

Concept Note

Water Resources Management in the Pyanj River Basin (Additional Financing) - Institutional Development of the State Agency for Hydrometeorology of Tajikistan

Tajikistan | Asian Development Bank (ADB)

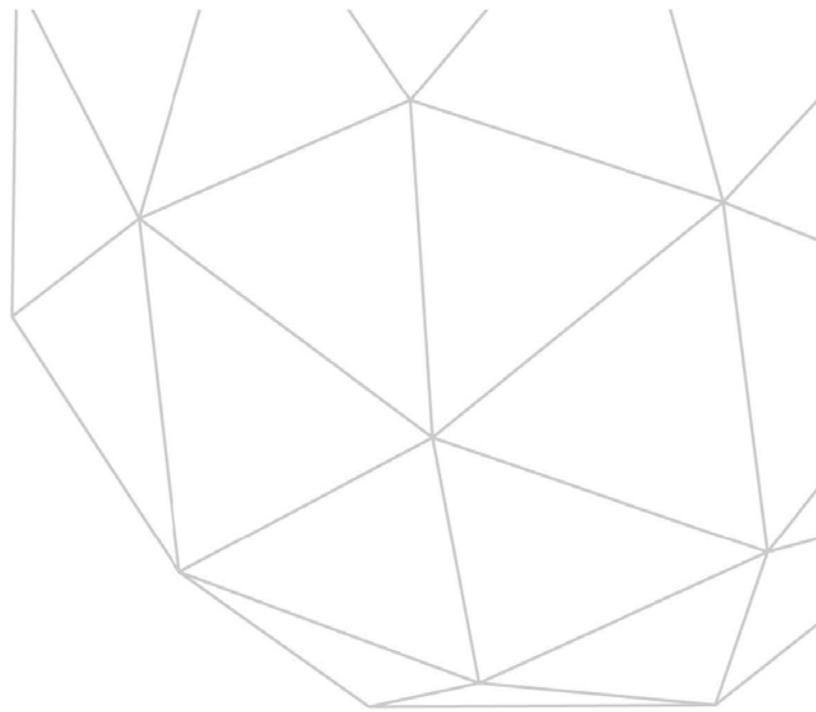
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Concept Note

The Green Climate Fund (GCF) is seeking high-quality projects or programmes.

Accredited entities may choose to submit a concept note, in consultation with the relevant national designated authority, to present the proposed project or programme idea in order to receive early feedback and recommendation.

Project/Programme Title: Water Resources Management in the Pyanj River Basin
(Additional Finance) – Institutional Development of the State
Agency for Hydrometeorology of Tajikistan

Country/Region: Tajikistan

Accredited Entity: Asian Development Bank

National Designated Authority: Mr. K. Ibodzoda, Chairman, Committee on Environmental
Protection

A. Project / Programme Information	
A.1. Project / programme title	Water Resources Management in the Pyanj River Basin (Additional Finance) – Institutional Development of the State Agency for Hydrometeorology of Tajikistan
A.2. Project or programme	Project
A.3. Country (ies) / region	Tajikistan
A.4. National designated authority(ies)	Mr. K. Ibodzoda, Chairman, Committee on Environmental Protection
A.5. Accredited entity	Asian Development Bank
A.6. Executing entity / beneficiary	Executing Entity: State Agency for Hydrometeorology
A.7. Access modality	Direct <input type="checkbox"/> International <input checked="" type="checkbox"/>
A.8. Project size category (total investment, million USD)	Micro (≤ 10) <input type="checkbox"/> Small ($10 < x \leq 50$) <input checked="" type="checkbox"/> Medium ($50 < x \leq 250$) <input type="checkbox"/> Large (> 250) <input type="checkbox"/>
A.9. Mitigation / adaptation focus	Mitigation <input type="checkbox"/> Adaptation <input checked="" type="checkbox"/> Cross-cutting <input type="checkbox"/>
A.10. Public or private	public
A.11. Results areas (mark all that apply)	Which of the following targeted results areas does the proposed project/programme address?
	<p>Reduced emissions from:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Energy access and power generation (E.g. on-grid, micro-grid or off-grid solar, wind, geothermal, etc.) <input type="checkbox"/> Low emission transport (E.g. high-speed rail, rapid bus system, etc.) <input type="checkbox"/> Buildings, cities, industries and appliances (E.g. new and retrofitted energy-efficient buildings, energy-efficient equipment for companies and supply chain management, etc.) <input type="checkbox"/> Forestry and land use (E.g. forest conservation and management, agroforestry, agricultural irrigation, water treatment and management, etc.) <p>Increased resilience of:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Most vulnerable people and communities (E.g. mitigation of operational risk associated with climate change – diversification of supply sources and supply chain management, relocation of manufacturing facilities and warehouses, etc.) <input type="checkbox"/> Health and well-being, and food and water security (E.g. climate-resilient crops, efficient irrigation systems, etc.) <input type="checkbox"/> Infrastructure and built environment (E.g. sea walls, resilient road networks, etc.) <input type="checkbox"/> Ecosystems and ecosystem services (E.g. ecosystem conservation and management, ecotourism, etc.)
A.12. Project / programme life span	20 years
A.13. Estimated implementation start and end date	Start: Q1 2018 End: Q1 2023

