national level to sub-national levels. The activities within this component will aim to strengthen the capacity of the CoESCD, as the main coordinating agency for crisis management and DRM, to prepare and respond better to disasters, climate shocks and emergencies; of the IGEES to understand better the seismic risks of select critical infrastructure; and of the MoF to operationalize its financial response to disasters by designing and establishing ex-ante financial instruments. This component will be implemented in coordination with ADB, UNDP and other development partners, which has been continuously strengthening the capacities of the CoESCD at the national and regional levels, while building regional mechanisms for DRM and mainstreaming disaster risk reduction (DRR) into state policy at the national and subnational levels.

Sub-component 2.1: Strengthening Regional Crisis Management Centers and Systems (estimated cost: US\$9 million)

9. While SCINHP establishes a NCMC and installs relevant ICT systems for national-level disaster preparedness and response coordination, the CoESCD has identified similar capacity strengthening at the sub-national level as the key priority, in particular in three regional centers. This decentralization of capacity will help to better monitor hazards (particularly weather-related hazards exacerbated by climate change), improve interagency coordination, establish good international practices on decision-making models, issue timely early warnings and add redundancy to the system, and reduce the overall emergency response time. Relevant capacity building, encompassing operation and maintenance plans for the improved country-wide crisis management system, will also be produced to ensure the sustainability of the investments under this project.

10. The project will finance:

- (a) necessary works to build or renovate facilities to host the regional crisis management centers (RCMCs) in Khujand, Khorog and Bokhtar, with all designs and civil works executed with risk-informed climate- and natural-hazard resilient designs, energy efficiency solutions and technologies, and climate-resilient materials and technical solutions;



- (b) purchasing of required energy efficient information and communication technology equipment to be installed within the RCMCs, including equipment for dispatching early warnings, automated emergency call receiving system and dispatch services, disaster management information system, and robust crisis communications, integrated with the systems being installed in the NCMC under SCINHP;
- (c) purchasing of additional energy efficient mobile command and communication vehicles for the improved crisis management systems at the regional/local levels, as needed, to perform as RCMCs;
- (d) consultancy services for expanding the national operations manual for RCMCs, promoting climate-resilient actions and energy efficient management; and
- (e) capacity building for relevant staff and operators of the RCMC and users of mobile command and communication vehicles, as needed.

This activity will be implemented by the MoF PIU.

Sub-component 2.2: Modernizing Disaster Communication and Information Systems (estimated cost: US\$5.5 million)

11. During the past few years Tajikistan, with the help of multiple development partners, has started establishing more robust and modern disaster communication and information systems. For example, it is understood that UNDP has invested in fiber optic connectivity between CoESCD and key agencies that produce real-time hazard forecasts and warnings, such as Tajikhydromet. Tajikhydromet has also been supported by the World Bank, ADB and WFP to improve its disaster information services. Early warning systems for specific hazards have also been established and/or modernized, for example for a potential outbreak flood from Lake Sarez, supported by the ADB.

12. Regarding risk information and geospatial data infrastructure, a national geoportal has been established⁷⁵ with support from GIZ, a district-level multi-hazard risk assessment has been developed with UNDP support but is hosted outside the country with limited accessibility⁷⁶, and the AKAH has set up a geoportal at the IGEEES⁷⁷. Currently the World Bank *Strengthening Financial Resilience and Accelerating Risk Reduction in Central Asia Program (SFRARR)*⁷⁸ is also performing probabilistic earthquake and risk assessments for the whole country, to be completed in 2022. Countless other sub-national and local hazard and risk assessments have been produced by ministries, agencies, NGOs and development partners; however, most are not accessible to all relevant stakeholders, tend not to be updated, and are not catalogued in a centralized, authoritative and searchable database.

13. The project will therefore strengthen, expand and increase the robustness of the country's disaster communications backbone, support platforms and tools to increase sharing, access and dissemination of disaster-related information, and better utilize real-time data sources. It will prioritize avoiding development of new platforms, rather building, consolidating and/or expanding existing ICT systems and platforms. This will include supporting last-mile reach of early warning systems and messaging.

⁷⁵ The National Spatial Data Infrastructure of the RoT is hosted and maintained by the Design and Research Institute "FAZO": <https://nsdi.tj/>

⁷⁶ Hosted by the Asian Institute of Technology in Thailand: <http://tajirisk.ait.ac.th/>

⁷⁷ It was originally planned that while the IGEEES geonode-based geoportal would not be open access, but the CoESCD and Tajikhydromet were to have access. It is not clear if this access has been facilitated or is still planned.

