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Report No: PADHI00372

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A
PROPOSED LOAN

IN THE AMOUNT OF EUR 37.4 MILLION
(US$40 MILLION EQUIVALENT)

TO THE

REPUBLIC OF MOLDOVA

FOR THE

STRENGTHENING MOLDOVA'S DISASTER RISK MANAGEMENT AND RESILIENCE PROJECT
(P504278)

AUGUST 13, 2024

Urban, Resilience, and Land
Europe and Central Asia

CURRENCY EQUIVALENTS

(Exchange Rate Effective June 30, 2024)

Currency Unit =	Moldovan Leu (MDL)
MDL 17.94 =	US$1
US$ 0.06 =	MDL 1
EUR 0.93 =	US$ 1
US$ 1.07 =	EUR 1

FISCAL YEAR

January 1 - December 31

Regional Vice President:	Antonella Bassani
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ABBREVIATIONS AND ACRONYMS

BCR	Benefit-Cost Ratio
CERC	Contingent Emergency Response Component
CCAP	Climate Change Action Plan
CCDR	Country Climate and Development Report
CPF	Country Partnership Framework
DA	Designated Account
DFIL	Disbursement and Financial Information Letter
DG ECHO	Directorate General of European Civil Protection and Humanitarian Aid Operations
DRM	Disaster Risk Management
EC	European Commission
ERR	Economic Rate of Return
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESS	Environmental and Social Standards
EU	European Union
EU-CPM	EU Civil Protection Mechanism
EWS	Early Warning System
FAO	Food and Agriculture Organization
FM	Financial Management
GDP	Gross Domestic Product
GFDRR	Global Facility for Disaster Reduction and Recovery
GHG	Greenhouse Gas
GIES	General Inspectorate for Emergency Situations
GoM	Government of Moldova
GRID	Green, Resilient, and Inclusive Development
ICR	Implementation Completion and Results Report
ICT	Information and Communication Technology
IFAC	International Federation of Accountants
IMF	International Monetary Fund
IPSAS	International Public Sector Accounting Standards
ISA	International Standards on Auditing
LMP	Labor Management Procedures
M&E	Monitoring and Evaluation
MoE	Ministry of Environment
MoF	Ministry of Finance
MoIA	Ministry of Internal Affairs
MoIRD	Ministry of Infrastructure and Regional Development
MTR	Midterm Review
NDC	Nationally Determined Contribution
ND-GAIN	Notre Dame Global Adaptation Initiative
NDRA	National Disaster Risk Assessment
NPP	National Procurement Procedures
NPV	Net Present Value
O&M	Operating and Maintenance
OEAPM	Office for External Assistance Programs Management

OHS	Occupational Health and Safety
PIU	Project Implementation Unit
POM	Project Operations Manual
PPL	Public Procurement Law
PPRD East 3	Prevention, Preparedness and Response to Natural and Man-made Disasters in Eastern Partnership Countries - Phase 3 Programme
PPSD	Project Procurement Strategy for Development
PWS	Public Warning System
SEP	Stakeholder Engagement Plan
SHS	State Hydrometeorological Service
SMORE	Strengthening Moldova's Disaster Risk Management and Resilience
STEP	Systematic Tracking of Exchanges in Procurement
TA	Technical Assistance
ToC	Theory of Change
ToR	Terms of Reference
UNDP	United Nations Development Programme
WBG	World Bank Group

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DATASHEET

BASIC INFORMATION

Project Beneficiary(ies)	Operation Name		
Moldova	Strengthening Moldova's Disaster Risk Management and Resilience Project		
Operation ID	Financing Instrument	Environmental and Social Risk Classification	
P504278	Investment Project Financing (IPF)	Moderate	

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Performance-Based Conditions (PBCs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternative Procurement Arrangements (APA)	[ ] Hands-on Expanded Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
05-Sept-2024	30-Sept-2029
Bank/IFC Collaboration	
No	

Proposed Development Objective(s)

The Project Development Objective is to enhance Moldova’s preparedness and response to natural hazards and climate-related shocks, and in case of an eligible crisis or emergency, respond promptly and effectively to it.

Components

Component Name	Cost (US$)
Investments and Institutional Strengthening for Emergency Preparedness and Response	29,500,000.00

Improving Hydrometeorological Services	6,500,000.00
Policy and Regulatory Support for Risk Reduction of Critical Infrastructure and Fiscal Resilience	2,500,000.00
Contingent Emergency Response Component (CERC)	0.00
Project Management	1,500,000.00

Organizations

Borrower:	Ministry of Finance
Implementing Agency:	Ministry of Internal Affairs, General Inspectorate of Emergency Situations, Ministry of Environment, State Hydrometeorological Service, Ministry of Infrastructure and Regional Development

PROJECT FINANCING DATA (US$, Millions)

Maximizing Finance for Development

Is this an MFD-Enabling Project (MFD-EP)? No

Is this project Private Capital Enabling (PCE)? No

SUMMARY

Total Operation Cost	**40.00**
Total Financing	**40.00**
of which IBRD/IDA	**40.00**
Financing Gap	**0.00**

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	40.00

Expected Disbursements (US$, Millions)

WB Fiscal Year	2025	2026	2027	2028	2029	2030
Annual	1.60	8.00	10.00	16.00	2.20	2.20

Cumulative	1.60	9.60	19.60	35.60	37.80	40.00

PRACTICE AREA(S)

Practice Area (Lead)

Urban, Resilience and Land

Contributing Practice Areas

Agriculture and Food; Finance, Competitiveness and Innovation

CLIMATE

Climate Change and Disaster Screening

Yes, it has been screened and the results are discussed in the Operation Document

SYSTEMATIC OPERATIONS RISK- RATING TOOL (SORT)

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

POLICY 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

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

E & S Standards	Relevance
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	Relevant
ESS 10: Stakeholder Engagement and Information Disclosure	Relevant
ESS 2: Labor and Working Conditions	Relevant
ESS 3: Resource Efficiency and Pollution Prevention and Management	Relevant
ESS 4: Community Health and Safety	Relevant
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Not Currently Relevant
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Not Currently Relevant
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
ESS 8: Cultural Heritage	Not Currently Relevant
ESS 9: 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

Legal Covenants

Sections and Description
The Borrower shall carry out the Project in accordance with the Implementation Arrangements set out in Section I, Schedule 2 of the Loan Agreement. (Section I Schedule 2 to the Loan Agreement).
No later than ninety (90) days after the Effective Date, the Borrower shall cause OEAPM to hire an environmental specialist and a social specialist dedicated to the Project, with terms of reference and functions acceptable to the Bank, as set forth in the Project Operations Manual and the ESCP. (Section I.A.(b) of Schedule 2 to the Loan Agreement).

Conditions

Type	Citation	Description	Financing Source

Effectiveness	Article 4.01 (a)	The Project Operations Manual, referred to in Section I.B. of Schedule II to this Agreement, has been prepared and adopted by the Steering Committee in form and substance acceptable to the Bank.	IBRD/IDA
Effectiveness	Article 4.01 (b)	That the Steering Committee referred to in Section I.A.(c) of Schedule 2, has been established in a manner acceptable to the Bank.	IBRD/IDA
Effectiveness	Article 4.01 (c)	That the Subsidiary Agreement referred to in Section I.C of Schedule 2 has been entered into in a manner satisfactory to the Bank.	IBRD/IDA
Effectiveness	Article 4.01 (d)	That all the Implementation Agreements referred to in Section I.D of Schedule 2, have been entered into in a manner acceptable to the Bank, and all conditions precedent to their effectiveness have been fulfilled.	IBRD/IDA
Disbursement	Section III.B.1(b) (i) of Schedule 2	(A) the Borrower has determined that an Eligible Crisis or Emergency has occurred, and has furnished to the Bank a request to withdraw Loan amounts under Category (2); and (B) the Bank has agreed with such determination, accepted said request and notified the Borrower thereof; and;	IBRD/IDA
Disbursement	Section III.B.1(b) (ii) of Schedule 2	The Borrower has adopted the CERC Manual, including the CERC-ESMF Addendum, and the Emergency Action	IBRD/IDA

		Plan, in form and substance acceptable to the Bank.	

I. STRATEGIC CONTEXT

A. Country Context

1. **Since independence in 1991, Moldova has had an uneven track record in economic prosperity.** Despite solid economic performance and strong poverty reduction, Moldova remains among the poorest countries in Europe. Strong but volatile economic growth over the past few decades has led to an improvement in the average standard of living. From 2000 to 2019, per capita gross domestic product (GDP) grew at an average annual rate of 4.9 percent, resulting in a cumulative increase of over 160 percent. Nonmonetary aspects of welfare, such as life expectancy and education, have also improved substantially. However, Moldova struggles with significant disparities in living standards and opportunities between urban and rural areas. Poverty declined from 90.0 percent in the late 1990s to 10.9 percent in 2021, with a small rise in between due to the COVID-19 pandemic. As a small, landlocked, predominantly rural[1] country with limited natural resources, Moldova's economy has long been characterized by relatively low productivity and small-scale agriculture. Lack of job opportunities led to heavy outmigration, a large diaspora, and a remittance-reliant domestic economy.

2. **The COVID-19 pandemic, severe droughts in 2020 and 2022, and Russia's invasion of Ukraine revealed the intrinsic vulnerabilities of the country's economic growth model and its limited resilience to shocks.** The COVID-19 pandemic's impacts, compounded by the 2020 drought, caused a 7.4 percent decline in GDP. Economic activity bounced back by 13.9 percent in 2021; however, just as Moldova was recovering from these severe shocks, its economic prospects were significantly affected once again. Russia's invasion of Ukraine, subsequent energy and refugee crisis, disruption of trade routes, and additional drought led to 28.7 percent inflation in 2022, negatively affecting private investment and squeezing resources available to the Government of Moldova (GoM) to address long-term development priorities. The economy hit recession in 2022, and in the first half of 2023, GDP contracted by 2.3 percent. Inflation decelerated to single digits of 4.75 percent in November 2023, driven by lower commodity prices and monetary policy tightening. Lower remittances and eroding disposable incomes led to only modest growth in private consumption, despite substantial increases in social assistance and pensions. Moldova's economic recovery relies on several factors, including addressing the aftermath of COVID-19, managing the effects of droughts, and navigating challenges arising from the regional security situation.

3. **Against this backdrop, the GoM has set ambitious objectives to tackle recent and more long-standing development challenges and reform the Moldovan economy along a more resilient growth model.** The 2020 Presidential and 2021 Parliamentary elections resulted in a new and reform-minded government, with an impetus to rapidly improve institutions, and the country's attainment of European Union (EU) candidate status provides an opportunity to break from the past.[2] By supporting the convergence with EU economic, judicial, social, digital, and environmental and resilience standards, the EU accession process can open significant opportunities to unlock growth and prosperity potential for Moldova. However, the EU accession also envisages that the country must undergo profound legislative and institutional changes to meet the EU requirements. This includes accepting the EU Acquis[3] before joining the EU and making the EU law part of Moldova's own national legislation (see more in paragraphs 8 and 14). Although some preparatory work has been done since submitting its EU membership application, significant efforts are needed along with political and financial support to align Moldovan mechanisms to those of the EU.

[1] Around 60 percent of Moldova's population lives in rural areas compared to less than 30 percent on average in Europe and Central Asia.
[2] Moldova applied for EU membership in March 2022, was granted EU candidate status in June 2022, and has set 2030 as its EU accession target.
[3] The Acquis is the body of common rights and obligations that is binding on all the EU member states.

B. Sectoral and Institutional Context

Natural Hazards and Exposure Risks

4. **Moldova is exposed to natural hazards that disproportionately affect the poor, which are being exacerbated by the effects of climate change.**[4] Moldova is among the most climate-vulnerable countries in Europe. The ND-GAIN[5] vulnerability assessment ranks it 91st in the global vulnerability rank (lower middle). Economic losses from disasters are mostly due to extreme weather events, and, in the case of Moldova, high-impact, low-frequency earthquakes can also cause catastrophic losses. Over the past decade, floods and droughts caused US$1.2 billion in damage. It also ranks 85th on the NG-GAIN readiness indicator (lower middle), showcasing a lack of ability to leverage investments into adaptation actions. The country has witnessed one significant negative climate-related event on average every three years since 2000. The cost of inaction on climate adaptation is estimated to be US$600 million and is projected to more than double in real terms to US$1.3 billion by 2050.[6] Given the size of the country and its economic profile, enhancing adaptation to climate change, and increasing resilience against natural disasters and other external shocks is a key priority for Moldova. Investing in disaster risk management (DRM) and resilience will certainly result in triple dividends through avoided losses and damages, induced economic profits from strengthened resilience during hazards, and environmental benefits.

5. **Floods, severe storms, and torrential rains are recurrent hazards.** Approximately 659 settlements (42 percent of all settlements) are at risk of flooding. In 2008, the country experienced severe torrential rains, which, together with dam releases from rivers upstream in Ukraine led to severe flooding in the northern and southern parts of the country, affecting over 8,000 people and resulting in US$120 million in losses to infrastructure and agriculture. Floods in 2010 and the subsequent dam breach led to damages and losses of around US$41.92 million, and more recently the rains and floods of 2020 caused economic damages of more than US$2.1 million.[7] Storms in May–August bring torrential rains, hail, and heavy winds, which translate into a recurrent and cumulatively heavy cost, with damage to roads and power distribution networks and other infrastructural damage. Riverine flood protection is limited, as dams, canals, and dikes need substantial repair. Flash flooding often occurs without warning.

6. **Drought, extreme heat, and wildfire risks are also high**. Moldova experiences severe droughts every 3–10 years. Droughts in 2007 and 2012 caused losses of US$1.0 billion and US$0.4 billion, respectively.[8] The 2020 drought caused at least a 26 percent drop in agricultural production and significant socioeconomic impacts with almost 20 percent of overall job losses in the agriculture sector.[9] The 2022 drought, combined with high fertilizer and fuel prices due to Russia's invasion of Ukraine, caused cereal output to drop 46 percent below the five-year average level, the lowest volume on record.[10] Multiyear droughts are projected to increase in frequency and severity, increasing poverty and food insecurity. Extreme temperatures pose a risk, with extreme heat and cold resulting in power outages, wildfires, and water shortages. Wildfires are projected to become more common due to global warming. During 2008–2012, there were 13,952 fires, with estimated losses of US$14.5 million. In 2019, there were 1,606 fires, with material loss related to fires estimated at US$4.1 million.[11] Climate models predict future rises in mean temperature of more than 2°C by mid-century, a significant decline in precipitation in many areas, and increased frequency and intensity of extreme weather events.