B. Project/Programme Details

The Fund requires the following preliminary information in order to promptly assess the eligibility of project/programme investment. These requirements may vary depending on the nature of the project/programme.

<p>B.1. Project / programme description (including objectives)</p>	<p>Project Objective and Outcome</p> <p>The Project will support the development of the State Agency of Hydrometeorology of Tajikistan (Hydromet) into a sustainable and well-resourced institution, which produces timely and accurate climate and weather analysis and forecasts. The Project outcome will be reduced damage and mortality in Tajikistan from extreme climate change-related weather events.</p> <p>Rationale</p> <p>Tajikistan is one of the wellsprings of Central Asia; the Syr and Amu Rivers, originating in Tajikistan and Kyrgyz Republic and flowing into Turkmenistan, Uzbekistan, and Kazakhstan, comprise 90% of the water resources in the region. It is also is Central Asia's poorest country and among the countries most vulnerable to climate change. Roughly 70% of the population lives in rural areas and rely on agriculture as a primary source of income. Their livelihoods are thus directly dependent on the country's water resources and exposed to the prevailing climatic conditions and weather events. This vulnerability is particularly acute in the districts along the Pyanj River, the primary tributary to the Amu River in the south of the country, which are among the country's poorest and comprise a wide range of geographical and climatic conditions.</p> <p>These communities already face recurring disasters such as drought, avalanches, landslides, floods, and mudflows. Such disasters are estimated to cost the country approximately 1% of GDP per year. Climate change is expected to exacerbate these adverse events and their impacts. Higher temperatures and changes in precipitation patterns are expected to cause earlier and faster snowmelt and recession of glaciers and a decline in overall water availability. Water stress conditions are likely to become more common, and flooding and landslides are likely to become more frequent and damaging¹.</p> <p>A key institution in support of Tajikistan's climate change and disaster resilience is Hydromet, the country's climate and weather agency. It has a mandate to (i) ensure protection of vital interests of the individual, society and state from hazardous effects, (ii) satisfy the needs of public authorities, sectors of the economy and population for hydrometeorological information as well as information about the state of the environment and its pollution, and (iii) ensure functioning of the state monitoring network and the system for collection, processing and dissemination of hydrometeorological information. This includes providing warnings for extreme climate change-related weather events. The organization is also Tajikistan's focal point for the United National Framework Convention on Climate Change (UNFCCC), representing the country in international climate change conferences and responsible for regular reporting to the UNFCCC. Hydromet has a 90-year history, but suffers many of the common problems facing institutions in post-Soviet countries. It is fully financed from the state budget, but due to the country's broader constraints it receives a very limited budget in proportion to its size. As a result, Hydromet's infrastructure and buildings are poor and decaying, staff retention is low due to uncompetitive salaries, and there is insufficient operation and maintenance (O&M) budget. As a result, Hydromet's is hindered in its ability to achieve its public service mandate to warn and protect the public, and to develop as an institution over time.</p> <p>Several recent and ongoing donor technical assistance and investment projects (including that of World Bank and ADB, see Part B.2 below) have improved</p>
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¹ Punkari et al. 2014. Climate Change and Sustainable Water Management in Central Asia. ADB Central and West Asia Working Paper Series No. 5. Asian Development Bank. Manila.