⁷⁸ SFRARR is financed by the EU, is managed by GFDRR and is being implemented in collaboration with UNDRR and the Center for Emergency Situations and Disaster Risk Reduction (CESDRR, Almaty, Kazakhstan).



14. The project will finance:

- (a) enhancing existing radio communication networks across the country and setting up new radio communication networks (VHF and HF/SSB) at least in large cities and population centers;
- (b) enhancing other ICT networks like microwave, satellite, fiber optics, etc.;
- (c) enhancing/developing umbrella disaster management software integrated for current/future early warning systems and current emergency management software platforms;
- (d) enhancing/developing an interagency platform for data exchange to facilitate real-time data sharing between disaster monitoring, forecasting and management agencies (CoESCD, Tajikhydromet, etc.);
- (e) supporting policy development, facilitating and populating a geo-node/website to facilitate consolidated access to existing and new disaster-related geospatial data and information;
- (f) developing dissemination channels (website, SMS services, smartphone app, etc.) to facilitate real-time public access to forecasts and warnings of climate and weather hazards; and
- (g) supporting Tajikhydromet access and use of real-time products from the new CoESCD weather radar in Hissar.

This activity will be implemented by the CoESCD PIU.

Sub-component 2.3: Capacity building for emergency response (estimated cost: US\$6 million)

15. While sub-component 2.1 will continue to strengthen coordination, operations and management of the CoESCD leadership, full readiness-to-respond and preparedness requires both first responders and the public to know how to interpret warning information, how to react when warnings are received, and how to respond when disasters and climate shocks are imminent or have occurred. In coordination with other partners supporting preparedness capacity building and training (UNDP⁷⁹, OSCE, EU, etc.), the project will help expand readiness-to-respond capacities to more localized and specially skilled first responders.

16. The project will finance:

- (a) Procurement of INSARAG⁸⁰, IRATA⁸¹ and other international community certification trainings for professional search and rescue (SAR) teams (water rescue, urban rescue, flood/running water rescue, mountain rescue, K-9, open field(nature) rescue, etc.);

⁷⁹ The current UNDP support to “Strengthening Disaster Risk Management and Emergency Preparedness Capacities” is planned to close end of December 2021.

⁸⁰ International Search and Rescue Advisory Group, a global network of more than 90 countries and organizations under the umbrella of the United Nations.

⁸¹ Industrial Rope Access Trade Association, which supports a qualification scheme for rope access and technical rescue.



- (b) Public trainings for disaster preparedness including improved awareness about climate change and associated risks to increased likelihoods of disasters, and climate change adaptation and mitigation measures which could be pursued at the level of households, public institutions, etc.;
- (c) Preparation of disaster preparedness and climate adaptation modules for different stakeholders (public agencies, vulnerable citizens, industrial zones, SMEs, health workers, etc.). This may also include preparation of disaster preparedness plans for schools.;
- (d) Construction, provision of equipment and capacity building for a water rescue training center at Nurek Reservoir with all designs and civil works executed with risk-informed climate- and natural-hazard resilient designs, energy efficiency solutions and technologies, and climate-resilient materials and technical solutions. The majority of the sub-component budget will be committed to this activity; and
- (e) Reinforcement/additional capacity for the existing emergency response training center in Karatog (built under EU-OSCE project).

This activity will be implemented by the CoESCD PIU.

Sub-component 2.4: Strengthening the basis for structural and seismic resilience (estimated cost: US\$1 million)

17. SINCHP delivered a national seismic hazard assessment and developed new seismic hazard maps of the territory of Dushanbe, measured both in grades of seismic intensity and in units of peak ground acceleration, based on the latest achievements of seismological science and technology. IGEES is now pursuing similar seismic microzoning in other major cities in Tajikistan. The project will leverage the products and capacities built at the IGEES to move from hazard to risk assessments, while continuing to strengthen the integration of structural and seismic risk considerations in construction standards and practices, including energy efficiency considerations.

18. The project will finance:

- (a) Establishment of a seismic response monitoring system for priority and representative structures and natural ground locations in Dushanbe, with potential to include equipment for on-site examination of such structures and buildings;
- (b) Continued updating of building standards;
- (c) Training and workshops in the application of updated building codes and standards, including energy efficiency considerations to mitigate the impact of the climate change; and
- (d) Building monitoring and enforcement capacities of IGEES.

This activity will be implemented by the MoF PIU, with technical inputs and supervision from the IGEES. The CoAC will also need to be engaged in activities b, c and d.