7. **Moldova is highly exposed to earthquakes, which are expected to have a devastating impact.** Moldova is located close to the Vrancea seismic area, which produces infrequent but high-magnitude earthquakes. Over the past 200 years,

[4] World Bank. 2021. *Special Focus Note: Moldova's Vulnerability to Natural Disasters and Climate Risks*.
[5] Notre Dame Global Adaptation Initiative 2020.
[6] World Bank. 2016. *Moldova - Climate Adaptation Investment Planning Technical Assistance (English)*. Washington, DC: World Bank Group.
[7] Ionita, Monica, and Viorica Nagavciuc. 2021. *Extreme Floods in the Eastern Part of Europe: Large-Scale Drivers and Associated Impacts*.
[8] Most Moldovan farm households are smallholders, who tend to be poorer and less buffered against shocks than larger farmers, and consume around 80 percent of their production, leaving little for income generation. More than 1/3rd of farmers reported difficulties in paying for nutrition. (World Bank 2016).
[9] According to the Food and Agriculture Organization (FAO), above-average temperatures, and poor rainfall during the 2020 season, severely affected wheat and maize crops.
[10] FAO. 2022. "Global Information and Early Warning System Country Brief." Republic of Moldova, November 28, 2022.
[11] FAO. 2023. *Comprehensive Analysis of the Disaster Risk Reduction System for the Agriculture Sector in the Republic of Moldova*.

it has suffered 16 major earthquakes, magnitudes between 7 and 8, with growing risk due to aging buildings, expanding cities, inadequately maintained public infrastructure, and low-risk awareness. A repeat of the 1940 earthquake (magnitude 7.7) today is expected to result in more than 4,000 injured, hundreds of fatalities, and damage to more than 725,000 buildings across the country, rendering an estimated additional 1.4 million displaced.[12] Over 324,000 people, or about one in every two inhabitants of Chisinau, reside in high-risk buildings, which are expected to cause the most fatalities in the event of a severe earthquake.[13] The approximate reconstruction needs for the building sector alone would amount to US$5.8 billion. Chisinau, which generates 50 percent of the country's GDP and is home to close to one-quarter of the population, would be particularly affected.

Alignment to EU Standards on Disaster Risk Management and Climate Change

8. **In January 2024, Moldova became a Participating State in the EU Civil Protection Mechanism (EU-CPM),[14] an important step toward improved prevention, preparedness, and response to disasters and emergencies.** By joining the EU-CPM, Moldova became connected to a Europe-wide network, including human resources and equipment for disaster response, which can reduce response time and damage and enable more rapid recovery. The EU-CPM will also provide Moldova's emergency response personnel with the opportunity to continually improve their capabilities and strategy for preventing and responding to exceptional situations, including through partnering with the other 36 EU-CPM participating countries during international response. The EU-CPM operates under the Directorate General of European Civil Protection and Humanitarian Aid Operations (DG ECHO) of the European Commission (EC). Fulfilling EU-CPM requirements supports many of the civil protection activities under Chapter 27 of the EU Acquis. The EU is additionally supporting Moldova's civil protection system through the ongoing Prevention, Preparedness, and Response to natural and man-made disasters in Eastern Partnership countries – Phase 3 Programme (PPRD East 3, 2020–2024),[15] with the aim to strengthen disaster risk reduction and crises management in Eastern Partnership countries and promote regional cooperation with the EU-CPM. PPRD East 3 has supported Moldova with the development of the legal framework for National Disaster Risk Assessment (NDRA) at local and national levels. The drafting of an NDRA is a requirement of the EU-CPM.

9. **Joining the EU-CPM process reflects the good progress Moldova has made toward developing a comprehensive DRM institutional framework, including working toward harmonization of the Moldovan legislation with EU standards.** Over the years, the GoM has established a clear institutional framework for civil protection with three key institutions in charge of dealing with emergencies: (a) the General Inspectorate for Emergency Situations (GIES) under the Ministry of Internal Affairs (MoIA), an all-hazard emergency response agency tasked to save lives and property and in charge of planning, coordinating, and managing disaster preparedness and emergency management; (b) the National Commission for Emergency Situations, responsible for managing activities of state executive institutions during emergencies and implementing long-term programs to prevent emergencies and eliminate consequences of an emergency; and (c) the State Hydrometeorological Service (SHS) under the Ministry of Environment (MoE), which monitors, forecasts, and issues warnings related to hydrometeorological, agro-meteorological, and some environmental hazards. Regional and local governments, in coordination with the GIES, have the responsibility for emergency response operations. The recently concluded EU-CPM Peer Review Report for Moldova[16] comprehensively assessed strengths and weaknesses in seven areas of DRM: disaster risk reduction, risk assessment, risk management planning, risk prevention, risk preparedness measures, emergency response, recovery, and lessons learned. The report confirmed that Moldova has the initial building blocks in place to create a more effective DRM system such as (a) the basis of a clear legislative and institutional framework for

[12] World Bank. 2020. *Strengthening Moldova's Disaster Risk Management and Climate Resilience*.
[13] World Bank. 2020. *Earthquake Risk in Multifamily Residential Buildings Europe and Central Asia Region*.
[14] The objective of the EU-CPM is to strengthen cooperation between the EU countries and nine participating states (Albania, Bosnia and Herzegovina, Iceland, Montenegro, North Macedonia, Norway, Serbia, Türkiye, and Ukraine) on civil protection to improve prevention, preparedness, and response to disasters. It is supported by EU Decision No. 1313/2013/EU (amended by Regulation (EU) 2021/836) and the Commission Recommendation of February 8, 2023, on the EU's objectives in disaster resilience (2023/C 56/01), which proposes a unified approach to disaster risk management.
[15] https://www.pprdeast3.eu/.
[16] EU-CPM Peer Review Report: Republic of Moldova 2023, was made public on October 27, 2023. https://europa.eu/!KY3Q33.

emergency response (this does not include prevention, preparedness, and recovery), which is well structured and hierarchical and capable of managing multiple emergency situations as proven by recent events; (b) comprehensive risk awareness campaigns at the national and subnational levels; and (c) the recently approved GIES Program for Prevention and Management of Emergency Situations 2022–2025, a comprehensive program that outlines specific actions to further strengthen civil protection response and management through a clear set of short- to medium-term actions—all in line with the EU-CPM requirements.

Areas for Further Improvement in Emergency Preparedness and Response

10. **However, despite progress, the EU-CPM Peer Review Report also highlighted significant challenges to ensure an effective and efficient disaster response system in the country.** For example, to strengthen Moldova's emergency preparedness and response capabilities, there is an urgent need to bring existing equipment up to code. Most of Moldova's emergency response vehicle fleet and emergency equipment is outdated (35 to 55 years old), ill-fitted for the current needs, and prone to failure and delays.[17] The dated vehicle fleet also means significant operation and maintenance (O&M) costs. The system could also be strengthened by better community-level emergency preparedness and prevention, especially in rural and hard-to-reach areas. Additionally, there is a need to upgrade Moldova's emergency communication systems, both public warning systems (PWSs) and early warning systems (EWSs), as they are inadequate in their current form. Both PWS (that broadcasts warning messages within a designated target area) and EWS (that provides real-time disaster-related data such as weather forecasts and data received from sensor networks) save lives, protect livelihoods, and are one of the most effective ways to reduce the impact of disasters, but this requires comprehensive nationwide coverage, forecasting, and monitoring of potential threats and disseminating timely warnings to authorities and public. In Moldova, several of these EWS elements under the SHS's hydrometeorological purview are critically missing and others (such as mapping of hazards, monitoring, and forecasting) need significant investment.[18] The existing PWS provides warnings through an outdated and poorly maintained network of sirens rather than using modern technology such as mobile phone network alarms/alerts.[19]

11. **Moldova also needs to direct policy, regulatory, and investment resources toward risk reduction in critical sectors.** Despite the significant seismic risk, there is no dedicated law on seismic risk at the national level and no governmental strategy for comprehensive microzonation mapping of seismic hazards. Additionally, Moldova does not have a national program to assess and reduce seismic risk in public and residential buildings and requires assistance in adopting Eurocode standards.[20] Emergency response services, government buildings providing critical public services (health, education, and so on), and critical infrastructure must be resilient with continued functionality in emergencies, including alternative energy and communications. Also, while a legal and regulatory framework for national disaster management is in place, it is mostly articulated toward emergency response rather than proactive risk management and reduction of vulnerability to hazards, including those related to climate change. While the GoM has recently begun work on a National DRM Strategy, there is currently no underlying multi-hazard risk assessment that informs it—resulting in a clear need to advance one. Completion of the strategy, including its contributions to an improved institutional management framework, would fill the existing legislative gaps, bringing Moldovan legislation in line with commitments

[17] Moldovan regulations require emergency response vehicles and fire trucks to be replaced every 8 years, but in practice, this is closer to 15–20 years, with some vehicles upwards of 55 years old. Investment in new fleet vehicles will allow the GIES to come up to code with EU Decision 2014/762, 06.11.2014, Annex II, 1. High-Capacity Pumping, 3. Urban SAR (EU INSARAG), and 15. Ground Forest Fires Fighting Vehicles, also allowing the vehicles to participate in the EU-CPM regional response efforts.

[18] A well-functioning EWS/SHS will be required for compliance with EU legislation including EU Flood Directive (Directive 2007/60/EC), EU Air Quality Directive 2008/50/EC, and the INSPIRE Directive related to free availability of environmental data including weather data (Directive 2007/2/EC).

[19] A strong PWS is a requirement under EU Directive 2018/1972, Article 110 (requiring all EU countries to operate a PWS that can send geotargeted emergency alerts) and GoM Decree 846/2022, Article 2.1.1-2.1.4 and Decree 137/2019, Article 101.c (requiring a PWS to be deployed by the end of 2025, by the GIES).

[20] Seismic upgrading of vulnerable buildings and adoption of Eurocode 7 'Geotechnical design' and Eurocode 8 'Design of structures for earthquake resilience' will allow Moldova to comply with the 2020 EC Strategy for the Renovation Wave of Buildings and Directive (EU) 2018/844 of the European Parliament and of the Council of May 30, 2018, amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency.

under the Sendai Framework for Disaster Risk Reduction as well as EU standards and ensure that proactive risk mitigation priorities are incorporated in national development programs.

12. **Efforts are also needed to enhance the financial resilience of Moldova against future natural disasters.** Funding available to Moldova for meeting post-disaster costs is not enough; it is estimated that the country will, on average, face a funding gap of US$146 million each year. Not all risks can be eliminated, and proper financial planning to ensure the availability of adequate and timely financing is critical. Financial preparedness to meet post-disaster costs can reduce the fiscal impact of natural disasters; mitigate their impact on development; and secure faster and more complete recovery of households, firms, and farmers. Natural disasters are contingent liabilities of the GoM. The GoM is expected to pay for recovery and many reconstruction costs after disasters—this cost can be substantial. For example, it was estimated that Chisinau, the capital, financial, and business center of Moldova that generates 50 percent of the national GDP, could face an average annual loss of over US$8.4 million due to earthquakes.[21] A 100-year earthquake event is estimated to generate over US$700 million in losses country-wide. This is broadly consistent with the recorded losses from actual events: the 1986 earthquake in Chisinau led to direct and indirect losses of US$1.2 billion.[22] At the moment, the GoM's approach to post-disaster financing is largely reactive and relies mainly on ex post sources of funding, such as borrowing, budget reallocation, and possibly donor aid, among other ways the GoM can use to raise money in case of a major disaster.[23] This approach, however, might delay recovery and be expensive.

C. Relevance to Higher Level Objectives

13. **The proposed Strengthening Moldova's Disaster Risk Management and Resilience (SMORE) Project (the Project) is consistent with the World Bank Group's (WBG) Country Partnership Framework (CPF) for the Republic of Moldova for the period FY23–27 (Report No. 177939-MD, discussed by the Board of Executive Directors on March 14, 2023); the Climate Change Action Plan 2021–2025 (CCAP); the Europe and Central Asia Climate Roadmap; and the Green, Resilient, and Inclusive Development (GRID) approach.** The Project will specifically contribute to the High-Level Outcome 3 (HLO 3) of the CPF 'Increased Resilience to Climate Change and Crises', specifically Objective 3.2 to 'Promote green and resilient investments in infrastructure and agriculture'. The CPF aims to provide mutually reinforcing support by addressing short-term shocks to improve prospects for long-term sustainable development while developing long-term resilience to help prepare for future shocks. The proposed cross-sectoral approach also aligns with priority activities identified in the CCAP, including developing a comprehensive framework for climate- and disaster-resilient development investments. SMORE also aligns with the World Bank's Europe and Central Asia Climate Roadmap by supporting a 'whole-of-economy' approach (policy, finance, and people) to ensure ambitious, sustainable, and just climate action and strengthen climate resilience in target sectors such as urban. In line with the GRID approach, the proposed Project contributes to saving lives, protecting the poor, and rebuilding better objectives by improving policies and institutions. The Project connects to the broader World Bank country engagement by supporting the implementation of the Program for Prevention and Management of Emergency Situations 2022–2025, the adoption of which was a prior action in the ongoing Moldova Emergency Response, Resilience, and Competitiveness Development Policy Operation (P179086) approved in May 2023, and will inform the development of Moldova's Country Climate and Development Report (CCDR) which is currently in concept stage. Furthermore, SMORE is aligned with the support from the International Monetary Fund (IMF) through the Resilience and Sustainability Facility.[24]

[21] Depending on the source estimate used for the estimated country-wide average annual loss.
[22] https://climateknowledgeportal.worldbank.org/country/moldova/vulnerability.
[23] The EU is increasingly focused on disaster risk finance. The 2021 EU Climate Adaptation Strategy provides for measures on disaster risk finance.
[24] This facility will support Moldova's efforts to develop and implement strong macro-critical measures in the climate and energy areas, strengthen balance of payments stability, and catalyze financing for adaptation and mitigation. There are three reform measures (RM) relevant to SMORE: RM1 to adopt the Law on Climate Action and establish a National Commission on Climate Change, planned achievement by March 2024; RM2 to approve a National DRM program aligned with Sendai framework, planned for July 2024; and RM3 to develop and disseminate natural disaster risk and vulnerability maps, planned for July 2025. Completion of each RM will result in disbursement of SDR 10,781,250 to MoF for budget support.

14. **SMORE is consistent with Moldova's development plans and the EU accession process.** It directly contributes to the GoM's national development efforts in DRM and climate resilience. This includes reforms and investments in line with Moldova's National Development Strategy 'European Moldova 2030', which highlights that climate change poses risks and offers potential opportunities that need to be assessed as part of the country's development agenda and calls for actions to increase the safety of citizens by reducing the response time in emergencies. The strategy recognizes the importance of the EU integration process as a framework for the country's modernization through alignment with the EU norms and standards in all fields, as these are considered among the best international practices. The proposed Project is also fully aligned with the above-referred Chapter 27 'Environment' of the EU Acquis, which comprises legal acts covering 10 sub-chapters, including those on civil protection (with a view to improving prevention, preparedness, and response to natural and man-made disasters), climate change, sustainable development, water, and other natural resources.[25] Similarly, SMORE is aligned with Moldova's National Development Plan 'Building a European Moldova' 2024–2026 and subsequent 2025–2027 Plan, the National Accession Plan of the Republic of Moldova to the EU 2024–2027, and regulations under the Government's 2024 Action Plan. In addition, it is aligned with Moldova's environmental and climate goals expressed in Moldova's National Climate Adaptation Plan (2022–2030).

15. **SMORE is consistent with Moldova's Nationally Determined Contributions (NDCs).** SMORE directly contributes to the achievement of some of the cross-sectoral climate change adaptation priorities stipulated in Moldova's updated NDC submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in fulfillment of the Paris Agreement. These priorities include improving disaster risk reduction, climate information delivery and accessibility, and institutional capacity to effectively plan and implement climate change adaptation measures.

II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

16. The Project Development Objective (PDO) is to enhance Moldova's preparedness and response to natural hazards and climate-related shocks, and in case of an eligible crisis or emergency, respond promptly and effectively to it.

