

Tajikistan Pilot Program for Climate Resilience
Final Joint Programming Mission
October 4-11, 2010
Aide Memoire

Introduction and results

- The World Bank (WB), Asian Development Bank (ADB), and European Development Bank (EBRD) fielded the final Joint Programming Mission to Tajikistan under the Pilot Program for Climate Resilience, from October 4-11, 2010. The mission objective was to support the Government of Tajikistan on the content and implementation arrangements of its proposed Strategic Program for Climate Resilience (SPCR).
- The overall MDB coordinator and lead for the World Bank on mission was Ron Hoffer (Environment and Water Advisor, Washington DC). The lead from the ADB was Peter Hayes (Senior Climate Change Specialist, based in Manila) and for EBRD was Craig Davies (Principal Environmental Advisor, based in London). The mission received considerable field support from the international consulting firm AEA (Alex Harvey, Senior Consultant-Adaptation), financed by the Department for International Development of the United Kingdom (Amanda Duff, Infrastructure and Environment Adviser).
- The mission wishes to extend its sincere gratitude to the Government for their numerous contributions to the success of the mission. Appreciation is extended to Deputy Prime Minister Murodali Alimardon for his leadership, and the PPCR Focal Point Mr Kurbonbekov Jumabek (also Deputy Head, Department for Environment Protection and Emergency Situations, Executive Office of the President) for mobilizing participation of numerous Government ministries and agencies both during the mission and the preparatory phase in advance of the mission. Regarding the latter point, a number of informal consultations were conducted from August 25th to September 5th to provide an update on Phase 1 activities and inform stakeholders on the next steps in the process. On September 29th and 30th, a facilitated self-assessment workshop was held to consider Government capacities for efficient and effective management, logistics and coordination of the PPCR programme in Tajikistan.
- The mission achieved its main goals in that a final draft of the SPCR request for \$50 million in support was completed for Government review, and a coordination structure within Government (including engagement with civil society and other stakeholders) has been shaped and will be further elaborated in the coming months.

Investment planning

- The SPCR outlines a series of six potential investment and capacity-building activities (totally \$50 million in grant financing plus additional co-financing) that will be carried out under Phase 2 of the PPCR. The SPCR reflects: (i) outcomes from previous Joint Missions, (ii) progress on Phase 1 technical assistance efforts approved in June 2010, (iii) discussions at the technical/sectoral level that have taken place over the last few months by MDB teams with their Government counterparts, and (iv) consultations with stakeholders, including international organizations, donors and civil society.
- The six components are described below, with financing and timing considerations depicted in the attached table.

Building Capacity for Climate Resilience

- The Government recognizes that there is a need to strengthen both technical capacity for climate resilience, and the institutional and organizational capacities that are necessary for effective oversight, coordination and the management and monitoring of the PPCR. Both should aim to facilitate transformational change in the longer term.
- Phase 2 funding will be used to build stronger institutional capacity and enhance awareness of climate change amongst a variety of stakeholder groups, including policy and decision makers, highly vulnerable groups such as women and children, educational institutions, media and civil society. Phase 2 investments aimed at building capacity for climate resilience in Tajikistan will build on the outcomes of Phase 1 activity A1 and A3 (supported by the World Bank in partnership with UNDP). The framework of capacity building activities in Phase 2 will be fully scoped and programmed by Government in collaboration with the MDBs after approval of Phase 2 funding.
- All stakeholders agree that the most important requirement to ensure successful PPCR coordination is for Government to establish institutional governance mechanisms at the heart of Government. Therefore Phase 2 funding will also be used to support the operation of a PPCR Secretariat, which will facilitate the effective implementation of the PPCR activities and maximize their development impact. Recognizing the urgent need to establish such a coordination mechanism, the Asian Development Bank will provide financial support during Phase 1 to fast start the PPCR Secretariat.
- It is also envisaged that the PPCR Secretariat could become a hub for climate change information and communication in the long term. Availability of potential additional resources will be explored over the course of the PPCR to ensure the continuity of Secretariat's operations beyond the PPCR itself.