Sub-component 2.5: Disaster risk financing (estimated cost: US\$0.5 million)



19. Recognizing shortcomings in how fiscal risks associated with disasters were managed in Tajikistan, including gaps in comprehensive information on and evaluation of fiscal risks of disasters, climate and other shocks, SCINHP supported development of a National Disaster Risk Financing Strategy. The Strategy outlines ways for Tajikistan to mitigate the fiscal shocks caused by disasters, identifying a set of important priorities, including the development of several risk financing solutions. Approval of the Strategy by the GoRT will likely be a prior action for the World Bank's *Tajikistan Inclusive and Sustainable Growth Development Policy Operation (DPO)* and is expected in 2022.

20. To support implementation of the Strategy, the World Bank is currently performing a preliminary analysis to identify a cost-effective risk layering approach to financing post-disaster needs⁸². This includes: (i) statistical modeling of the magnitude of disaster risks based on historical data; (ii) scenario analysis for major disaster events; (iii) assessment of a funding gap that the government could face in covering its post-disaster contingent liabilities under the selected scenarios; and (iv) analysis of a potential combination of different risk financing solutions to cover the identified gap. The project will pursue refinement and implementation of priority risk layering mechanisms identified by the assessment as part of operationalization of the Strategy.

21. The project will finance:

- (a) Consulting services to assess the requirements, fiscal realities, needed legislation and regulations, and subsequently design priority mechanisms to enable establishment and functioning of disaster risk financing instruments; and
- (b) Technical capacity-building activities of the relevant MoF and other involved government entities will also be financed.

The potential disaster risk financing mechanisms will help the GoRT ensure sufficient liquidity to respond and recover from climate change and natural hazard shocks. This activity will be implemented by the MoF PIU, with technical inputs and supervision from the relevant departments within the MoF.

Component 3: Project Management (estimated cost: US\$2 million)

22. This component will support incremental operating costs for the implementing agencies (IAs)—the MoF, CoESCD, and MoT — for project execution, including overall project administration and management, prioritization of subprojects, management of social and environmental safeguard issues, financial management (FM), procurement, contract administration, project reporting, and monitoring and evaluation (M&E).

Component 4: Contingent Emergency Response Component (estimated cost: US\$0 million)

23. The objective of this component is to improve Tajikistan's capacity to respond to disasters. An emergency eligible for financing is an event that has caused, or is likely imminently to cause, a major adverse economic and/or social impact to the Borrower, associated with a disaster or crisis. Rapid disbursement will allow the GoRT to request a reallocation of project funds to partially cover emergency response and recovery costs. This component will be triggered if:

⁸² The analysis is supported by the Japan-World Bank Program for Mainstreaming DRM in Developing Countries, which is financed by the Government of Japan and managed by GFDRR.



- (a) The Recipient has determined that an Eligible Crisis or Emergency has occurred, has furnished to the Association a request to include said activities in the CERC in order to respond to said Eligible Crisis or Emergency, and the Association has agreed with such determination, accepted said request and notified the Recipient thereof;
- (b) The Recipient has prepared and disclosed all Safeguard Instruments required for said activities, and the Recipient has implemented any actions which are required to be taken under said instruments, all in accordance with the provisions of Section I.E of Schedule 2 to the Financing Agreement; and
- (c) The Recipient's Coordinating Authority has adequate staff and resources, in accordance with the provisions of Section I.E of this Schedule 2 to the Financing Agreement, for the purposes of said activities.

24. This component could be used to reallocate project funds or channel additional funds to fully or partially replenish funds reallocated to the CERC should they become available due to an eligible emergency.⁸³ Once triggered, the contingent funds can be mobilized following procedures in World Bank's Policies on Rapid Response to Crises and Emergencies, which minimize upfront processing steps and the fiduciary and the safeguard requirements. Disbursements will be made against a positive list of goods, works, and services that are required to support the mitigation, response, recovery, and reconstruction needs of the GoRT. All expenditures under this component, should it be triggered, will be made in accordance with the IPF Policy and will be appraised, reviewed, and found to be acceptable to the International Development Association (IDA) before any disbursement is made. In accordance with the IPF Policy, this component will provide immediate, quick-disbursing support to finance goods (positive list agreed with the GoRT), works, and services needed for response, mitigation, recovery, and reconstruction activities. Operating costs eligible for financing will include the incremental expenses incurred by the GoRT for early recovery efforts arising from the impact of major disasters.

25. Goods, works, and services under this component will be financed based on review of satisfactory supporting documentation presented by the GoRT, including documentation of adherence to appropriate procurement practices for emergencies. All supporting documents for reimbursement of such expenditures will be verified by the Internal Auditors of the GoRT and by the Project Director, certifying that the expenditures were incurred for the intended purposes and to enable a fast recovery from the damage caused by adverse natural events, before the Application is submitted to the Association. This verification should be sent to the Association together with the Application.