PDO Level Indicators

17. The Project will measure progress toward the PDO through the following proposed indicators:
    (a) People with enhanced resilience to climate risks (Number) (Of which women [number] and youth [number])[26]
    (b) Share of population with access to higher quality weather forecasts and climate services (Percentage)
    (c) People benefitting from improved emergency response services (Number)

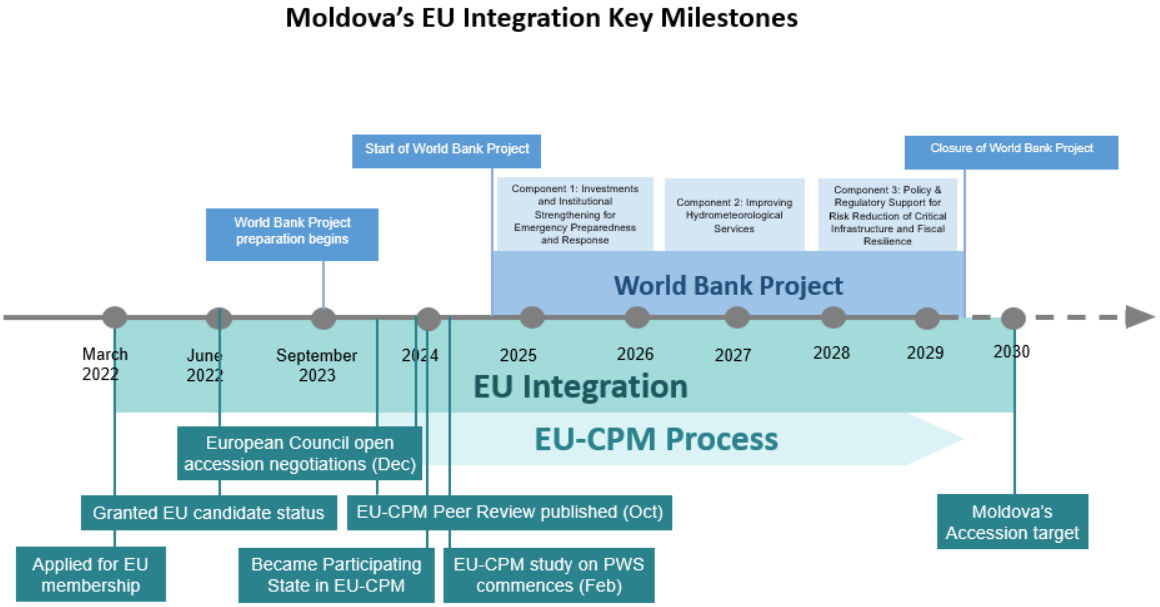
18. **In line with the new WBG Corporate Scorecard, interventions under the proposed Project contribute to *enhanced resilience* to climate risks by providing Project beneficiaries with sufficient access to systems and instruments to adapt to, cope with, and recover from these risks.** The first PDO-level indicator is aligned with the WBG Scorecard, ensuring that the Project's goals are in sync with the broader objectives of the WBG. Project-financed activities include enhancement of climate disaster response; improved weather, water, and climate risk management; development of non-structural or capacity development elements; implementation of financial instruments; and improvements to the enabling environments and institutional frameworks for climate and disaster resilience.

[25] EU Acquis chapters with minor links to SMORE include chapter 18 'Statistics', 25 'Science and Research', 9 'Financial Services', and 30 'External Relations'.
[26] To ensure that the proposed SMORE Project is aligned with the new WBG Scorecard Framework, this indicator specifically ties to the scorecard 'Outcome Area 5: Green and Blue Planet and Resilient Populations', which covers the WBG's interventions on improvements in adaptation such as work on enhancing resilience to climate risks and contributions to client countries' pathways toward net zero greenhouse gas (GHG) emissions.

B. Project Components

19. **SMORE is envisaged as part of a long-term strategic engagement on DRM and climate resilience in Moldova.** This Project will primarily focus on investments and institutional strengthening for the country's emergency preparedness and response through the operationalization of a national PWS, including based on improved EWS, and upgrading of emergency response vehicles while also laying the ground for future support for risk reduction investments at scale through facilitating regional DRM assessments as well as technical feasibility studies and policy support for seismic upgrading. The specific Project components and activities are complementary to the DRM agenda that the GoM, World Bank, EU, and other development partners are working on as part of the EU accession process. As described earlier in 'Alignment to EU Standards' under 'Section B. Sectoral and Institutional Context' and as illustrated in Figure 1 below, SMORE aims to address some of these gaps in Moldova's DRM approach and is aligned with and supports Moldova's EU Integration reform agenda. SMORE sets the stage for a long-term strategic engagement to advance Moldova's larger DRM ambitions, initially supporting the GoM's immediate emergency response and preparedness needs and upgrading hydrometeorological forecasting capacity, including early warning while building foundational capacity for future disaster risk reduction investments at a larger scale which may be financed by a follow-on World Bank operation, other development partners, or the GoM's own financing.

Figure 1. SMORE Project Components Supporting EU Integration



20. **Component 1: Investments and Institutional Strengthening for Emergency Preparedness and Response (US$29.5 million).** Enhanced emergency preparedness and disaster response is critical to protect lives, livelihoods, and assets in Moldova, where expected disasters are primarily climate change related with high hazard levels associated with wildfires and river and urban floods, followed by medium hazard levels associated with earthquakes.[27] This component will finance the installation and implementation of a national cell phone (cell broadcast) based PWS with its respective instrumentation and data servers and integration with existing meteorological, hydrological, and geological information systems. The component will also finance the acquisition of emergency response (fire engines) vehicles and equipment (containers with hazard-specific search and rescue and logistics) and essential emergency preparedness equipment and instrumentation (in-building and outdoor training equipment) for improved local-level emergency services. All activities would support the GIES to increase its emergency preparedness and response operations capacity in line with the

[27] Think Hazard Report for Moldova: https://thinkhazard.org/en/report/165-moldova.

requirements of the EU-CPM, reach compatibility with the EU member states, and help the GIES meet its EU Acquis and legislative requirements. All the equipment financed by the Project has the objective of improving the preparedness and emergency response capacity of the Borrower, and do not include weapons, lethal equipment, or any other equipment of such nature not related to emergency preparedness and response. The use of the emergency equipment and vehicles acquired under this Project should be used exclusively for the preparedness and response objectives previously mentioned. The following three subcomponents are envisaged:

(a) **Subcomponent 1.1: Public Warning System (US$5 million).** This subcomponent will finance the installation and operationalization of a multi-hazard cell phone (cell broadcast) based PWS with national coverage, which will enable immediate dissemination of emergency and disaster warnings to residents, saving lives, reducing injuries, and considerably reducing material losses.[28] No personal data will be stored in the system, the recipients will remain anonymous since the PWS does not require registration of phone numbers or maintenance of a phone number database, and messages are broadcasted to all users within a selectable targeted geographic area that may face imminent emergency. To increase trust and preparedness among the population, the subcomponent would also support regular tests and awareness, training, and advocacy campaigns, including for women, along with drills and simulation exercises for authorities.

(b) **Subcomponent 1.2: Emergency Response Vehicles (US$23 million).** This subcomponent will finance the acquisition of emergency response vehicles[29] (fire engines) and equipment (containers with hazard-specific[30] search and rescue[31] and logistics[32]) for GIES required to modernize and increase the emergency response service capacity for extreme weather conditions, such as temperature, precipitation (rain, snow, hail, and so on), floods, storms, wildfires, and earthquakes. In many cases, due to rapid urban growth and the impacts of climate change and increasing temperatures, existing firefighting services do not have access to the modern equipment commensurate with their changed and expanded response areas and functions, including appropriate equipment for swift water rescue and flood response and to fight fires at the wildland-urban interface. The new equipment and vehicles are therefore crucial, as emergency response personnel in Moldova perform the double duty of emergency management and response. These vehicles will contribute to increasing the response capacity for floods, storms, urban fires and wildfires, and earthquakes, ensuring that municipalities are better adapted and prepared to respond to climate change-imposed challenges and the expected growing impact of extreme weather and natural hazards. The replacement of existing outdated and inefficient emergency response vehicles (35 to 55 years old) will reduce critical response times to emergencies, improve the safety and efficiency of interventions, and result in an overall reduction of CO_2 emissions from 871.07 kg in 2023 to 485.66 kg by the project end in 2029.[33] Additionally, the transition from the old vehicle stock into a newer and modern one would also lead to a reduction in fuel consumption.[34]

[28] The operationalization of the PWS will build on lessons from similar cell based PWS interventions in neighboring countries (e.g., Romania) which integrate different (i) warning sounds according to hazards, (ii) languages according to population demographics (including refugees); and (iii) specific needs of minorities and people with disabilities.

[29] Each emergency vehicle (fire engine) will be owned by GIES and will be equipped with response equipment that enables firefighters to perform rescue operations during fires (including open fires), floods, earthquake and transport accidents, storms, heavy winds, and so on, which will ensure continuous operations (24/7) despite the weather and day/night conditions as well as communication terminals compatible with the existing nationwide digital communication network (TETRA standard).

[30] Including fires, floods, flash floods, earthquakes, blasts, landslides, among other hazards.

[31] 'Search and rescue' is defined as searching for the missing, wounded, victims in the aftermath of a disaster or crisis, including rescuing people from fires, debris, floods, heights, traffic accidents, among others, and removing victims from confined places such as manholes and wells.

[32] 'Logistics' is defined as equipment necessary for emergency response including generators, hydraulic and electrical cutters, acoustic sensors, and various supporting equipment used in firefighting and search and rescue/urban search and rescue activities.

[33] The calculations were made for 40 emergency response vehicles and results from the distance driven multiplied by EURO 1 emissions (3.16 g per km). Calculations also include 42 cars for the risk assessment and prevention process, relative to EURO 6 emissions (1 g per km).

[34] GIES estimates that the old vehicle stock consumes fuel at a rate of 60 liters/km, while the new vehicles will consume only 1/3rd of the same - at 20 liters/km.

(c) **Subcomponent 1.3: Community Emergency Preparedness (US$1.5 million).** This subcomponent will finance the acquisition of essential emergency equipment[35] for GIES prevention officers at the local community level and the enhancement of the disaster prevention (risk assessment and risk reduction) capacity—through the provision of trainings and the carrying out of outreach campaigns to increase public awareness about disaster preparedness, especially for women and populations in rural and remote areas.[36] The proposed equipment will facilitate mobility (through the acquisition of compact vehicles) and risk assessment, risk reduction, and public disaster preparedness awareness-raising training aligned with the PWS and emergency response activities advanced by the Project. It will further allow the GIES prevention officers to be deployed to areas potentially affected by wildfires and fires (which are projected to increase due to rising extreme temperatures),[37] floods, landslides, or other nature-induced or man-made disasters. Finally, the subcomponent will advance the carrying out of a DRM assessment, which will be piloted in the north, central, and south regions to inform disaster risk reduction efforts and risk planning at the national level as well as training on disaster preparedness at the local level with a specific focus on women. Trainings for all stages of preparedness and response will be delivered by GIES to raise awareness with a focus on women and appropriately prepare response teams to address the specific needs of women and girls in a post-disaster setting, such as security, health, and economic recovery.

21. **Component 2: Improving Hydrometeorological Services (US$6.5 million).** Despite its overall susceptibility to drought, severe storms, torrential rains, and floods are recurrent yearly hazards in Moldova. According to climate models, potentially damaging and life-threatening river floods are expected to occur at least once in the next 10 years.[38] To address these challenges, this component will support the strengthening of the SHS's meteorological and hydrological monitoring networks; production of forecasts and warnings capacity; and delivery of weather, hydrological, and climate services.[39] This will include selective essential investments in support of the modernization of the country's EWS—which is a key input to the GIES-planned PWS financed under Component 1—through improved weather and hydrological observations and monitoring, provision of advanced information and communication technology (ICT), including exploring possibilities of integrating such advanced technologies as AI into hydrometeorological services and weather forecasts, and utilizing cloud computing to improve forecasting systems and models; and enhanced forecasting infrastructure and institutional strengthening and capacity building. The improved weather and hydrological forecasting and climate services will provide a critical value add in decision-making for a variety of public and private users, particularly farmers, in the context of increasing drought frequency and severity. A well-functioning SHS will also contribute to compliance with the EU legislation, including the EU Flood Directive, the EU Directive related to Air Quality, and the INSPIRE Directive related to

[35] 'Essential emergency equipment' under Subcomponent 1.3 refers to equipment owned by GIES and includes one set of the following: compact SUV vehicle, port baggage, mobile television, laptop, projector, portable display, portable audio system, laser pointer, mobile generator, megaphone, and 30 m portable extension cord to be used in emergency response operations.

[36] The vehicles to be procured under Subcomponent 1.3 are C segment SUV vehicles for prevention officers to conduct indoor and outdoor trainings at the community level for awareness raising in the local community and perform preparedness activities such as prevention and disaster preparedness activities in the field and reconnaissance before or right after an emergency to inform the response teams properly. The fire engine trucks and containers to be procured under Subcomponent 1.2 are aimed directly for emergency and disaster response.

[37] According to the Project's Climate and Disaster Risk Screening, extreme temperatures are a risk in Moldova, with heatwaves, wildfires, and cold spells leading to power outages and water shortages. Climate models predict future rises in mean temperature of more than 2 degrees by 2050, with temperatures substantially higher in the south. As a result, the frequency and intensity of most extreme weather events and disasters, such as major droughts, and floods, as well as hailstorms, and late frosts is envisioned to increase.

[38] The present hazard level is expected to increase in the future due to the effects of climate change, with changes in precipitation regimes leading to more frequent and intense precipitation days in winter and an increase in the number of extreme rainfall events. (World Bank Climate and Disaster Risk Screening Tool - Climate and Disaster Risk Screening Report for the Strengthening Moldova's Disaster Risk Management and Resilience Project [P504278]).

[39] It will support the SHS to implement the National Framework for Climate Services and associated action plan, previously developed with support from the World Bank and Global Facility for Disaster Reduction and Recovery (GFDRR). The World Bank also supported the SHS with the development of a Modernization Roadmap, which highlights key actions and investments that need to be undertaken in the short to medium term. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/598981562951011789/concept-and-action-plan-for-climate-services-in-the-republic-of-moldova.

the free availability of environmental data, including weather data. The component includes the following two subcomponents:

(a) **Subcomponent 2.1: Modernization of Hydrometeorological Monitoring Systems and ICT Capabilities (US$4.3 million).** The subcomponent will support the (i) construction of critical meteorological and hydrological observing stations; (ii) rehabilitation of existing observing stations with new sensors and telemetry (where lacking); (iii) replacement of selected accommodations at traditional observing stations with modular buildings (which are envisioned to improve energy efficiency and reduce costs by moving out of old Soviet-era buildings that are far too large for current needs and are extremely energy-inefficient);[40] (iv) establishment of an upper air observation system; (v) upgrading and renovation of existing weather radar and installation of a lightning detection system; (vi) improvement of hydrometeorological monitoring systems; (vii) enhancement of ICT capabilities (including automation of data handling) and essential elements such as Integrated File and Message Switching System; (viii) establishment of a data archive and setting up of a Climate Data Management System capable of handling both meteorological and hydrological data, which allow the creation of standard climatological products and services; and (ix) associated training packages where needed.

(b) **Subcomponent 2.2: Improving SHS Service Delivery by Enhancing SHS Forecasting Capabilities, Institutional Strengthening, and Regional Collaboration (US$2.2 million).** The subcomponent will finance the installation of forecast visualization and meteorological workstation systems and SHS' capacity building on probabilistic forecasting and impact-based forecasting capabilities. It will also include (i) acquisition and implementation of a nowcasting system,[41] (ii) introduction of sectoral-based forecasting, (iii) development of hydrological modelling and forecasting, and (iv) enhancement of the use and application of other regional and global meteorological models. This subcomponent will also provide institutional capacity support to the SHS for improved service delivery.