Hydromet's capacity in data collection, analysis, and forecasting through technical training and modernization of equipment. However, the sustainability of these interventions is at risk due to Hydromet's abovementioned underlying barriers and institutional weaknesses. Notably, these projects have not sought to address Hydromet's poor infrastructure and buildings, insufficient staff salaries and poor retention. Furthermore, without increased budget each additional purchase of equipment puts added strain on the institution's already stretched O&M budget. As such, the sustainability of these investments is at risk, and Hydromet may not see improvement in the medium-term over the current situation.

Project Components

The Project is an institutional development of Hydromet, which will seek to (i) overcome underlying barriers and weaknesses that hinder its functioning and growth as a high quality and sustainable institution, and (ii) develop Hydromet's capacity in supporting climate change and disaster resilience in Tajikistan. The Project will focus its capacity building activities towards disaster risk reduction in the vulnerable communities in the Pyanj River basin, but will the institutional development will provide benefits to Hydromet's delivery of its broader services and thus benefit the country as a whole.

The Project comprises four components:

1. Transformation of Hydromet into a semi-autonomous government agency able to seek and retain additional entrepreneurial sources of revenue. In its current legal status as State Agency, Hydromet's budget, organizational structure, and salary levels must be approved by Government. During Project implementation, Hydromet's will be given independent legal status within government to allow it to (i) supplement its core state funding with new sources of income², and (ii) flexibly reorganize, control their budget, and raise staff salaries to encourage staff retention. A board of directors will be established to provide oversight over Hydromet's management and strategy.
2. Upgrading of the Hydromet campus and associated facilities. The Project will undertake infrastructure investment to upgrade Hydromet's campus and associated facilities. Without this upgrading, Hydromet will be unable to securely install and operate its equipment, and the capacity building programs will not be sustainable. The Government has planned for Hydromet to be relocated from their existing location in Dushanbe to a new modern campus across the city. However the relocation has stalled; Hydromet's prospective new office building remains unfinished for several years due to lack of budget. The Project will complete the main office building and construct associated facilities including laboratory and warehouse. The project will also construct a dormitory building next to the office tower to provide subsidised housing to core Hydromet staff, thereby providing additional staff incentives and ensuring staff can report quickly to work during emergency situations. Under Hydromet's new legal status, it will have sole control and use of the buildings.
3. Institutional development and implementation of business model. Under the Project, Hydromet's strategy, management, and organisation will be restructured in light of its new independent legal status, with the intention of seeking additional entrepreneurial resources. It is anticipated that the Hydromet's supplemental income will arise from (i) rental of office space and facilities including conference room, (ii) sale of fee-based information services, and (iii) consulting assignments. Hydromet's work program, organizational structure, and staffing will be consolidated in line with recommendations from a needs assessment undertaken during feasibility

² ADB will ensure increased entrepreneurial measures are not offset by decreased core state funding through among others grant covenants.

	<p>study. Training and coaching for management, marketing, and business development will be provided to key staff.</p> <p>4. <u>Institutional capacity building for improved forecasting and warning of climate change-related extreme weather events.</u> The Project will undertake capacity development for Hydromet comprising (i) improved information dissemination systems including early warning and fee-based services, (ii) improved forecasting of extreme weather event such as hail, frost, and precipitation, and (iii) improved forecasting of flood events. The capacity building will comprise training as well as upgrading of equipment such as ground-based monitoring and radar.</p>
<p>B.2. Background information on project/programme sponsor</p>	<p>The Project is additional finance for ADB's Water Resources Management in the Pyanj River Basin project (2017-2021). This project improves institutional and physical capacities of water resources management (WRM) system in the Pyanj River basin (PRB) of southern Tajikistan, and will: (i) establish a PRB organization, council, and Joint PRB committee, and develop a PRB management plan; (ii) modernize and climate-proof the Chubek Irrigation System (CIS); and (iii) improve farm and water use management capacities. The subject Project requesting GCF funding for Hydromet institutional transformation and capacity development will enhance the outputs with respect to water resource monitoring and management, and climate resilience.</p> <p>Tajikistan became a member country of ADB in 1998, and since then cumulative lending, grant, and technical assistance to the country for Agriculture, Natural Resources, and Rural Development has totalled approximately \$170 million and for Public Sector Management has totalled approximately \$200 million. These represent roughly 11% and 14% of ADB's approvals in the country to date. ADB has longstanding experience in Tajikistan in supporting climate change and disaster resilience, notably in the Pyanj River basin. Under the Tajikistan Pilot Program for Climate Resilience funded by the Climate Investment Funds, ADB is currently administering one technical assistance ("Building Capacity for Climate Resilience") and one investment project ("Building Climate Resilience in the Pyanj River Basin"). Hydromet is an executing agency for the technical assistance, which is developing Hydromet's capacity for modelling climate change and impacts in the country.</p> <p>Hydromet is a State Agency with approximately 800 staff including approximately 300 professional staff. In addition to the abovementioned ADB technical assistance, Hydromet is implementing the World Bank Central Asian Hydromet Modernization Project to improve Hydromet's monitoring and weather forecasting capacity. A Project Management Unit (PMU) has been established within Hydromet, with responsibility for implementing the World Bank project.</p>
<p>B.3. Market overview</p>	<p>Not applicable.</p>
<p>B.4. Regulation, taxation and insurance</p>	<p>The government is expected to finance all taxes and duties for the Project (other than those required by the government under specific consulting service or procurement contracts).</p> <p>Consulting firms and contractors to be contracted by Hydromet are expected to purchase the necessary insurance policies as required by the relevant government laws and/or policies. Hydromet will be required to follow all relevant ADB policies including Procurement Guidelines and the Safeguard Policy Statement.</p>
<p>B.5. Implementation arrangements</p>	<p>Hydromet will be the Executing Agency of the project. A PMU will be established within Hydromet to be responsible for project implementation. The Project will also recruit consultants to support project implementation including capacity building, procurement, construction supervision, and safeguards.</p>