Specific eligible expenditures under the category of goods include the following:

- (a) Construction materials and water, land, and air transport equipment, including supplies and spare parts
- (b) School supplies and equipment
- (c) Medical supplies and equipment
- (d) Petroleum and fuel products
- (e) Construction equipment and industrial machinery

⁸³ Once the requirements for activating the CERC are met, uncommitted funds from the project are reallocated to the CERC and made available for crisis or emergency response. To facilitate a rapid response, a formal project restructuring is deferred to within six months after the CERC is activated.



- (f) Communications equipment
- (g) Seeds and fertilizer
- (h) Food and water containers

Also included are any other items that may be acceptable to the World Bank and are agreed to by the GoRT and the World Bank.

26. Specific eligible expenditures under the category of works may include urgent infrastructure works (repairs, rehabilitation, construction, and so on) to mitigate the risks associated with the disaster for affected populations, while specific eligible expenditures under services may include urgent studies (technical, social, environmental, and so on) necessary as a result of the effects of the disaster, including identification of priority works, feasibility assessments, delivery of related analyses, and so on.

27. The POM will include a specific annex for the CERC, which lays out the provisions for activating and implementing the CERC. If an adverse natural event does not occur during the lifetime of the project or the component is not fully disbursed twelve months before its closing date, whatever amount remains will be reallocated to finance activities under other components, based on the priorities of the GoRT and the World Bank's approval.



ANNEX 3: Economic Analysis

COUNTRY: Tajikistan

Tajikistan Preparedness and Resilience to Disasters Project

- 1. The potential benefits of the proposed project investments are quantified as avoided damages.** These depend primarily on two metrics: (i) the damage baseline, i.e., the average amount of disaster damages experienced every year (“average annual loss” = AAL), and (ii) the rate of savings to apply over this base, i.e., how much the specific project investments will reduce disaster damages. While Component 1 decreases damage by protecting and reinforcing the resilience of roads, Component 2 aims to reduce post-disaster impacts. Component 1 reduces the base level of damages impacted by Component 2; as such Component 1 benefits are assessed prior and separate to Component 2. Benefits are not assessed at the sub-component level because the benefits of the various activities are intertwined; sub-components leverage and compound benefits with each other, thus making clear delineation and attribution too complex.
- 2. There are many uncertainties regarding input data for assessing project benefits.** This is addressed in two ways: (i) a conservative approach to benefits is systematically applied throughout the applied assumptions to avoid overestimating benefits; and (ii) the applied model is probabilistic, allowing consideration of large ranges of uncertainty (see Box 3-1). Project performance is thus analysed accordingly in terms of risk, e.g., computing the likelihood that key economic indicators for project performance are above the minimum threshold Internal Rate of Return (IRR) of 5 percent.

Box 3-1. Probabilistic modelling in a nutshell

Probabilistic modelling consists of running thousands of iterations of a given (deterministic) model across all possible ranges of values of uncertain inputs such as the frequency and magnitude of natural disasters. These inputs are represented as random variables so that their respective probability distributions account for any informational gaps (uncertainties). This in turn yields as many model outputs as runs, which are ordered and binned to build their probability distribution and thus reflect the output uncertainty. This process is known as a Monte Carlo simulation and allows for a more refined and robust risk analysis than deterministic models⁸⁴.

- 3. The economic analysis builds on a mix of primary and secondary data, the latter including relevant literature, the EM-DAT database⁸⁵ and expert judgement.** Sources for input data are reported throughout the analysis. For the estimates of Component 1 benefits, a direct source of primary data is the recently published (World Bank and GFDRR 2021) *Assessment of Economic Impact from Disasters along Key Corridors*. The estimate of the benefits of Component 2 use consistent assumptions as well as a tailored model derived from early warning system (EWS) and hydrometeorological services literature. It is worth noting that project costs include in addition to capital expenditures (CAPEX), the operational expenditures (OPEX) required to properly operate and maintain the investments – estimates are provided in the specific sections. Project management costs, tallying US\$2 million, have been assigned equally to each component - US\$1 million each.

Component 1: Building Road Resilience

⁸⁴ This should not be confused with uncertainty on the hazard themselves. In this project we will not use a catalogue of many events from which to draw randomly. We use instead the most common and robust approach of AAL – Average Annual Losses.