22. **Component 3: Policy and Regulatory Support for Risk Reduction of Critical Infrastructure and Fiscal Resilience (US$2.5 million).** This component will provide support for policy and regulatory measures and technical studies to better assess and manage natural hazards and climate-related risks. This would include the financing of the structural vulnerability assessments; geotechnical and other site investigations; and feasibility and design studies for rehabilitating, rebuilding, or reinforcing vulnerable critical infrastructure assets taking into consideration climate hazards whose failure may cause loss of lives and livelihoods and significant economic damages and losses to the Moldovan economy. Activities financed under this component are intended to be used by the Ministry of Infrastructure and Regional Development (MoIRD) as pilots of good practices and later used as models for scale-up investments (by the World Bank, other development partners, and/or the GoM as part of Moldova's EU accession process) with a focus on seismic risk reduction. Finally, the component will also support the Ministry of Finance (MoF) to undertake disaster risk finance (DRF) reforms in Moldova to reduce the post-disaster funding gap and improve the management of disaster-related contingent liabilities. The component will support two subcomponents as follows:

(a) **Subcomponent 3.1: Policy, Regulatory, and Feasibility Study Support to Reduce Seismic Risk (US$1.75 million).** The subcomponent, through the provision of technical assistance (TA), will advance the development of (i) technical requirements for seismic design and retrofitting to comply with normative requirements of the EU building codes, especially Eurocode 7 (Geotechnical Design) and Eurocode 8 (Design of Structures for Earthquake Resistance) which will also enhance structural stability in climatic events (for example, flooding events); (ii) a national methodology for seismic and disaster risk maps of both the residential housing stock and public buildings, thereby advancing a unified approach for seismic risk assessment of buildings; (iii) a methodology for rapid visual screening of buildings based on

[40] The modular buildings would have much higher standard of energy efficiency than the buildings which they will replace, specifically in matters such as wall and ceiling insulation and in the draught-proof quality of windows. While the modular buildings will be connected to the electricity grid, some solar panels will be added to augment the network electricity supply.

[41] The World Meteorological Organization (WMO) defines nowcasting as "forecasting with local detail, by any method, over a period from the present to six hours ahead, including a detailed description of the present weather."

basic characteristics related to seismic vulnerability, seismic hazard, and exposure, including a pilot screening in targeted areas through a mobile application; (iv) the development of the mobile application for the pilot screening; and (v) a set of recommendations to incentivize integrated interventions for seismic retrofitting and energy efficiency retrofits to maximize the net benefits on CO_2 footprint reduction and inform future infrastructure planning in support of newly mandated energy efficiency standards in an integrated manner.[42] Energy efficiency retrofits, for example, building thermal insulation to reduce heat loss, will also contribute to the resilience and adaptation to extreme temperatures. In addition, the subcomponent will finance the development of specific requirements for seismic retrofitting of selected public buildings and feasibility studies on seismic retrofitting of buildings and related environmental and social instruments, incorporating climate resilience measures to safeguard public buildings (for example schools, hospitals, and clinics) from damages caused by recurring yearly climate change induced events including extreme precipitation, severe storms, and floods. These may include the provision of adequate energy sources to ensure the functionality of critical infrastructure, for example, hospitals and schools.

(b) **Subcomponent 3.2: Financial Protection to Mitigate Disaster Impacts (US$0.75 million).** This subcomponent will support activities to increase financial protection to mitigate disaster impacts through (i) the design of a new Disaster Reserve Fund or the redesign and enhancement of the existing one (intervention fund) as a source of transparent, rule-based, and targeted funding following yearly recurrent hazards and disasters that will become more intense and frequent in the future due to climate change (for example floods, severe storms, and torrential rains which impose recurrent and cumulatively heavy costs as they wash out roads, damage the electric power distribution network, and cause other infrastructural damage) and (ii) preparation of a methodology for assessment of fiscal risks of disasters to disclose as part of the government fiscal risk statement.

23. **Component 4: Contingent Emergency Response Component (CERC) (US$0).** This component will enable the reallocation of loan proceeds from other components to provide immediate recovery and reconstruction support following an eligible crisis, as needed. Due to the vulnerability to natural disasters and the precarious regional security situation with potential repercussions on Moldova's stability, the GoM has opted to include a CERC that can be activated in case of an eligible emergency event. Following such an event, the GoM may request the World Bank to reallocate uncommitted project funds to emergency response. The CERC design will be contingent on the impact and type of emergency and will not be a priori limited to any sectors, regions, or specific activities. CERC-financed activities will be demand and event-driven and will be detailed in a GoM Action Plan of Activities. An eligible emergency, conditions for triggering the CERC, the positive list and criteria for activating the CERC will be reflected in the CERC Operations Manual.

24. **Component 5: Project Management (US$1.5 million).** This component will cover operational costs, consulting services, non-consulting services, goods, and training to finance the overall project management cost, including consultants hired by the Project Implementation Unit (PIU) to carry out project management and technical support functions to ensure efficient project implementation and close cooperation between the line ministries and implementing agencies as well as other project stakeholders. It will finance capacity-building activities for the PIU staff and other implementing agencies. These functions will cover technical, procurement, financial, environmental, social management, monitoring/evaluation, and communication and outreach activities.

25. **SMORE is expected to benefit from** additional World Bank-executed Trust Funds from the Technical Assistance Financing Facility for Disaster Prevention and Preparedness (TAFF), which is a partnership between the EC DG ECHO, the World Bank, and the GFDRR, and will be mobilized to support institutional strengthening, capacity-building activities, and outreach for the SHS; citizen engagement participatory mapping exercises related to community emergency preparedness; and implementation of DRF reforms.

[42] Moldova recently adopted mandatory energy efficiency requirements (https://build-up.ec.europa.eu/en/news-and-events/news/mandatory-energy-efficiency-requirements-new-and-renovated-buildings-moldova), which apply to new and renovation/retrofitting of existing buildings. The Project is envisioned to support potential incentive schemes that will implement the newly mandated energy efficiency standards, thereby benefiting consumers by reducing energy consumption and CO_2 emissions.

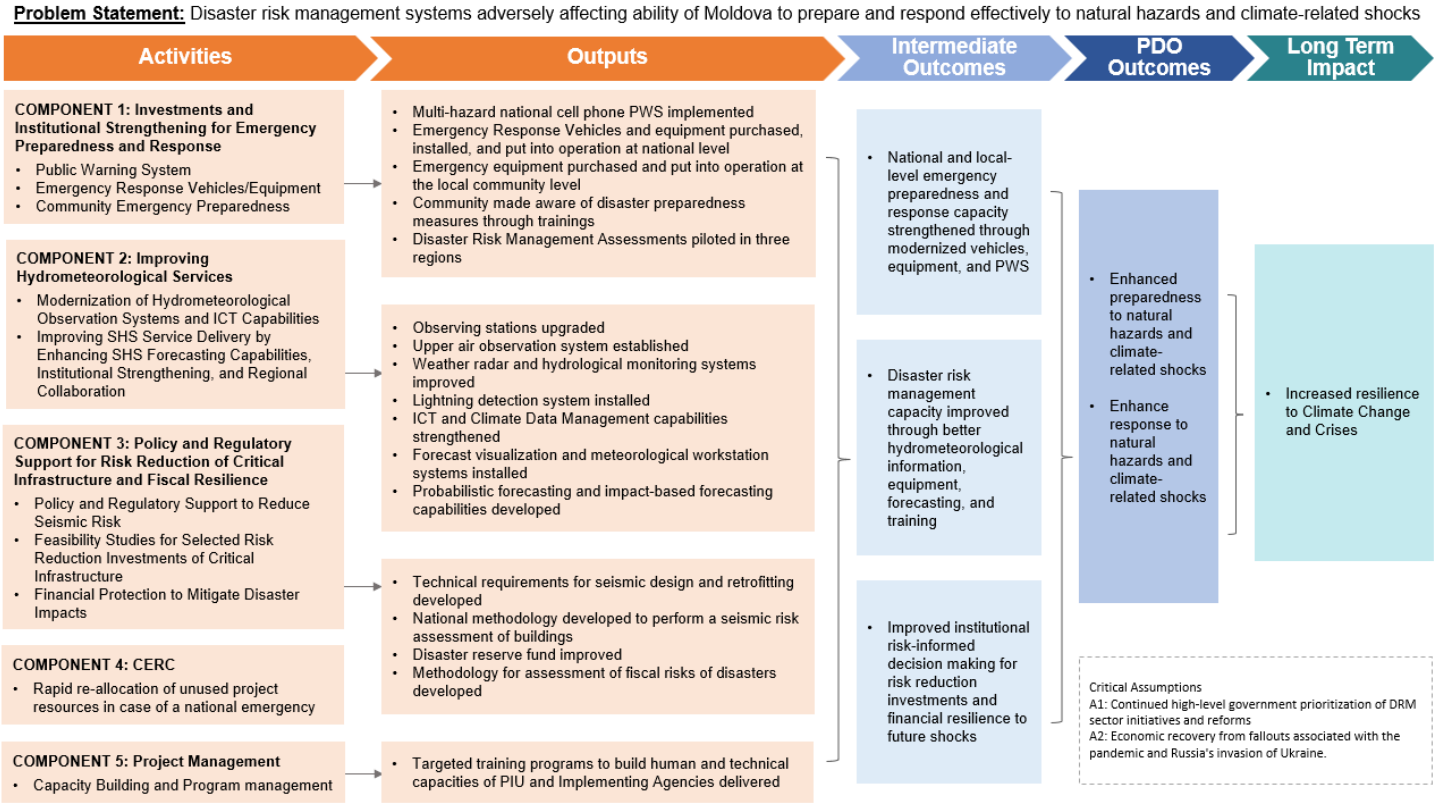
C. Project Beneficiaries

26. **The Project is expected to bring numerous benefits to a diverse range of government entities, public institutions, the private sector, and communities in areas prone to disasters.** The primary beneficiaries are the government entities/institutions responsible for coordinating activities related to emergencies and disasters, that is, the GIES under the MoIA and SHS under the MoE. The clients of the services of the government entities/institutions will be the secondary but direct beneficiaries. Overall, the Project is expected to benefit all citizens of Moldova (approximately 2.5 million), who will gain from improved enhanced resilience to climate risks. Benefits will accrue particularly for the elderly, people living with disabilities, and households living in poverty, who have increased exposure and lower capacity to mitigate the negative effects of disasters and will gain from stronger PWS, EWS, and response systems.

D. Results Chain

27. **Figure 2 presents the Project's Theory of Change (ToC).** The ToC underlying SMORE interventions is that by delivering investments and institutional strengthening in emergency preparedness and response and also improving hydrometeorological services, combined with support for feasibility studies on risk reduction investments and associated policy reforms in priority areas and financial protection to mitigate natural disaster impacts, the GoM will be able to demonstrate tangibly reduced decreased economic and financial costs of natural hazard and climate change events.

Figure 2. Theory of Change



E. Rationale for Bank Involvement and Role of Partners

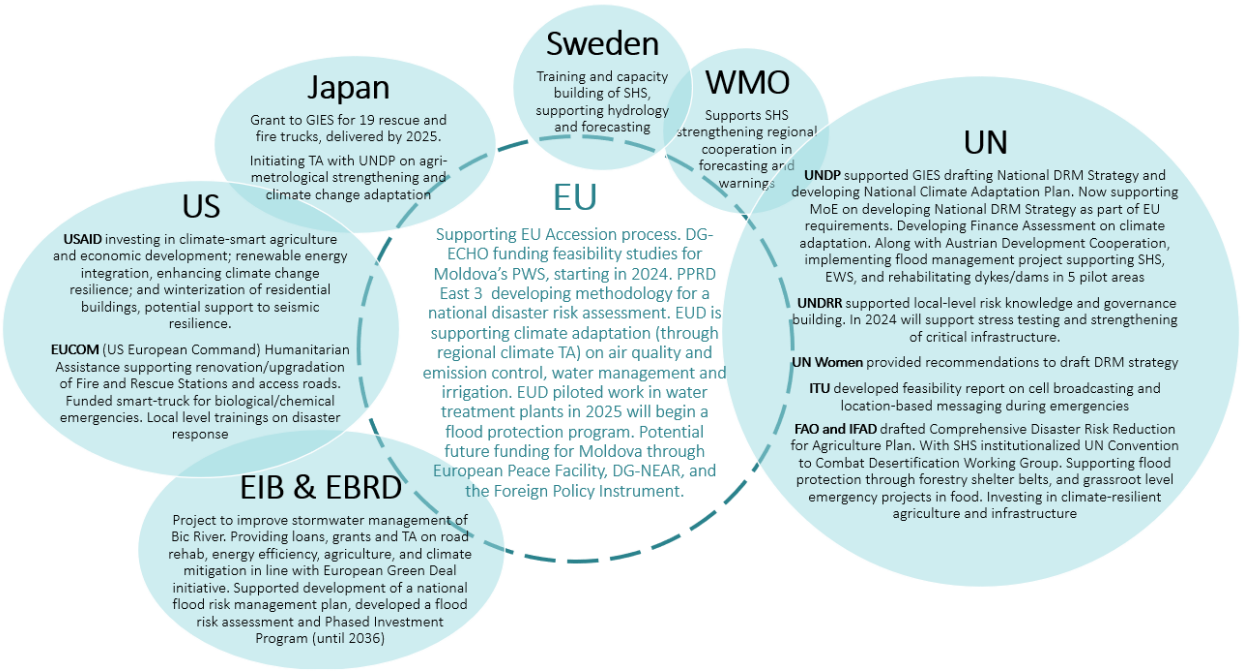
28. **The World Bank possesses the necessary global and country knowledge, as well as relevant analytical and operational experience, to support the GoM on its DRM reform agenda.** For more than a decade, the World Bank has helped Moldova enhance preparedness to address disaster risks and climate change through investments in critically

important institutions, analytical work, and policy dialogue (further detail on these projects can be found under 'Section F. Lessons Learned'). Additionally, the World Bank has a long history of providing operational support for similar DRM projects and brings an extensive body of knowledge and best practices from Romania, Türkiye, Albania, Serbia, and multiple other countries where similar activities have been implemented, including in EU countries, which have undergone pre-accession and accession transitions. This knowledge allows the World Bank to design sustainable projects that set a long-term development pathway for resilience in a way that is tailored to the specific context of each country and is rooted in an evidence-based approach. The GoM is receiving TA for DRM and climate change adaptation from other development partners and is eager to complement this TA with the combined knowledge and finance that the World Bank is uniquely placed to offer. Besides its technical expertise, the World Bank can also play a key role in sourcing global knowledge and experience, mobilizing additional grant and TA support, and convening other development partners and resources. The rationale of focusing activities on immediately needed emergency preparedness and response activities considers that the longer-term strategic engagement on risk reduction initiated through SMORE will be complementary to other development partners' interventions and the process under the EU-CPM.