C. Financing / Cost Information							
C.1. Description of financial elements of the project / programme			Category	Estimated Cost (\$)			
			1. Civil works	6,400,000			
			2. Equipment	700,000			
			3. Survey and design	100,000			
			4. Consulting services	2,000,000			
			5. Training, seminars, workshops	400,000			
			6. Staff, admin, and audit	500,000			
			7. Operation and maintenance	400,000			
			8. Contingency	500,000			
			Total	11,000,000			
<p>Note: Cost estimate does not include licensing and permits required for implementing and operating the project, applicable taxes, foreign exchange regulations and insurance policies.</p> <p>Detailed information and analysis (including the financial model) will be provided as part of full proposal.</p>							
C.2. Project financing information		Financial Instrument	Amount	Currency	Tenor	Pricing	
	Total project financing (a) = (b) + (c)		11	million USD (\$)			
	(b) Requested GCF amount	(i) Senior Loans			() years	() %
		(ii) Subordinated Loans			() years	() %
		(iii) Equity				() % IRR
		(iv) Guarantees		million USD (\$)		
		(v) Reimbursable grants *				
		(vi) Grants *		6			
	Government has requested grant funding only for the project. Grant resources available from ADB are limited and insufficient to cover the needed intervention.						
		Total Requested (i+ii+iii+iv+v+vi)		6	million USD (\$)		
(c) Co-financing	Financial Instrument	Amount	Currency	Name of Institution	Seniority		
	<u>Grant</u>	5	million USD (\$)	ADB	<u>pari passu</u>		
		
		
Lead financing institution: ADB							

	(d) Covenants	Discussion with the government on the covenants will be held in separate during loan negotiations based on project feasibility study and risk assessment results.
	(e) Conditions precedent to disbursement	Discussion with the government on the conditions precedent to disbursement will be held in separate during loan negotiations based on project risk assessment results.

D. Expected Performance against Investment Criteria

Please explain the potential of the Project/Programme to achieve the Fund's six investment criteria as listed below.