⁸⁵ <https://public.emdat.be/data>



4. **World Bank (2021)⁸⁶ provides a reliable estimate of the benefits that can be expected from Component 1.** IRRs are computed for physical reinforcement of all priority road sections across Tajikistan, with results ranging from below 0 to over 100 percent. A strategy emerges that sections with high IRRs should be prioritized, while sections with low IRRs should explore alternative strategies to avoid negative disaster impacts, such as EWSs. It is thus fair to assume that the works selected for this project will support the road sections showing high IRRs in the national assessment.
5. **The IRR can be inferred for Component 1 activities from the national assessment.** Nationally, the report proposes just over US\$400 million in resilience road works, of which the Component 1 budget represents only about 6 percent. To avoid excessively optimistic assumptions, only the smallest of the positive IRRs are considered, as a means of selecting a sample of representative contexts where the project will be implemented. Three representative road segments are therefore selected: IR01 (Ayni-Istaravshan), IR05 (Murgab-Karakul-Kizilart) and IR14 (Dehmoy-Konibodom), with respective IRRs of 13 percent, 15 percent and 35 percent, with an average of 22 percent⁸⁷ (see Figure 3-1). A stream of benefits of 22 percent of the total component amount (US\$26 million) can therefore be expected annually, i.e. US\$5.7 million. This benefit stream is expected for at least a time horizon of 20 years, and OPEX is estimated to range between 1.5 percent and 3.5 percent of CAPEX, i.e., US\$0.65 million per year.
6. **While difficult to quantify, Component 1 may also deliver additional benefits.** When roads are damaged by natural hazards, the cost is far more than just the effects on the infrastructure. Lives can be lost, and timely emergency response and reconstruction are needed. At the same time, temporary diversions of traffic impede drivers and slow down local trade, especially when alternate routes are not available or practical, as is often the case in Tajikistan. Road interruptions can also cut communities off from critical services and markets, leading to a loss of access to income opportunities and social, health, and educational services. In high-risk settings common in mountainous areas, successive and regular disasters often compound these impacts. The national assessment considered and attempted to quantify all these factors, however omitting improvements in transport connectivity between the Republic of Tajikistan and neighbouring countries which can further increase the access of the local population to regional markets, services and employment opportunities. Enhanced connectivity may also have a stabilizing effect on market prices.

⁸⁶ World Bank and GFDRR (2021). *Assessment of Economic Impact from Disasters along Key corridors*.

⁸⁷ In the probabilistic model, we use a PERT distribution with minimum, mode and maximum of values 13 percent, 18 percent and 35 percent respectively.