29. **SMORE ensures coordination with the numerous other development partners active in DRM and climate resilience in Moldova.** The EU accession process, supported by the EU Delegation, will be the driving force behind Moldova's DRM agenda. This reform process is being supported by donors such as the United Nations Development Programme (UNDP), European Investment Bank (EIB), European Bank for Reconstruction and Development (EBRD), World Meteorological Organization (WMO), and the US and Japanese Governments who all have active or planned engagements in support of DRM and climate resilience. SMORE is aligned but not duplicative of development partners' activities by focusing on different thematic and geographic subareas and/or providing financing support for scaling up activities initially supported by others. For example, the US Government is supporting the seismic retrofitting and upgrading of Moldova's fire and rescue stations. Currently, 14 of 61 stations are complete, four are ongoing, one has been recently approved and upgrading will start shortly, and six are intended for the next four years. Additionally, five fire and rescue stations are financed from other sources, which is essential to accommodate the upgraded emergency response vehicle fleet financed under Subcomponent 1.2 of the Project. Similarly, the EU (DG ECHO) is funding the feasibility study for the implementation of the PWS, which will be financed under Subcomponent 1.1. PPRD East 3 has supported Moldova with the development of the legal framework for NDRA at the local and national levels (which will be actioned under Subcomponent 1.3), a local emergency plan in Soroca and capacity-building activities (both supported under Subcomponent 1.3), and procedures for an EWS for forest fires (which could feed into the PWS under Subcomponent 1.1). The UNDP is supporting the MoE in developing the National DRM Strategy, which is required under EU accession guidelines, and plans to finance a flood management pilot project. Previously, the UNDP supported the updating of the National Climate Adaptation Plan, which was approved in August 2023. SMORE will build upon the work of these other donors and unite their thematic areas toward supporting the newly set DRM, climate change, and civil protection agendas under the EU accession process. The EU-CPM tools and instruments that are already accessible to Moldova could be further used to improve its DRM technical and financial capacities.[43]

[43] EU-CPM grants, exchange of expert programs, and cross-border and transnational cooperation programs are already available opportunities.

Figure 3. Key Donor Activities in DRM and Climate Change Thematic Areas



F. Lessons Learned and Reflected in the Project Design

30. **SMORE builds on lessons learned and evidence from more than a decade of World Bank's partnership with Moldova on DRM reform.** The World Bank has helped the country enhance preparedness to address natural disaster risks and climate change through investments in critically important institutions, analytical work, and policy dialogue. These disaster-related investments and analytics range from the US$12 million Disaster and Climate Risk Management Project (P115634, 2011) to the following grant-financed activities: US$500,000 Enhancing Technical Rescue Capacities in Moldova (P165948), US$650,000 Reinforcing Weather and Climate Services in Moldova (P161912), and US$196,000 Strengthening Disaster and Climate Resilience in Moldova (P175199). Through these projects, the World Bank has gained experience collaborating with many of the implementing agencies under the Project. For example, the World Bank financed the construction of a modern emergency command center for the GIES, which serves as the operational venue for the National Committee for Emergency Situations. Additionally, the WBG supported the GIES in adopting urban search and rescue standards and attaining the required minimum international standards for international coordination of earthquake and other disaster response. The WBG also helped the SHS upgrade its technical capacity with state-of-the-art equipment and technical capacity building, including developing the Concept and Action Plan for Climate Services for Moldova. In 2020, the WBG published a 'Strengthening Moldova's Disaster Risk Management and Climate Resilience' policy paper, which provided an overview of the existing DRM arrangements in the country, took stock of the progress made to date in building DRM capabilities and the investments made to enhance the structural resilience of the country, and highlighted existing critical gaps and charting the way forward. The WBG projects in Moldova have shown that support for capacity enhancement measures and policy and regulatory reforms is more successful when part of a larger WBG and GoM program.

31. **Furthermore, the Project design benefits from global lessons learned related to technical, operational, institutional, and implementation challenges from similar projects**[44] to ensure that the proposed Project design does the following:

(a) **Embraces simplification and a phased approach.** Operational experience from similar DRM projects shows that developing a robust preparedness and resilience approach has many steps, including assessments, procurement actions, and decision points that can slow the progress of project implementation. This can be further exacerbated by complex implementation structures and overly ambitious project design. It is important that the Project is sensitive to the government capacity, political context, and changes of government officials. Given the compounding crises that Moldova faces (economy, Russia's invasion of Ukraine, and energy prices), SMORE will strategically tackle the most crucial interventions while keeping implementation simple and actionable. Additionally, the Project is designed explicitly using a phased approach that focuses on quick wins and readiness for implementation while laying the groundwork for future scale-up.

(b) **Invests in proactive institutional strengthening.** Experience from DRM investment and TA projects shows the need to invest in capacity building through different instruments to ensure the sustainability of the SMORE's investments and uptake/positive spillover from the Project's approach. Therefore, the Project aims to support both SMORE-funded investments and TA activities with grants and World Bank-executed TA resources to strengthen capacity and service delivery in a sustained manner. Experience from other DRM projects also shows that investing early in capacity building will help with downstream project implementation; hence, World Bank-executed TA activities have been implemented during project preparation and will continue to be implemented in the run-up to effectiveness.

(c) **Supports a coordinated long-term partnership toward EU accession.** Through convening other development partners, World Bank-funded resilience programs have successfully scaled up investment. For example, the Türkiye Istanbul Seismic Risk Mitigation and Emergency Preparedness Project (P078359, P122179) scaled up from EUR 400 million to become a EUR 2.4 billion program, as other financers built on the platform established by the World Bank. One of the main lessons from the implementation of the previous Moldova CPF is that the World Bank is most effective when it sets clear long-term strategic goals which then advance with a combination of future lending, investment, policy dialogue, knowledge, advice, and partnership with other development partners. Therefore, SMORE situates its simple and critical interventions in a larger and longer-term DRM reform agenda, laying the foundational steps that can be later scaled up by future operations and financing.

(d) **The details of the CERC, as an ex-ante DRM mechanism, should be defined in advance to the extent possible.** Rapid activation can be achieved by preparing the CERC as fully as possible before effectiveness and by maintaining readiness for activation and implementation. The CERC aims to help bridge a financing gap while other funding for longer-term reconstruction is made available. The World Bank team will support the Government in developing the CERC annex to the Project Operations Manual (POM), which will articulate (i) the mechanism for activating the CERC; (ii) the development of the main instruments under the CERC; (iii) project management and implementation arrangements; (iv) procurement, financial management (FM), and disbursement aspects; (v) compliance with the Environmental and Social Framework (ESF) policies; (vi) considerations for climate risks on both adaptation and mitigation to ensure alignment with the goals of the Paris Agreement; and (vii) monitoring and evaluation (M&E).

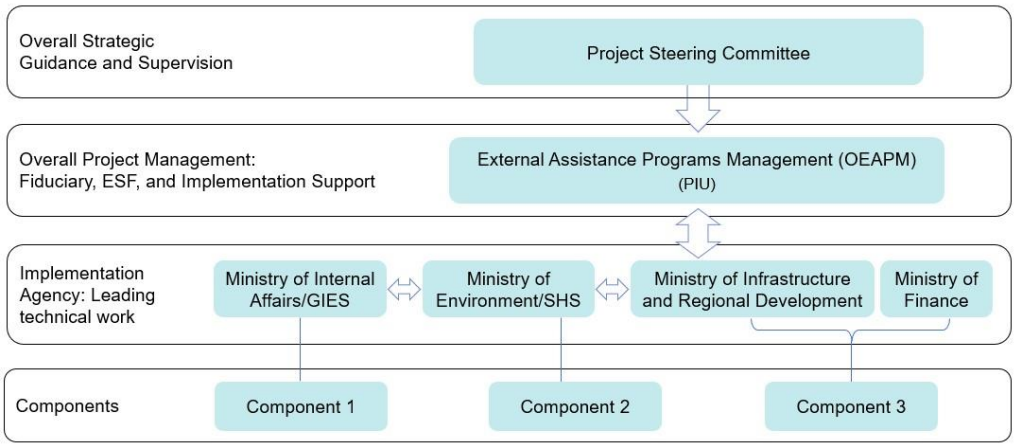
[44] Romania Strengthening Preparedness and Critical Emergency Infrastructure Project (P168120); Improving Resilience and Emergency Response Project (P168119); Disaster Risk Reduction Strategy for Romania (P172203); Türkiye Climate and Disaster Resilient Cities Project (P173025); Enhancing Resilience in Kyrgyzstan Additional Financing (P172761); and the Implementation Completion and Results Report of the Moldova Disaster and Climate Risk Management Project (P115634).

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

32. **The Office of External Assistance Programs Management (OEAPM) will function as the PIU and perform all day-to-day project management functions.** OEAPM has long experience in managing the implementation of external assistance projects and has demonstrated its capacity to act as a PIU for projects with international financial institution financing, including through a series of World Bank-financed operations between 1996 and 2021, the most recent being the Competitiveness Enhancement Project, Phase II (CEP 2).[45] Hence, the OEAPM PIU has a strong track record and experience with the World Bank's policies and procedures. The PIU will be led by a project director and comprise dedicated staff and consultants for the Project with adequate qualifications (including experience in World Bank policies and procedures).[46] It will be directly responsible for (a) carrying out the procurement of works, goods, and services required under the Project; (b) administering funds and maintaining separate accounting records in accordance with its own financial regulations, rules, policies, and procedures; (c) performing M&E functions to prepare periodic progress reports; (d) ensuring compliance with the World Bank's ESF processes; and (e) conducting adequate stakeholder and citizen engagement. Figure 4 details the implementation arrangements.

Figure 4. Implementation Arrangements



33. **All key ministries and agencies engaged under the Project, including the MoIA, GIES, MoF, and MoE, together with the SHS and the MoIRD will serve as implementation agencies,** each leading the technical work for their respective components. This means being the lead agency to provide technical inputs for the tender documents to be procured under the Project and to operate and maintain equipment after installation. To ensure cohesive overall coordination, strategic guidance, and accountability across the implementation agencies, the PIU will sign Implementation Agreements with each of the implementation agencies, defining their respective roles and responsibilities in the implementation of the Project, including any technical working groups that would need to be set up. In addition, a specific Steering Committee for the Project which will include all key ministries and agencies engaged under SMORE: MOF, the MoIA, MoE, together with the GIES, SHS, and the MoIRD will be established. This Steering Committee will provide strategic project oversight and ensure overall coordination between various implementing line ministries for effective project implementation and M&E.

34. **The Project will be implemented by the PIU based on a POM that will be developed before project effectiveness.** The POM will be approved by the Project's Steering Committee and accepted by the World Bank. The POM will include (a)

[45] Other projects include the Moldova First Private Sector Development Project (PSD1, P008561), Rural Investment and Services Project 1 (RISP 1, P060434), Rural Investment and Services Project 2 (RISP 2, P090673), and Competitiveness Enhancement Project (CEP 1, P089124).
[46] Core staff will comprise the PIU Director, Deputy PIU Director/Project Coordinator, Financial Management Specialist, Environmental and Social Specialists, and two Procurement Specialists. All staff are in place except environmental and social consultants that need to be recruited.

the Project's overall operating, fiduciary, and decision-making procedures/modalities and (b) results monitoring arrangements. OEAPM has additional capacity to take on the PIU role, with more consultants employed as needed.

B. Results Monitoring and Evaluation Arrangements

35. **SMORE's M&E activities will be focused on several types of data specific to activities under each component in accordance with the Results Framework.** The responsibility for monitoring and evaluating results/outcomes will rest with the PIU, which will aggregate information provided by the implementation agencies. In addition, OEAPM will provide the necessary technical and system support for the collection, processing, and maintenance of monitoring data. It will support the various implementing agencies in producing semiannual consolidated progress and results monitoring reports for review by the World Bank and managing the impact evaluation activities midway and at the end of the project implementation cycle. The Results Framework of the Project is also aligned with the new WBG Corporate Scorecard. Specifically, the PDO-level indicator 'People with enhanced resilience to climate risks' is a Corporate Scorecard Indicator and is tied to 'Outcome Area 5: Green and Blue Planet and Resilient Populations', which covers the WBG's interventions on improvements in adaptation, such as work on enhanced climate disaster response, and contributions to client countries' pathways toward net zero GHG emissions.

C. Sustainability

36. **Sustainability is ensured by aligning SMORE activities with and directly feeding into the EU accession process.** Anchoring the activities in the EU accession process will ensure high levels of commitment to reform and strong government buy-in and commitment to implementation—essential for long-term sustainability. The commitment was already evident during Project preparation. The ownership demonstrated by all key ministries, including the MoI, MoF, MoE, and MoIRD, during the preparation stage is a promising sign of successful implementation. All ministries have worked closely with the task team to develop the Project's components and have provided rigorous and timely technical inputs. Furthermore, by choosing an experienced and well-staffed PIU, there is further assurance for the sustainability outlook. The Project will also include a mix of activities such as investments, TA, and capacity building for public institutions to ensure their continued effectiveness during implementation and beyond, including through O&M plans for all key project components. Finally, the long-term sustainability of the Project's investments will depend on continuing budgetary support for public entities and proper provisioning of O&M/replacement costs. The GoM is aware of this need and has shown a high degree of certainty that it will continue to provide support for the entities financed under SMORE. The sustainability of investments will be further ensured by financing new and energy-efficient equipment as mandated by the POM.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic, and Financial Analysis

37. **Technical.** The investments and activities proposed under the Project seek to strengthen the institutional and coordination capacity for DRM and support the GoM and its responsible agencies, notably the GIES and SHS, to fulfill their respective mandates. In preparing the Project, the World Bank team conducted and delivered (a) a DRM sector review, including existing frameworks, strategies and policies, and existing critical gaps and opportunities to strengthen the country's disaster and climate resilience;[47] (b) a modernization roadmap for the SHS to improve hydrometeorological services, climate information, and early warning, which included an assessment of institutional reform options and investment needs; and (c) a DRF funding gap assessment, estimating the potential shortfall of funds the GoM could face from future natural disasters to help it understand the size of the potential gap and consider options for strengthening financial preparedness for disasters.

[47] World Bank. 2020. *Strengthening Moldova's Disaster Risk Management and Climate Resilience.*

38. This comprehensive analytical base provided the technical rationale for the Project's investments and has informed the prioritization of key activities under Components 1, 2, and 3. In particular, the DRM sector review policy note provided insights on current institutional and technical capacities and informed the emergency preparedness and response investments under Component 1. Further, a series of consultations took place with other donors and development partners financing DRM programs in Moldova to learn from their experience in programming and implementing DRM programs in Moldova, align the approach to strengthening emergency response and coordination capacity, and enhance synergies between ongoing initiatives and this Project.

39. **The operation is aligned with the goals of the Paris Agreement on both mitigation and adaptation.**

- **Assessment and reduction of mitigation risks.** All project activities can be considered universally Paris Aligned except for construction activities. Buildings constructed will replace existing structures with more energy-efficient ones. Vehicles procured by SMORE are essential for achieving the PDO and are more fuel-efficient than the current fleet. Electric vehicles were assessed as not technically feasible for this operation. Due to the scale of this operation, neither the construction of buildings nor the procurement of vehicles will hinder Moldova's low-carbon transition.
- **Assessment and reduction of adaptation risks.** Floods were identified as a moderate risk to this operation. Office buildings are located outside of flood-prone areas, whereas the small, prefabricated huts used to house measurement equipment are located on riverbanks. Engineering design considerations will be taken into account to minimize the impacts of flooding, to the extent feasible. A cloud system will be used to ensure data backup, which is established centrally by the GoM to support all public sector IT capacity requirements. Therefore, the residual risk is reduced to an acceptable level.

40. **Rationale for public funds and World Bank value added.** The Project will primarily focus on investments and institutional strengthening for emergency preparedness and response through the operationalization of a national PWS, including based on improved EWS, and upgrading of emergency response vehicles while also laying the ground for future support for risk reduction investments. All these functions are core areas of responsibility of any government requiring the use of public funding as it is a public good. The World Bank's comparative advantage to support these efforts lies in its ability to offer a combination of tools and resources that include investment support and technical expertise in all required areas. In addition, the World Bank will be able to build on specific experience gained through a decade plus long engagement in Moldova on the DRM agenda and its ability to coordinate and harmonize the efforts of donors and development partners (see also paragraphs 28 and 29).