D.1. Climate impact potential	<p>The Project will support the climate change and disaster resilience of vulnerable communities in the Pyanj River basin and throughout Tajikistan through improved data, analysis, forecasting, and warning of extreme climate change-related weather events. Literature survey indicates that investments in hydrometeorological services offer high benefit to cost ratios.</p> <p>A detailed analysis of project benefits will be undertaken during feasibility study.</p>
D.2. Paradigm shift potential	<p>The Project will represent a significant paradigm shift in the funding and provision of hydrometeorological services in Tajikistan and Central Asia. These services provide significant but un-priced and thus undervalued benefits, leading to chronic under-investment by governments. The Project's institutional transformation of Hydromet is thus novel for a country with a substantial legacy of Soviet-era institutions and weak investment climate for entrepreneurs. The model is replicable in other hydrometeorological agencies in other countries in Central Asia, and scalable to a broader array of services from Hydromet including agrometeorology.</p>
D.3. Sustainable development potential	<p>Economic co-benefits</p> <ul style="list-style-type: none"> • Establishment of well-paying, attractive jobs within Hydromet. • Improved productivity and operation in agriculture, water resource management, transport including aviation, and power generation through provision of improved information and forecasts. <p>Social co-benefits</p> <ul style="list-style-type: none"> • Improved health and safety among vulnerable communities. • Empowerment of communities through improved information. • Facilitation of cross-border collaboration on water resources and hydrometeorological monitoring.
D.4. Needs of recipient	<p>As described in Part B.1 above:</p> <ul style="list-style-type: none"> • Tajikistan one of most vulnerable countries to climate change. • The Government's budgetary support for Hydromet is heavily constrained. • Overall institutional capacity of Hydromet is low, and most fundamentally has underlying institutional barriers and weaknesses that prevent it from achieving its mandate and hinder sustainable improvements in institutional capacity. • Without the project, Hydromet is unlikely to develop and grow its capacity beyond its current situation, and recent and ongoing donor interventions are unlikely to be sustainable.

<p>D.5. Country ownership</p>	<ul style="list-style-type: none"> • The Tajikistan Nationally Determined Contribution (NDC) to the UNFCCC Paris Agreement prioritizes improvement and modernization of hydrometeorological services as a key climate change adaptation. • Institutional capacity building of Hydromet was identified as a priority climate change adaptation investment during ADB's consultation with government and non-governmental (NGO) stakeholders under the ADB technical assistance projects TA8090-TAJ: Building Capacity for Climate Resilience and TA8119-REG:Economics of Climate Change in Central and West Asia. • Hydromet will be responsible for the overall project implementation. Hydromet will work with disaster risk management committees and water user associations in the Pyanj River basin area to improve the provision of information.
<p>D.6. Effectiveness and efficiency</p>	<ul style="list-style-type: none"> • Proposed GCF co-financing ratio is 55%. • As noted in D.1. above, returns to hydrometeorological investments have been shown to have high benefit to cost ratios.

E. Brief Rationale for GCF Involvement and Exit Strategy

Without the project, Hydromet is unlikely to develop and grow its capacity beyond its current situation, and recent and ongoing donor interventions are unlikely to be sustainable. The Project is predicated on the climate change vulnerabilities and risks in Tajikistan, and will provide significant benefit to the country's climate change and disaster resilience.

The government has requested ADB's support for the Project, but has indicated that it should be financed only with additional grant funds. \$5 million has been allocated to the Project from ADB's Asian Development Fund Disaster Risk Reduction Funding, and an additional \$6 million is sought from the GCF.

The Project will support a sustainable and well-resourced Hydromet, supported by core state funding and supplementary entrepreneurial income, which is capable of fulfilling its mandate and continuing to develop its capacity in the future. Further analysis will be provided in full proposal.

F. Risk Analysis

A financial management assessment and procurement capacity assessment of Hydromet is underway as part of feasibility study, to identify risks and mitigation measures. The upgrading of the Hydromet campus will take place on existing and permitted government land. There are no substantial environmental and social risks expected. However, a risk assessment will be undertaken during feasibility study, and mitigation measures put in place in line with ADB and country requirements.

G. Multi-Stakeholder Engagement

Stakeholder consultation will be held as part of feasibility study to inform project design.

H. Status of Project/Programme

- 1) A pre-feasibility study is expected to be completed at this stage. Please provide the report in section J.
- 2) Please indicate whether a feasibility study and/or environmental and social impact assessment has been conducted for the proposed project/programme: Yes No

- 3) Will the proposed project/programme be developed as an extension of a previous project (e.g. subsequent phase), or based on a previous project/programme (e.g. scale up or replication)? Yes No
(If yes, please provide an evaluation report of the previous project in section J, if available.)

I. Remarks

Background study of Hydromet, including an initial (pre-feasibility) concept for institutional transformation of Hydromet is attached.

The Report and Recommendations of the President of main project (L3434-TAJ:Water Resources Management of the Pyanj River Basin) is attached. The investment in Hydromet had been envisaged at the time of original project design (see para. 14).

J. Supporting Documents for Concept Note

- Map indicating the location of the project/programme
- Financial Model
- Pre-feasibility Study
- Feasibility Study (if applicable)
- Environmental and Social Impact Assessment (if applicable)
- Evaluation Report (if applicable)