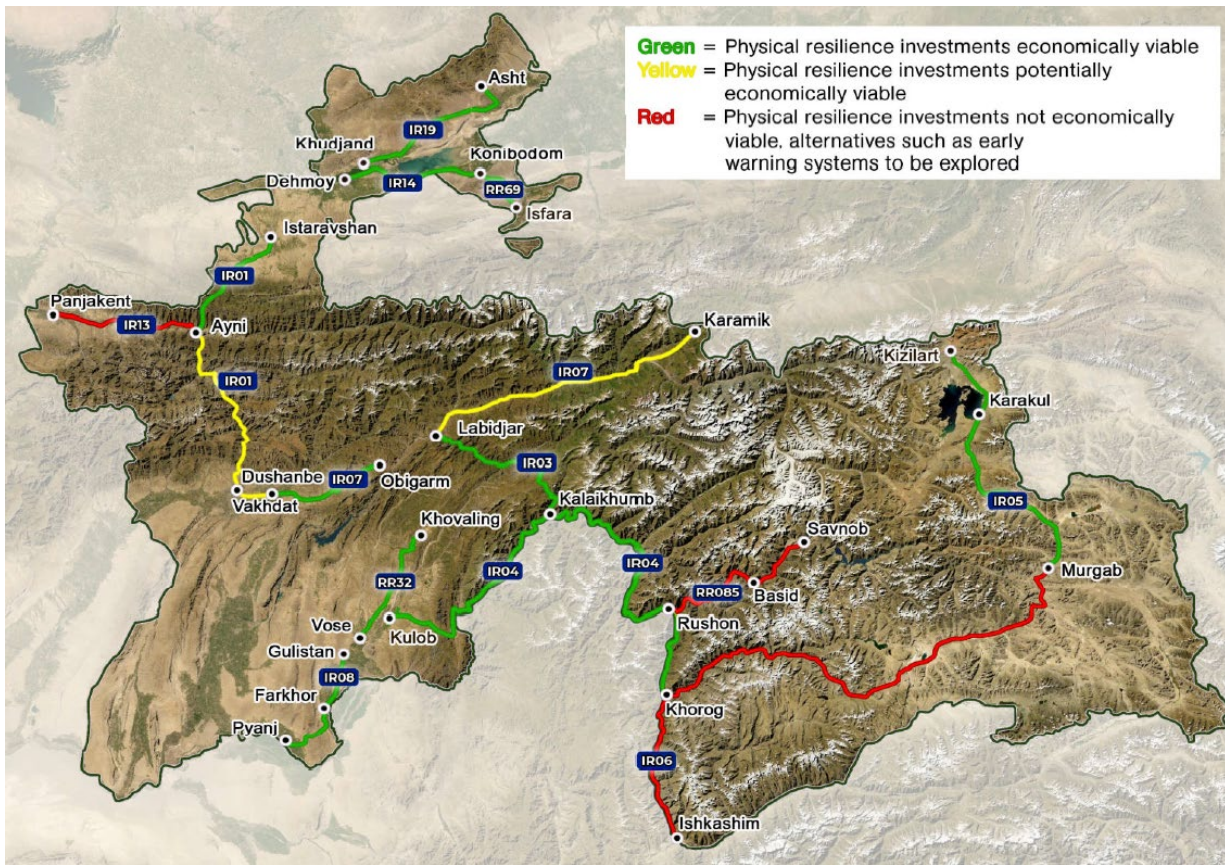


Figure 3-1. Map of priority road sections by IRR of physical resilience investments. (source: World Bank and GFDRR (2021) Assessment of Economic Impact from Disasters along Key corridors).

Component 2: Strengthening Disaster Risk Management Capacity

7. **For Component 2 the AAL is estimated.** Different approaches can be suggested to estimate the AAL: (i) the estimate of CoESCD which tallies to US\$30 million⁸⁸, out of which less than 10 percent consists of rehabilitation costs for damaged infrastructure; (ii) direct estimates from World Bank (2021) of nearly US\$60 million⁸⁹, consisting mainly of the costs of traffic disruptions and longer-term impacts on communities; and (iii) damage estimates from the international disaster database EM-DAT⁹⁰. The first two reflect only a limited subset of what Component 2 DRM capacity improvements will support; they are thus considered as a lower bound. Though the spread is important – i.e., between US\$30 and US\$60 million – the orders of magnitude are similar.

8. **EM-DAT reports an AAL of US\$74 million.** This however requires several adjustments. There is an important outlier in 2008 of extreme temperature that contributes two-thirds of the AAL; this is removed from the analysis. The database is also incomplete with some years indicating no damages - these years are removed so to only consider years without obvious data gaps. EM-DAT is further known for selection bias whereby small events of high frequency are not

⁸⁸ Table 2-8 of World Bank (2021).

⁸⁹ 6.5 bn somoni over 10 years

⁹⁰ Developed and maintained by the Centre for Research on the Epidemiology of Disasters (CRED)



reported⁹¹. This is a major issue for the main bulk of AAL, especially for floods which contribute significantly to the overall AAL, consists of the accumulation of relatively small yet frequent damages. This implies rescaling by a factor of 1.9⁹². The adapted EM-DAT AAL is then decreased by US\$5.7 million (about 7.2 percent of the total) to consider the damages reduced by Component 1. This results in an AAL for Component 2 to address of \$73 million, which is consistent with the previously estimated lower bound of US\$30 to US\$60 million. A further consistency check indicates an AAL equivalent to about 0.9 percent of GDP, which is slightly below yet consistent with the expected range based on global experience in countries with high disaster risk like Tajikistan. It is therefore consistent with the overall conservative approach which in turn is a guarantee of the robustness of results. The model further assumes annual growth of 7 percent (pre-COVID trend)⁹³, a horizon of 12 years, and OPEX ranging between 10 percent and 15 percent of CAPEX.

9. **Component 2 benefit estimation.** The Flood Hazard Research Center (FHRC)^{94,95} model is applied, presented in 10. **Equation 1:** D_a is the avoided damages, D_p the maximum flood damages avoided with a fully effective system for a given lead time, R the reliability (a natural interpretation of the probability of accurately forecasting a flood event), P_a the fraction of residents available to respond, P_r the fraction of households who will respond, and P_e the fraction of households who will respond effectively.

Equation 1. FHRC model of avoided damages

$$D_a = D_p * R * P_a * P_r * P_e$$

D_p is then written as a fraction of the AAL. This fraction is a function (ρ) of the lead time (L_t) i.e. $D_p = AAL * \rho(L_t)$. Hence the full model can be written as below:

Equation 2. Tailored model of avoided damages

$$D_a = AAL * \rho(L_t) * R * P_a * P_r * P_e$$

Table 3-1 summarizes the benchmarks where min, mode and max respectively denote the minimum, the most likely and the maximum for each input variable⁹⁶. References are for R ^{97,98} and Carsell (2004) for P_a , P_r and P_e .