41. **Economic analysis.** The economic analysis for equipment support under Subcomponents 1.2 and 1.3 was done jointly, as both subcomponents support the procurement of emergency response equipment and vehicles for response and preparedness purposes under the GIES. The economic analysis was premised upon two types of benefits: (a) avoided material losses and damages and (b) reduced loss of human life. Using a conservative set of parameters and assumptions, the base case scenario returned an economic rate of return (ERR) of 26 percent, with a net present value (NPV) of US$37.05 million and a benefit-cost ratio (BCR) of 2.84 which confirms that the proposed investment is worthwhile, even though not all the benefits could be quantified, such as reduced disruption in business life and the Government's savings in scarce public funds, which would otherwise be deployed to deal with the aftermath of the disasters.

42. The economic analysis for the PWS and EWS, under Subcomponent 1.1 and Component 2, respectively, used the Hallegatte Model to estimate the minimum and maximum annual benefits at US$2.92 million and US$25.83 million against the combined annualized value of investment and O&M costs of US$1.73 million. These figures resulted in a minimum BCR of 1.69 against a maximum level of 14.95, where the eligibility criterion for a project's feasibility is that it should have a BCR greater than unity. A simulation exercise on the minimum BCR level of 1.69 provided an ERR of 22 percent and an NPV of US$15.24 million. Sensitivity tests revealed that all estimated efficiency parameters were robust and, hence, reliable for judging the proposed Project from an economic standpoint.

43. The consolidated efficiency parameters for the two types of analysis described above yielded an ERR of 25 percent with NPV of US$52.29 million and BCR of 2.24, corresponding to the package of investments costed at US$35 million collectively. Sensitivity analysis was also performed and revealed that all efficiency parameters estimated were robust and hence reliable to assess the proposed Project from an economic and development impact standpoint.

Table 1. Summary of Economic Analysis

Efficiency Parameter Estimated	Units	Cost Benefit Analysis		
		Emergency Response Equipment and Vehicles	EWS and PWS	Consolidated Results
ERR	Percent	26	22	25
NPV	US$, millions	37.05	15.24	52.29
BCR	No units	2.84	1.69	2.24

B. Fiduciary

(i) Financial Management

44. The FM assessment of OEAPM was conducted in accordance with the Financial Management Manual for World Bank Investment Project Financing (IPF) Operations. OEAPM has adequate FM systems in place, including an automated accounting system and experienced and knowledgeable FM staff. OEAPM produces regular financial reports, which are subject to annual audit. The audit reports carry unmodified opinions, which are made public. The major FM risk associated with the Project is the insufficient or untimely budgetary appropriation and allocations. To mitigate this risk, OEAPM shall ensure a realistic project budget and include the forecast in the Medium-Term Budgetary Framework and the Annual Budget Law, and coordinate with the MoF on any budgetary revisions in a timely and effective manner. The residual FM risk is Moderate.

45. The Project will rely on some elements of Moldova's public FM system, including project planning in accordance with the MoF's budgetary rules and preparation procedures for all budgetary units, including the Project in the Annual State Budget Law, and flow of funds through a single treasury account. The execution of the project budget will be overseen by the State Treasury, which will apply additional controls over spending limits. The 2021 Public Expenditure and Financial Accountability Assessment of the public FM systems in Moldova indicates that state budget planning, execution, controls, and reporting are overall strong.

46. OEAPM will handle the Project's FM responsibilities, including planning, budgeting, accounting, internal controls, flow of funds, regular financial reporting, and auditing. OEAPM will apply a cash basis for the project accounting and the International Public Sector Accounting Standards (IPSAS) 'Financial Reporting Under the Cash Basis of Accounting' issued by the International Public Sector Accounting Standards Board (IPSASB) of the International Federation of Accountants (IFAC) for the project financial reporting. Thus, OEAPM will prepare interim financial reports on a quarterly basis following the format agreed with the World Bank and will submit them to the World Bank within 45 days after the end of each calendar quarter. OEAPM will arrange an annual audit of project financial statements. An independent, private auditor acceptable to the World Bank, hired by OEAPM, will conduct such audits based on terms of reference (ToR) acceptable to the World Bank and according to the International Standards on Auditing (ISA) issued by the International Auditing and Assurance Standards Board of the IFAC. OEAPM will submit audited project financial statements to the World Bank within six months after the end of each calendar year throughout the project timeline and will disclose them within one month of their receipt from the auditor, by posting the reports on its website. Following the formal receipt of these reports from the borrower, the World Bank will make them publicly available according to the World Bank Policy on Access to Information.

47. **Disbursement.** The loan proceeds will be disbursed using transaction-based disbursement methods that include advances to the Designated Account (DA), reimbursement, special commitments, and direct payments to third parties. OEAPM will open a separate DA in the National Bank of Moldova to facilitate the flow of funds under the Project. OEAPM will manage the DA and replenish it as often as needed up to the agreed ceiling. The DA will be audited annually in conjunction with the audit of the project financial statements. Further instructions on disbursement arrangements and supporting documentation requirements will be provided in the Disbursement and Financial Information Letter (DFIL).

(ii) Procurement

48. Procurement under the proposed Project will be managed by OEAPM. OEAPM will assume the overall function of coordinating the preparation of ToRs, technical specifications, and procurement documents and organizing procurement processes. OEAPM has experience in implementing World Bank-funded operations and the World Bank procurement procedures following the Procurement and Consultant Guidelines. This experience is, however, limited to several selection methods and contracts of a relatively small value. It is proposed that two procurement specialists currently employed at OEAPM will work on the proposed Project. Both specialists have been recently trained in the World Bank Procurement Regulations at the OEAPM's own initiative. One of the procurement specialists is familiar with World Bank procurement procedures, having worked on several World Bank-funded projects. Procurement will be carried out in accordance with the World Bank 'Procurement Regulations for IPF Borrowers', dated September 2023 (Procurement Regulations) and the latest Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits.

49. The World Bank team's assessment revealed the following procurement process issues and risks to implementation: (a) limited experience with the use of all the features of the Procurement Regulations and (b) potential delays in the development of technical specifications for complex activities due to limited technical capacities within OEAPM and respective implementing agencies.

50. The following measures have been put in place to mitigate these risks: (a) training to be provided by the World Bank procurement team on Procurement Regulations, procurement procedures, and use of the Systematic Tracking of Exchanges in Procurement (STEP); (b) reasonably assess the timeline of each activity and attract expertise for specialized technical areas if lacking in-house; and (c) closely follow up and monitor the implementation of contracts by establishing proper contract administration mechanisms (regular inspections/meetings) and ensure amendment of the contracts if delivery is justifiably delayed due to the current situation in the region. The residual procurement risk is assessed as Moderate.

51. The World Bank will exercise its project procurement oversight through a risk-based approach comprising prior, post, and independent procurement reviews as appropriate. Post reviews would be conducted to determine contract compliance with legal requirements and the POM. The Project will use STEP, which is an online tool for procurement planning and tracking to prepare, clear, and update the Project's Procurement Plan. OEAPM started working on the Project Procurement Strategy for Development (PPSD) and the Procurement Plan for the entire scope of the Project.

C. Legal Operational Policies

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Area OP 7.60	No

D. Environmental and Social

52. **The Project's Environmental and Social Risk Classification is Moderate.** ESS[48]1, ESS 2, ESS 3, ESS 4, and ESS 10 are considered relevant. The Project will finance minor infrastructure investments under Subcomponent 2.1 related to the renovation, demolition, or construction of meteorological stations. No land acquisition will be supported under the Project. No significant environmental risks are foreseen, as the major component relates to the purchase of equipment for emergency response personnel and only small civil works related to the rehabilitation of some public buildings in urban areas. The risks generated by civil works are known to be of medium intensity for the duration of the Works, with no permanent environmental damages. Due to their nature, there are known effective mitigation procedures which would be put in place. SMORE may finance feasibility studies for selected risk reduction investments of critical infrastructure, where downstream risks will need to be reassessed during project preparation. To manage impacts and risks, the MoF has prepared an Environmental and Social Management Framework (ESMF). The ESMF sets out the environmental and social assessment requirements of the project activities and provides guidance on the preparation of site-specific ESMPs and/or checklists to be prepared by the MoF PIU, on behalf of the related ministries, during the project implementation phase. Adverse social risks are limited and are mainly related to risks of labor and health and safety risks for small crews of contracted workers and for health and safety risks for surrounding communities during work. These risks and mitigation measures have been identified in the ESMF and will be further developed in Labor Management Procedures (LMP) before the start of any bidding processes. The small size of the works and workforce, located on public lands, contribute to the risks of Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) assessed as low. A critical element in delivering social benefits is the ability of the implementing agencies to actively involve relevant stakeholders, communities, and particularly vulnerable groups in awareness raising and capacity building about emergency preparedness and responses. Such risks have been addressed as part of the Project's design and stakeholder engagement through the implementation of a Stakeholder Engagement Plan (SEP), including accessible grievance mechanisms. The ToRs for TA (that is, studies, regulatory support, and so on) will incorporate relevant risk assessments and mitigation measures and provisions for stakeholder consultations to promote transparency and public participation. Depending on the types of equipment and instrumentation to be procured, relevant capacity building for operators and project workers from occupational health and safety (OHS) risk perspectives will be incorporated into the LMP. The ESMF, SEP, and Environmental and Social Commitment Plan (ESCP) have been prepared, cleared by the World Bank and disclosed after consultation. All relevant measures are incorporated in the ESCP as time-bound actions.

E. Gender, Citizen Engagement, and Climate Change

53. **Gender.** Women are more vulnerable to natural hazards because of differences in employment status, income, gendered social roles, social norms, and restrictions governing behavior. Nevertheless, Moldova has taken important steps in recent years to integrate gender perspectives into policies and programs for disaster risk reduction, climate resilience, and mitigation. For instance, Moldova has strengthened the evidence base and raised awareness about the disproportionate vulnerability of females to the impact of environmental degradation and disasters and introduced/strengthened laws and policies related to disaster risk reduction, climate resilience, and mitigation. Moldova is committed to gender equality and the empowerment of women by having ratified the Convention on the Elimination of All Forms of Discrimination against Women and other associated International Labor Conventions. The country has adjusted its legal framework in line with international standards and developed several national strategies and action plans to promote gender equality, including progress in aligning with the EU Gender Acquis requirements.

54. **Gender gap analysis.** In Moldova despite progress in gender integration, there is still a gap in presenting forecasts and hazard early warnings in a clear and timely manner to women. The existing PWS provides warnings through an outdated and poorly maintained network of sirens rather than using modern technology such as mobile phone network hauled alarms/alerts. Considering access to information channels and literacy levels, the warning system should take into

[48] ESS = Environmental and Social Standards.

account the specific needs and challenges faced by women. This may involve alternative communication channels, recognizing that women may have limited access to the internet and providing warnings through alternative channels such as community meetings, local radio broadcasts, or word-of-mouth networks.

55. **The gender-differentiated impacts of not receiving timely warnings in Moldova can exacerbate the vulnerability of women in disaster situations.** Some of these impacts include the following:

- **Internet connectivity:** Access to ICT and the internet is not equitable, particularly among households led by women. Data reveal that the proportion of households headed by women with access to the internet is 11.7 percent lower compared to households led by men. Moreover, over time, the rate of access to the internet in households headed by men tends to grow at a faster pace than those headed by women.[49]
- **Caregiving responsibilities:** As of 2012, World Bank data showed that women in the Republic of Moldova were spending one-fifth of their day on unpaid domestic and care work, nearly double the 11.3 percent of their day that men dedicated to these tasks. In the absence of timely warnings, women may struggle to make arrangements for the evacuation or safety of their dependents, further increasing their vulnerability.[50]

56. Specific barriers hinder women's ability to access warning systems and participate in DRM training in Moldova. Factors such as lower access to the internet, caregiving responsibilities, and lack of skills/training contribute to these disparities.

57. **Proposed actions to close the gender gap.** To address this gender gap, under Component 1, the Project will hire and train women facilitators and undertake outreach, training, and advocacy activities about DRM, preparedness, and PWS that specifically target women and address their needs. Component 1 will also support the launch of campaigns through various media channels (social media, radio, TV, and so on) to raise awareness about the PWS. In addition, the Project will collaborate with local women's organizations to offer specialized training and advocacy for women to deepen their understanding of the PWS and how to use/access it. Implementation strategies for these trainings and public awareness campaigns will be tailored to ensure the accessibility and usability of the new PWS for women and girls. This includes employing local languages and alternative communication channels to overcome literacy and technology use challenges. Specific strategies will be developed to address these issues effectively, ensuring that women are not left behind in disaster preparedness efforts. The aim is to engage more women and empower them to lead in DRM training and advocacy efforts.

58. **The proposed indicator 'Women who have access to and use new Public Warning System (Number)'** will serve as a measure of progress in addressing the gender gap. It is expected that the number of women who have access to and regularly use the new PWS will increase to 750,000 by the end of the Project. This target may be revised at the beginning of Year 2 based on the collected data. To confirm who is receiving the public warnings, there will be field surveys measuring the number of female beneficiaries with access to the new multi-hazard PWS.

59. **Citizen engagement.** SMORE includes participatory approaches in the areas of community DRM, specifically the operationalization of a new multi-hazard cell phone based PWS with national coverage under Component 1 and participatory disaster risk mapping at the community level as part of Subcomponent 1.3. As part of Component 1, citizen engagement activities will focus on outreach, mobilization, and strengthening of the role of communities in the planning, implementation, and ongoing monitoring of the PWS. These will include (a) an information and awareness-raising campaign that will sensitize local communities on PWS and (b) regular surveys that will measure beneficiary awareness of and satisfaction with various aspects of the PWS and associated services provided by the Project. As part of Subcomponent 1.3, local communities will be actively engaged in participatory mapping exercises, which will aim to assess disaster risks at the community level in three pilot regions. This mapping will also inform the seismic risk feasibility studies that will be

[49] Republic of Moldova: Digital Development Country Profile. Link
[50] A Moldovan Case Study: Empowering Parents and Caregivers through Gender-Responsive Family Policies. Link

carried out under Subcomponent 3.2. The Project will also support the operationalization of an accessible and effective grievance redress mechanism, which will rely on different uptake mechanisms and include a hotline that could be used to provide feedback on the PWS. SMORE will have the following specific indicators on citizen engagement: (a) *Share of beneficiaries, who use the new multi-hazard cellphone based Public Warning System and report satisfaction with it* - end target 80 percent and (b) *Number of participatory mapping exercises that assessed disaster risk at community level implemented* - end target three (3).

60. **Climate change.** The Project aims to enhance climate resilience by improving early warnings and emergency preparedness and response to disaster and climate-related shocks as its main development objective. Further, the Project has been screened by the World Bank for climate and disaster risks. Based on the screening, which resulted in moderate overall risk, the Project will consider disaster and climate risk mitigation measures in investments related to the PWS and hydrometeorological observation systems and leverage institutional strengthening support to increase the capacities of key agencies to manage disaster and climate risks and improve adaptation to climate change. In terms of climate mitigation, none of the project components are anticipated to result in a significant increase in GHG emissions. By reducing the amount of forest/wildland burned at the urban-wildland interface with increased fire response capacity, the Project will contribute to the protection of forest and vulnerable ecologies as well as reduction of GHG emissions associated with wildfires. Similarly, by improving flood response capacity, cities and rural communities are more prepared to protect citizens and assets in the event of flood. Energy-efficient vehicles and equipment will be used, where feasible, to minimize GHG emissions.