Table 3-1. Benchmarking FHRC model input variables

⁹¹ This intuition is further strengthened as the database displays only a record of 58 events over the last 20 years, whereas in World Bank (2021), 64 events only are reported in 2019 alone and 32 in 2018.
⁹² Computations based on expert judgement. This is consistent though more conservative than 3.1 suggested in GAR (2019): “[...] small and medium, localized and frequent disasters caused 68 percent of all economic losses” – c.f. <https://www.preventionweb.net/understanding-disaster-risk/disaster-losses-and-statistics>
⁹³ <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2019&locations=TJ&start=2000>
⁹⁴ Parker D, Priest S, Tapsell, S, Handmer J, Schildt A (2009). *Developing models to estimate the benefits of flood warning*, FLOODsite.
⁹⁵ Carsell, K.M., Pingel, N.D., Ford, P.E. (2004). “Quantifying the benefit of a flood warning system”. *Nat. Hazard Rev.* 131–140.
⁹⁶ Used to build a probability distribution of each input, all of which are considered to be PERT distributions i.e. beta-like functions.
⁹⁷ Pappenberger F, Cloke H, Parker D, Wetterhall F, Richardson D, Thielen J (2015). “The monetary benefit of early flood warnings in Europe”, *Environmental Science and Policy*.
⁹⁸ Emerton R., Stephens E, Pappenberger F, Pagano T., Weerts A., Wood A., Salamon P., Brown J., Hjerdt N., Donnelly C, Baugh C., Cloke H (2016). “Continental and global scale flood forecasting systems”, *WIRES Water*.



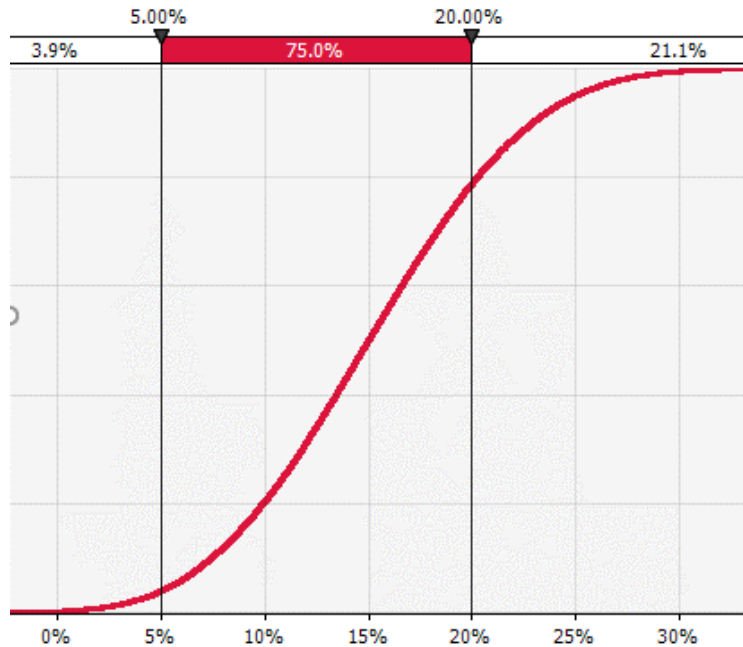
| | | | | |
|---------------|-------------------------------------|------|-------|------|
| | | min | mode | max |
| Max(ρ) | Adapted Day's curve maximum | 0.04 | 0.4 | 0.8 |
| R | Forecast reliability | 0.5 | 0.6 | 0.7 |
| Pa | % population available to respond | 0.5 | 0.65 | 0.8 |
| Pr | % population to respond | 0.5 | 0.65 | 0.8 |
| Pe | % population responding effectively | 0.5 | 0.725 | 0.95 |

The spread on the maximum of ρ is significant - one order of magnitude, c.f. Parker (2009) and Priest (2011)⁹⁹. This uncertainty is however, manageable since the project, Component 2 in this instance, only affects the P's, while R and ρ will remain unchanged. The residual uncertainty on ρ , though large, is captured through a tailored probabilistic distribution for which the mode is set using the seminal article of Day (1970)¹⁰⁰.

Results

A cumulative probabilistic distribution of the IRR for the whole project is computed. Figure 3-2 shows these results using the above models with a discount rate of 5 percent.