V. GRIEVANCE REDRESS SERVICES

61. **Grievance redress.** Communities and individuals who believe they are adversely affected by a project supported by the World Bank may submit complaints to existing project-level grievance mechanisms or the Bank'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 complaints to the Bank's independent Accountability Mechanism` (AM). The AM houses the Inspection Panel, which determines whether harm occurred or could occur as a result of the Bank's non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted to the AM at any time after concerns have been brought directly to the attention of Bank Management and after Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's Grievance Redress Service (GRS), visit http://www.worldbank.org/GRS. For information on how to submit complaints to the Bank's Accountability Mechanism, visit https://accountability.worldbank.org.

VI. KEY RISKS

62. The overall residual risk of the Project is rated as **Moderate** based on adopted and planned mitigation measures. A review of risks pertaining to Macroeconomic, Sector Strategies and Policies, Technical Design of Project or Program, Institutional Capacity for Implementation and Sustainability, Fiduciary, and Stakeholders confirmed that these are inherently moderate risks. As such, they are not described in the paragraphs below. A detailed assessment of Environmental and Social (E&S) risks is presented in the relevant section above.

63. **Political and Governance (Substantial).** Political developments in the recent decade show that Moldova experiences frequent political changes, which lead to significant instability at the policy level and in government institutions. Political instability and the upcoming elections in 2024 may bring changes in policy priorities, leadership of key institutions, preferred instruments for implementation, decision-making, and the speed of implementation. Such changes can affect project priorities and the achievement of the PDO. To address this risk, focal points in the Prime Minister's Office and State Chancellery have been appointed for the World Bank's CCDR and, more generally, for climate as a cross-cutting theme, which helps with coordination and ownership of this Project. The team has also established

strong working relationships, especially at the GIES in the MoIA, at both the political and technical levels and with all other key line ministries that will be involved as implementing agencies. An experienced PIU housed in the MoF will be implementing the Project and will help manage potential political and governance challenges. At a higher level, the country's commitment to the EU accession process, which is a driving force behind Moldova's DRM agenda, helps mitigate political and governance risks. Yet, despite the above-described measures introduced, the residual political and governance risk is assessed as Substantial.

VII. RESULTS FRAMEWORK AND MONITORING

PDO Indicators by PDO Outcomes

Baseline	Closing Period
To enhance Moldova's preparedness to natural hazards and climate-related shocks	
People with enhanced resilience to climate risks (Corporate Results Indicator, CRI) (Number of people)	
Sept/2024	Sept/2029
0	2,080,000
➢People with enhanced resilience to climate risks – Youth (CRI) (Number of people)	
Sept/2024	Sept/2029
0	205,000
➢People with enhanced resilience to climate risks – Female (CRI) (Number of people)	
Sept/2024	Sept/2029
0	1,110,000
Share of population with access to higher quality weather forecasts and climate services (Percentage)	
Sept/2024	Sept/2029
0	70
To enhance Moldova's response to natural hazards and climate-related shocks	
People benefitting from improved emergency response services (Number)	
Sept/2024	Sept/2029
0	524,000

Intermediate Indicators by Components

Baseline	Closing Period
Investments and Institutional Strengthening for Emergency Preparedness and Response	
Share of beneficiaries who use the new multi-hazard cellphone based Public Warning System and report satisfaction with it (Percentage)	
Sept/2024	Sept/2029
0	80
Women who have access to and use new Public Warning System (Number)	
Sept/2024	Sept/2029

0	750,000
Number of emergency response vehicles and equipment purchased, installed, and operational at the national and local community level (Number)	
Sept/2024	Sept/2029
0	84
Average Response Time to Fires after getting call from 112 System (Minutes)	
Sept/2024	Sept/2029
18 minutes 40 seconds	17 minutes 40 seconds
Number of participatory mapping exercises that assessed disaster risk at community level implemented (Number)	
Sept/2024	Sept/2029
0	3
Improving Hydrometeorological Services	
Meteorological and hydrological observation networks improved in compliance with the agreed Standard Operating Procedures (Percentage)	
Sept/2024	Sept/2029
0	80
Policy and Regulatory Support for Risk Reduction of Critical Infrastructure and Fiscal Resilience	
Institutional capacity to reduce vulnerability of critical infrastructure to seismic risk strengthened (Text)	
Sept/2024	Sept/2029
No existing methodologies in the country for (i) seismic and disaster risk maps for residential housing and public buildings and (ii) rapid visual screening of buildings based on specific characteristics related to seismic vulnerability, seismic hazard, and exposure.	Methodologies for (i) seismic and disaster risk maps for residential housing and public buildings and (ii) rapid visual screening of buildings based on specific characteristics related to seismic vulnerability, seismic hazard, and exposure developed and being used by at least one ministry for disaster risk management decision making.
New or improved disaster risk finance instrument introduced. (Text)	
Sept/2024	Sept/2029
Existing disaster reserve fund.	Improved disaster reserve fund integrating additional transparency, rule-based, and targeted funding considerations developed and introduced.
Contingent Emergency Response Component (CERC)	
Project Management	
Grievances are addressed by PIU in accordance with the stipulated service standards (Percentage)	
Sept/2024	Sept/2029
0	95

Monitoring & Evaluation Plan: PDO Indicators by PDO Outcomes

To enhance Moldova's preparedness to natural hazards and climate-related shocks	
People with enhanced resilience to climate risks (Corporate Results Indicator, CRI) (Number of people)	
Description	Measures the number of people with enhanced resilience to climate risks. This includes the beneficiaries from improved access to enhanced climate disaster response, the new multi-hazard PWS, and new and upgraded hydrometeorological services and associated delivery of weather and climate services. (WBG Scorecard FY24–30 Indicator)
Frequency	Semiannual
Data source	GIES
Methodology for Data Collection	M&E reports, field reports, and progress reports
Responsibility for Data Collection	PIU
People with enhanced resilience to climate risks – Youth (CRI) (Number of people)	
Description	Measures the number of people (youth) with enhanced resilience to climate risks. This includes youth beneficiaries from improved access to enhanced climate disaster response, the new multi-hazard PWS, and new and upgraded hydrometeorological services and associated delivery of weather and climate services. Youth is defined as people in the age cohort of 15–24 years. (Sub-Indicator of WBG Scorecard FY24–30 Indicator)
Frequency	Semiannual
Data source	GIES
Methodology for Data Collection	M&E reports, field reports, and progress reports
Responsibility for Data Collection	PIU
People with enhanced resilience to climate risks – Female (CRI) (Number of people)	
Description	Measures the number of people (females) with enhanced resilience to climate risks. This includes female beneficiaries from improved access to enhanced climate disaster response, the new multi-hazard PWS, and new and upgraded hydrometeorological services and associated delivery of weather and climate services. (Sub-Indicator of WBG Scorecard FY24–30 Indicator)
Frequency	Semiannual
Data source	GIES
Methodology for Data Collection	M&E reports, field reports, and progress reports
Responsibility for Data Collection	PIU
Share of population with access to higher quality weather forecasts and climate services (Percentage)	
Description	Measures the share of population with access to higher quality (in terms of timeliness, verification, and accuracy) weather forecasts and climate services
Frequency	Semiannual
Data source	GIES
Methodology for Data Collection	M&E reports, field reports, and progress reports
Responsibility for Data Collection	PIU
To enhance Moldova's response to natural hazards and climate-related shocks	
People benefitting from improved emergency response services (Number)	
Description	Measures the number of people within the area of responsibility for the new emergency response vehicles and equipment
Frequency	Semiannual
Data source	GIES
Methodology for Data Collection	M&E reports, field reports, and progress reports

Responsibility for Data Collection	PIU

Monitoring & Evaluation Plan: Intermediate Results Indicators by Components

Investments and Institutional Strengthening for Emergency Preparedness and Response	
Share of beneficiaries who use the new multi-hazard cellphone based Public Warning System and report satisfaction with it (Percentage)	
Description	Measures the share of Project beneficiaries connected to the PWS and expressed satisfaction with the new multi-hazard PWS
Frequency	Semiannual
Data source	GIES
Methodology for Data Collection	M&E reports, surveys, field reports, and progress reports
Responsibility for Data Collection	PIU
Women who have access to and use new Public Warning System (Number)	
Description	Measures the number of female beneficiaries with mobile-phone based access connected to the new new multi-hazard PWS
Frequency	Semiannual
Data source	GIES
Methodology for Data Collection	M&E reports, surveys, field reports, and progress reports
Responsibility for Data Collection	PIU
Number of emergency response vehicles and equipment purchased, installed, and operational at the national and local community level (Number)	
Description	Measures the number of the new emergency response and prevention officers' vehicles outfitted with equipment that have been purchased, installed, and put into operation at the national and local community level with the Project support
Frequency	Semiannual
Data source	GIES
Methodology for Data Collection	M&E reports, field reports, and progress reports
Responsibility for Data Collection	PIU
Average Response Time to Fires after getting call from 112 System (Minutes)	
Description	Measures the reduction in average emergency response times after the introduction/induction of the Project-financed new emergency response vehicles and equipment. This indicator will capture and monitor only response time recorded for the stations which benefited from the Project-financed vehicles and equipment.
Frequency	Semiannual
Data source	GIES
Methodology for Data Collection	M&E reports, field reports, and progress reports
Responsibility for Data Collection	PIU
Number of participatory mapping exercises that assessed disaster risk at community level implemented (Number)	
Description	Measures the number of conducted participatory mapping exercises implemented at the community level
Frequency	Semiannual
Data source	GIES
Methodology for Data Collection	M&E reports and progress reports
Responsibility for Data	PIU

Collection	
Frequency	Semiannual
Improving Hydrometeorological Services	
Meteorological and hydrological observation networks improved in compliance with the agreed Standard Operating Procedures (Percentage)	
Description	Measures the share of the new and upgraded meteorological and hydrological observation networks supported by the Project that are functioning in compliance with agreed standard operating procedures.
Frequency	Semiannual
Data source	SHS
Methodology for Data Collection	M&E reports, field reports, and progress reports
Responsibility for Data Collection	PIU
Policy and Regulatory Support for Risk Reduction of Critical Infrastructure and Fiscal Resilience	
Institutional capacity to reduce vulnerability of critical infrastructure to seismic risk strengthened (Text)	
Description	Measures whether the MoIRD has strengthened institutional capacity for seismic risk reduction investment planning of critical infrastructure through the development and adoption of a set of key methodologies.
Frequency	Semiannual
Data source	MoIRD
Methodology for Data Collection	M&E reports, field reports, and progress reports
Responsibility for Data Collection	PIU
New or improved disaster risk finance instrument introduced (Text)	
Description	Measures the introduction of a new or improved (integrating additional transparency, rule-based, and targeted funding considerations) disaster reserve fund by the MoF, with the aim to have one new or improved disaster risk finance instrument introduced with the Project support
Frequency	Semiannual
Data source	MoF
Methodology for Data Collection	M&E reports and progress reports
Responsibility for Data Collection	PIU
Project Management	
Grievances are addressed by PIU in accordance with the stipulated service standards (Percentage)	
Description	Measures the share of grievances addressed
Frequency	Semiannual
Data source	PIU
Methodology for Data Collection	M&E reports and progress reports
Responsibility for Data Collection	PIU

ANNEX 1: Implementation Arrangements and Support Plan

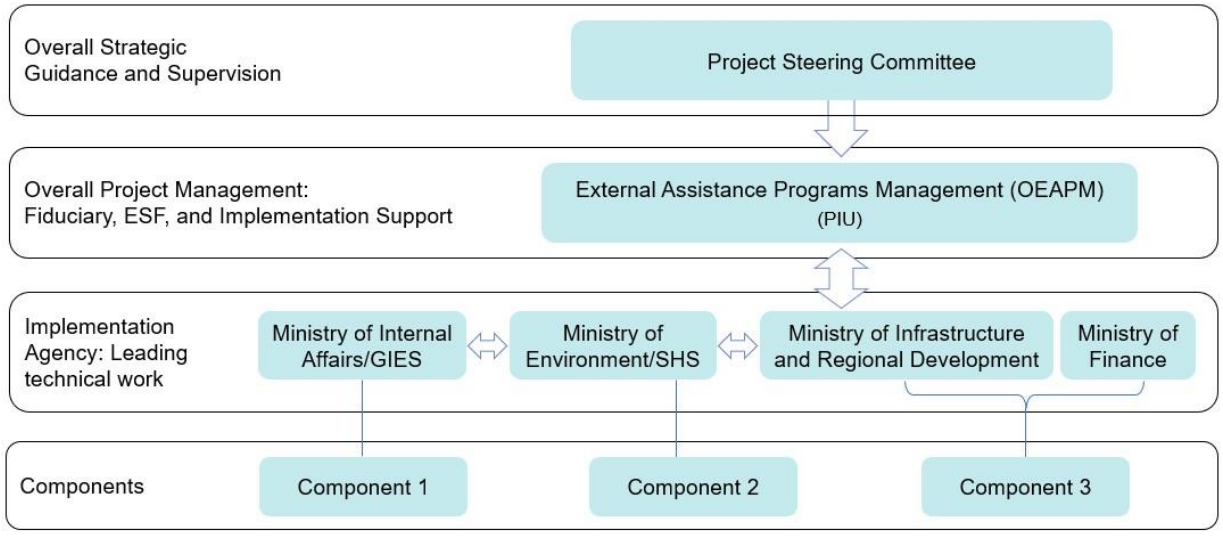
COUNTRY: Republic of Moldova
Strengthening Moldova's Disaster Risk Management and Resilience Project

I. Institutional Arrangements

1. **OEAPM will function as the PIU and perform all project management functions**. OEAPM will be directly responsible for (a) carrying out the procurement of equipment, goods, and services required under the Project; (b) administering funds and maintaining separate accounting records in accordance with its own financial regulations, rules, policies, and procedures; (c) performing M&E functions to prepare periodic progress reports; (d) ensuring compliance with the World Bank's ESF processes; and (e) conducting adequate stakeholder and citizen engagement.

2. **In addition, OEAPM will lead coordination with the implementation agencies** (including the MoIA, GIES, MoF, and MoE together with the SHS and the MoIRD) regarding (a) preparation of detailed project reports, bidding documents, tendering schedules, progress monitoring, and so on; (b) appointment of TA consultants and other safeguards management support to the implementation agencies; (c) quality assurance through third-party audits; (d) progress reporting, FM, and monitoring and reporting; and (e) ensuring of compliance with agreed implementation procedures and other World Bank requirements at the component level. To provide overall strategic guidance, supervision, and ensure coordination between implementation agencies, a specific Steering Committee for the Project will be established. Figure 1.1 details the Project's implementation arrangements.

Figure 1.1. Implementation Arrangements



II. Project Operations Manual

3. The PIU will implement the Project in accordance with a POM, which will be prepared in consultation with the World Bank and will set forth the rules, methods, guidelines, specific development plans, standard documents, and procedures for carrying out the Project. The POM will include, among other things, (a) the detailed description of all Project activities supported under the Loan Agreement, their sequencing, and a prospective timetable and benchmarks for the activities, (b) the ESMF, (c) the procurement and FM arrangements for the Project, (d) coordination arrangements governing the day-to-day execution of the Project, and (e) project M&E and reporting arrangements.

III. Financial Management

4. **Overall FM capacity.** The FM assessment conducted for OEAPM has concluded that it has adequate FM capacity and arrangements in place, which are acceptable to the World Bank for implementation of the Project. No significant weaknesses were identified at OEAPM. The audit reports available for the last few years do not reveal any issues. By project effectiveness, OEAPM will need to develop the financial part of the POM describing the procedures, controls, and activities in relation to the project FM and disbursement.

5. **Budgeting and planning.** OEAPM has acceptable budgeting and planning capacity. It follows the rules and procedures established by the MoF for budget approval, execution, reporting, and monitoring. The same rules will apply for the Project. The budget of the projects funded from external sources is included in the country's annual state budget document approved by the Parliament, and this provides the basis for opening budget allocations for the projects. The PIU will monitor compliance with the annual budget allocation through comparing it with actual execution in the quarterly interim financial reports.

6. **Accounting and reporting.** OEAPM has in place an adequate automated accounting system which satisfies the statutory accounting and reporting requirements established by the MoF for public institutions. The software includes adequate security levels and facilitates reporting in foreign currency. OEAPM will be responsible for keeping project records per cash basis IPSAS. Additionally, OEAPM will keep accrual accounting as required by national legislation. It will prepare quarterly interim financial reports according to the agreed format which would include (a) balance sheet, (b) project sources and uses of funds, (c) uses of funds by project components and activities, (d) DA statements, and (e) cash flow forecast. OEAPM will submit these financial reports to the World Bank within 45 days of the end of each quarter.

7. **External audit.** While the consolidated financial statements prepared by OEAPM are audited annually, the project-specific financial statements will also be subject to external audit. OEAPM will be responsible for arranging independent annual audit of project financial statements, conducted by independent private auditors acceptable to the World Bank, on the ToR acceptable to the World Bank and according to the ISA issued by the International Auditing and Assurance Standards Board of the IFAC. The annual audits of the project financial statements will be provided to the World Bank within six months after the end of each fiscal year of the borrower and at project closing. The audit reports for the Project will be disclosed within one month of their receipt from the auditors and acceptance by the World Bank, by posting the reports on OEAPM's official website. Following the World Bank's formal receipt of these reports from OEAPM, it will make the audit reports publicly available according to the World Bank Policy on Access to Information. The audit's cost will be financed from the Project's proceeds.

8. **Internal audit and control.** The OEAPM's internal control system is found to be acceptable to the World Bank and capable of providing timely information and reporting on the Project. There is a clear system of accountability with defined responsibilities and segregation of duties in relation to authorization, approval, and execution of payments. The existing internal controls and procedures will be documented in the financial part of the POM.

9. **FM institutional arrangements and staffing.** FM staff at OEAPM are highly qualified and experienced in managing World Bank funded projects and provide valuable support during Project preparation. OEAPM would hire additional FM staff during the implementation stage if needed due to workload.

IV. Disbursement Arrangements

10. OEAPM will open a DA in the loan currency in the National Bank of Moldova, specifically for the Project. The Operating Accounts (opened in the Treasury of the MoF) will be used for payments in local currency obtained through conversion of the DA currency. The loan proceeds will be disbursed through transaction-based disbursement methods such as advance to the DA, reimbursement, and direct payment. Detailed instructions on withdrawal of loan proceeds with respect to these methods will be provided in the DFIL. The MoF will give authorization to designated officials to

withdraw funds from the project financing account. The authorized staff from OEAPM will have access to the World Bank ClientConnection platform. The DA will be audited annually with the project financial statements.

11. **The Project will have one disbursement category**. Table 1.1 describes the types of the expenditures that will be financed under the loan and the applicable IBRD Loan eligibility percentage.

Table 1.1. Withdrawal of the Proceeds of the Loans and Estimated Disbursements

Category	Amount of the Loan Allocated (expressed in Euro) (US$40 million equivalent)	Percentage of Expenditures to Be Financed (inclusive of Taxes)
(1) Works, goods, non-consulting services, consulting services (including project audits), training, and operating costs for the PIU	37,400,000	100
TOTAL AMOUNT	37,400,000	

V. Procurement

12. **PPSD**. Based on the project requirements, operational context, economic aspects, technical solutions, and market analysis, a PPSD has been developed for the Project and agreed with the World Bank. The PPSD identifies the following types of activities: (a) consulting services, (b) goods, (c) minor works, and (d) non-consulting services. Relevant market analysis has been carried out for different procurement packages and informed the decision on packaging of procurement activities. The list of major contracts with estimated cost, selection method, and planned dates is provided below.

13. **Proposed procurement approach.** All project funds (excluding operating cost) will be used for procurement. Goods will total approximately US$24 million, followed by consulting services in the amount of approximately US$8.5 million, IT systems in the amount of approximately US$7 million, and minor civil works.

- **Consulting services.** Consulting services are of a different nature and complexity. These include DRM assessments, review of the legal framework and technical regulations for seismic risk reduction, feasibility studies on seismic retrofitting of buildings in the education sector, rapid visual screening of the buildings, methodology to assess fiscal impacts of disasters, and review of public financial management frameworks and processes for disaster reserve funds. The value of these contracts varies between US$0.15 million and US$0.8 million. The largest consulting services contracts foreseen are the review of the legal framework and the rapid visual screening of buildings in Chisinau. These two contracts will follow the international market approach. Other consulting services contracts will follow the national market approach and the PPSD confirmed the availability of the local market for the required services. Procurement of consulting services will primarily apply the Quality- and Cost-based Selection. Smaller-value contracts will apply the Consultants Qualification-based Selection method.
- **Goods and IT.** Major contracts for supply of goods and IT systems include PWS; water and foam-based fire fighting vehicles; dry powder-based fire fighting vehicles; urban search and rescue and logistics modules; high-capacity pump module; emergency equipment for prevention officers; meteorological and hydrological observation instrumentation; lightning detection system, upgrade, and renovation of the Chisinau weather radar; and others. The value of these contracts varies between US$0.2 million and US$19 million (the largest being the procurement of water and foam-based fire fighting vehicles). There are several contracts that will follow the national market approach, given their comparatively smaller value and availability of a strong local market in the respective area. However, there are several contracts that will mandatorily follow the international market approach given that there is no local market for such goods. Procurement of goods and IT products will primarily apply the Request for Bids method and Request for Quotations (smaller-value contracts). Although market research finds a significant number of potential

consultants/suppliers/contractors in Moldova for the types of expenditures needed, the participation of reputable and qualified international firms will be beneficial to project implementation. Therefore, the World Bank recommends that the Project approaches international markets for larger-value contracts and for those critical for the Project. For procurement following international market approach, the World Bank's Standard Procurement Documents should be used.

14. **Procurement under the CERC.** It was agreed that once the CERC is triggered, OEAPM will revise the PPSD to include a section applicable to the CERC. The CERC-PPSD will focus mainly on complex contracts rather than on smaller, routine contracts. The strategy will describe, among other things, how procurement opportunities and risks will be managed in emergency circumstances and how suppliers and contractors will be motivated to bid and incentivized to perform. Procurement arrangements under the CERC will be streamlined. The World Bank's oversight and due diligence for procurement will be done through augmented implementation support with close monitoring, increased procurement-related post review, and/or third-party procurement reviews. Given that the CERC is contingent, and event driven, no Procurement Plan for the CERC can be prepared ex ante.

15. **National Procurement Procedures (NPP).** Public Procurement Regulations in Moldova were assessed, and it is concluded that the NPP cannot be used at this stage. The new Public Procurement Law (PPL) No. 131, which entered into effect on May 1, 2016, is better adjusted to the EU Directives. While the PPL provides a good basis for the public procurement system and properly draws the legal framework for a sound public procurement system, the law has not been fully implemented/applied, and there are still critical areas that require major reforms, including the e-procurement system. The Government has developed the National Program for the Development of the Public Procurement System for 2023–2026 and embarked on major reforms in this sector. Given the ongoing and planned reforms, as well as various technical issues with the current e-procurement system, the PPSD suggests that the Project adopts the Standard Procurement Documents developed by the World Bank or any other procurement documents agreed with the World Bank for procurement following the national market approach.

16. **Complaint handling mechanism.** The Project is required to ensure recording of procurement-related complaints in the STEP system. The World Bank and OEAPM will use STEP to track complaints. OEAPM will be responsible for performing the following actions in STEP: (a) promptly record all complaints relating to procurement process; (b) for procurement process complaints received on contracts subject to the World Bank's prior review, submit the OEAPM's proposed response to each complaint before issuing it to the complainant(s); (c) record the OEAPM's response to the procurement process complaints upon issuance to the complainant(s); and (d) promptly register requests for debriefings and update STEP with the record of the debriefings to interested parties. Procurement-related complaints arising in connection with contracts where the World Bank's Standard Procurement Documents are required to be used will be handled in accordance with Annex III of the Procurement Regulations. Procurement-related complaints under national market approach contracts will be handled in accordance with the procedures defined in the POM.

17. **STEP will be used under the Project.** All procurement transactions for post and prior review contracts under the Project must be recorded in/processed through the World Bank's planning and tracking tool - STEP. This ensures that comprehensive information on procurement and on the implementation of all contracts for goods, works, non-consulting services, and consulting services awarded under the Project is automatically available. This tool will be used to manage the exchange of information (such as bidding documents, bid evaluation reports, no objections, and other procurement documents) between PIUs and the World Bank.

18. **Procurement documentation.** All documentation with respect to each procurement will be retained by OEAPM according to the requirements of the Legal Agreement. OEAPM will furnish such documentation to the World Bank upon its request for examination or its consultants/auditors. Documents with respect to procurement subject to post review will be furnished to the World Bank upon request.

19. **Procurement prior review thresholds.** The procurement prior review thresholds will be set by the World Bank based on the Project's procurement risk level. The currently assessed residual procurement risk is Moderate. All contracts

at or above the set thresholds are subject to international advertising and the use of the World Bank's Standard Procurement Documents. Use of certain procurement approaches—specifically best and final offer, procurement processes involving contract negotiations, competitive dialogue, and sustainable procurement—are not foreseen under the Project, but these approaches will be subject to the World Bank's procurement prior review, irrespective of the contract value, if the decision is taken during project implementation to apply them. The applicable thresholds are defined in table 1.2 and will be specified in the Procurement Plan.

Table 1.2. Prior Review Threshold

Type of Procurement	Method Threshold (US$, millions)	Prior Review Threshold
Works (including turnkey, supply and installation of plant and equipment, and public-private partnership)	Open International ≥ 10 Open National < 10 Request for Quotations < 0.4	All contracts above US$15 million equivalent
Goods, information technology, and non-consulting services	Open International ≥2 Open National < 2 Request for Quotations < 0.2	All contracts above US$4 million equivalent
Consulting firms	Selection Based on Consultants' Qualifications < 0.3 Least Cost Selection and Fixed Budget Selection - in justified cases Quality- and Cost-based Selection and Quality-based Selection - in all other packages National Consultant Ceilings < 0.5	All contracts above US$2 million equivalent
Consulting - individuals	No threshold	All contracts above US$400,000 equivalent
Direct selection Thresholds defined above for the respective expenditure	No threshold	As per paragraphs 6.46 and 7.26 of the Procurement Regulations

Note: Based on the procurement performance of the proposed Project, these thresholds may be subsequently modified.

Table 1.3. List of Major Contracts to Be Financed under the Project

Description	Estimated Cost (US$, millions)	Planned Contract Signing
Water and foam-based fire fighting vehicles	19,000,000	Year 1
PWS	5,000,000	Year 1
USAR and Logistics Modules	1,750,000	Year 1

Implementation Support Plan (ISP) and Resource Requirements

20. **Implementation support will be provided by the World Bank team, consisting of staff with relevant competencies in operations, procurement, finance, safeguards, and technical content on DRM and emergency preparedness and response**. The World Bank team will undertake periodic implementation support missions every six months throughout the Project's implementation.

21. **To enable the World Bank to honor its corporate commitments—regarding fiduciary and safeguards responsibility, oversight and implementation support, and M&E of project implementation, outcomes, and results—the World Bank will maintain close contact with the PIU.** The PIU will manage day-to-day implementation of the Project and produce and transmit to the World Bank all data, reports, and information required to follow project implementation progress, detect deviations and problems, and identify and respond to problems and bottlenecks—including procurement transactions and FM requirements and verification of equipment acquired under the Project against the specifications.

The PIU will also report to the World Bank on the progress and status of project implementation and contract administration against agreed or contractual timetables and schedules.

22. **The ISP for the Project has been developed based on the specific nature of the project activities, factoring in the existing capacity of the implementing agency and the Project's risk profile in accordance with the Systematic Operations Risk-Rating Tool.** This ISP reflects the assessments conducted by the World Bank during project preparation and will be regularly reviewed and revised as required.

23. **The ISP includes frequent review of implementation performance and progress.** The World Bank team will monitor progress on several fronts, including (a) indicators as defined in the Results Framework, (b) central- and community-level project implementation, (c) independent verification of project activities, (d) proper fiduciary management of all activities carried out by the PIU, (e) reconciliation of payments with contracts, and (f) monitoring of key legal covenants (if any).

24. **Client relations.** Task team leaders will (a) coordinate World Bank implementation support to ensure consistent project implementation as specified in the legal documents and (b) follow up with senior representatives of the ministries involved under the Project (where appropriate) to gauge progress in achieving the PDO and address implementation bottlenecks as they arise. In addition, the task team leaders will ensure regular exchanges of information and coordination with other key stakeholders, including bilateral and multilateral donors.

25. **Midterm Review (MTR).** An MTR will be carried out after three years of project implementation. In preparation for the MTR, an independent review of implementation progress will be carried out, including audits. Results will provide input to any potential revisions or restructuring at the time of the MTR. The MTR will review (among other things) the Results Framework, Systematic Operations Risk-Rating Tool, country ownership, stakeholder participation, FM, procurement processing, and sustainability aspects.

26. **Implementation Completion and Results Report (ICR).** To satisfy accountability needs and provide lessons from completed operations, an ICR will be drafted by the World Bank and the borrower within six months of project completion. ICRs are tailored to enhance development effectiveness through a continuous process of self-evaluation, lesson learning and application, knowledge sharing, and accountability for results. The lessons learned from ICRs improve the quality and effectiveness of World Bank operations, while borrower/stakeholder participation in the ICR process informs later designs, preparation, and implementation.

27. **The following ISP reflects the preliminary estimates of the skill requirements, timing, and resource requirements over the life of the Project**. Given the need to maintain flexibility over project activities from year to year, the ISP will be reviewed annually to ensure that it continues to meet the implementation support needs of the Project. Tables 1.4 and 1.5 indicate the level of inputs that will be needed from the World Bank to provide implementation support for the proposed Project.

Table 1.4. Implementation Support Plan

Time	Focus	Skills Needed	Partner Role

First 12 months	• Provide support to
	  ○ Successful start of project
	  ○ FM systems
	  ○ Functioning
	  ○ Procurement
	  ○ Practices on World Bank norms
	  ○ Establishment of M&E system
	• Monitor implementation of project activities.
		All skills	• Task team to support smooth start-up
			• Ensure safeguards on track
			• Support PIU

Time	Focus	Skills Needed	Partner Role
12–48 months	• Ensure adequate implementation support of all aspects of project • Monitor implementation of project activities, including site visits • Provide support to final evaluation and ICR	All skills	• Ensure safeguards are on track • Support PIU • Provide TA

Table 1.5. Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task Team Leader	48	12	International or field-based staff
DRM Specialist	90	12	International or field-based staff
Environmental Specialist	12	Local travel as needed	Field-based staff
Social Specialist	12	Local travel as needed	International or field-based staff
Economist (M&E)	12	Local travel as needed	Field-based staff
Procurement Specialist	60		Field-based staff
Financial Management Specialist	24		Field-based staff
Consultant for Safeguards	90	Local travel as needed	Short-term consultant
Consultant for Communications	90	Local travel as needed	Short-term consultant