Figure 3-2. Cumulative probability distribution of the project IRR



11. The mean project IRR is 15.1 percent, with only 3.9 percent of the probabilistic hazard scenarios yielding an IRR below the minimum acceptable threshold of 5 percent. In more than 20 percent of the most favorable scenarios, the IRR is exceptionally high, i.e., above 20 percent. Similarly, the benefit-cost ratio (BCR) is above unity in all but 3.9 percent

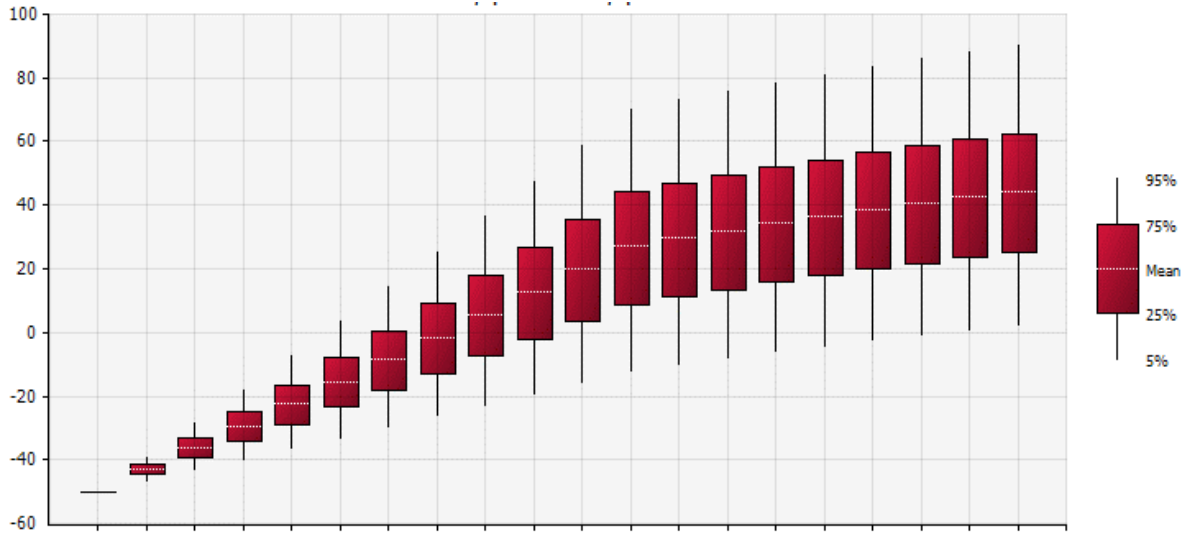
⁹⁹ Priest S, Dennis J. Parker & Sue M. Tapsell (2011). "Modelling the potential damage-reducing benefits of flood warnings using European cases", *Environmental Hazards*.

¹⁰⁰ Day, H.J. (1970). *Flood Warning benefit evaluation-Susquehanna River Basin (urban residences)*. National Weather Service, Silver Spring, MD.



of the most unfavourable cases (96.1 percent of scenarios). This indicates a very high likelihood for robust economic efficiency. This is also visible throughout time, as shown in the Net Present Value (NPV) whisker boxes in Figure 3-3, yielding a mean payback time of 9 years.

Figure 3-3. Net Present Value (\$ millions) of the project throughout the computed time horizon.



12. **Individually, Components 1 and 2 yield mean IRRs of 15.7 percent and 13.3 percent respectively, with the probability of performance below the 5 percent threshold of negligible and 25 percent, respectively.** The relatively higher risk of underperformance for Component 2 is due to low levels of income and population density which implies that there is less potential for savings, and thus more limited quantifiable risk. This is further compounded by the conservative modelling approach.

13. **Project investment is justified due not only to the economic and social benefits.** The proposed project also adds value beyond financing in areas such as risk informed design of DRM protection measures for connectivity, construction quality control, sustainability of infrastructure, operational DRM capacity building, environmental risk management, safeguards, procurement and financial management. From a wider perspective, the value added of Bank support is based on its experiences in consolidating global and regional experiences to finance and scale up DRM investments; coordinating and harmonizing the efforts of donors and development partners to leverage additional funding for DRM; and utilizing previous experiences in Tajikistan to support DRM and transport.

14. **Public sector financing is appropriate for financing Component 2 as it helps fulfill the GoRT responsibility to protect its citizens.** As for Component 1, public investment in such infrastructure is desirable because it helps the GoRT ensure continuity on its territory and plays a key role in rural development as a tool for integrated and sustainable land planning. It also ensures a greater sense of security and confidence, all of which significantly matter for wellbeing, development and investment.



ANNEX 4: Project Map

COUNTRY: Tajikistan
Tajikistan Preparedness and Resilience to Disasters Project