Improvement of Weather, Climate and Hydrological Service Delivery

- Improving weather, climate and water services in Tajikistan is essential for stable social and economic development. The country is the most vulnerable in Central Asia to a wide range of weather-related disasters, including floods and mudflows, droughts, frosts, avalanches, hails, and strong winds. Climate variability and projections of future climate indicate a situation which will become even direr in the coming decades. Data suggests that these events constitute a major part of all economic losses attached to natural hazards; on average around or exceeding 1.0% of GDP per annum. There is a critical need for better quality weather, water and climate information particularly for early warning, support of disaster reduction strategies and improvement of operations in such sectors as agriculture, transport, water resources management, hydropower generation and public health.
- The project includes three components. Of crucial importance is the first element of improving the national hydro-meteorological monitoring system to provide timely warnings on dangerous events, support water management, and build the evidentiary basis for climate variability and change. This component includes a major technical re-equipment of the observation networks and strengthening of the information-technology base of the service. The second element focuses on strengthening the system of service delivery through expanded provision of hydromet service products to consumers and bolstering the forecasting, warning, and response system of the Committee for Emergency Situations. The third component is institutional strengthening of the hydromet services, to improve its personnel and financial sustainability.

Tajikistan: Climate Science and Impact Modelling Program

- The aim of Phase 2 investment on climate science and modelling is to build in-country capacity to conduct climate science and glaciology research, develop climate change

models and interpret the outputs to provide policymakers and sector specialists with the information they need to plan for climate change. Current global circulation models have several limitations for application to Tajikistan and uncertainty still remains on the rate and extent of glacial melt and climate impacts in Tajikistan, as well as in Central Asia more widely. The Tajik Hydromet and other scientific institutions in the country have very limited capacity for climate change science and impact projections. Advancement in the national capacity to formulate and interpret climate science and to downscale global climate projections will facilitate the prediction of downstream impacts in Tajikistan and inform development policy, plans and sector-based program investments.

- Phase 2 investments in national climate science and modelling will establish dynamic downscaled modelling capacity within Hydromet to ensure the development of high resolution climate projections and impact scenarios to mainstream vulnerability and adaptation measures in national and sub-national development plans and projects. In addition, scientific and technical capacity for climate science and glaciology research in Tajikistan will be strengthened to enhance the understanding of glacial melt and downstream impacts on water resources, and glacier-dependent infrastructure. This work will build upon Phase 1 recommendations and will be done in collaboration with relevant institutions in the country, such as the Hydromet, the National University of Tajikistan, as well as climate and glaciology centres in the region and reputed European centres of excellence on glacial melt.

Enhancing the Climate Resilience of the Energy Sector

- The proposed intervention is to pilot the incorporation of climate change analysis and climate resilience measures into the rehabilitation of hydropower facilities using the rehabilitation of Kairakkum hydropower plant (HPP) as a pilot. The PPCR grant would provide a means of developing ways of incorporating climate change analysis and climate resilience measures into the design and implementation of HPP rehabilitation. This will strengthen the climate resilience of Tajikistan's energy sector and help to build the capacity of the Tajik authorities (e.g. Barki Tojik, Hydromet etc.) to conduct climate change analysis and mainstream it into investment planning and future investment projects in the hydropower sector.
- The rehabilitation of HPPs is a priority for the Government of Tajikistan, recognising the enormous significance for the country's energy security, economic development and long-term poverty reduction. Although the precise nature of measures undertaken will depend upon the outcomes of PPCR Phase 1 activity A4 (to be completed by May 2011), the subsequent feasibility work and Environmental and Social Impact Assessment to be carried out during project preparation, it is envisaged that they could include the following:
- This pilot project will provide important lessons on how climate change impacts can be addressed in the planning of investments in the hydropower sector, which will be extremely useful for future investments in the sector such as the rehabilitation of Nurek HPP and the possible construction of Rogun HPP. Project preparation (i.e. feasibility work, ESIA including stakeholder engagement, and negotiation of the loan agreement) is expected to commence at the beginning of 2011 and will take approximately 8 months. An EBRD Board decision is anticipated for Q3 2011 and project implementation is expected to commence by the end of the year.

Agriculture and Sustainable Land Management

- Climate change, in the form of reduced water availability and increased temperatures, is expected to put increased stress on Tajikistan's land resources. Water use in Tajikistan is dominated by agriculture. Out of Tajikistan's 4.6 million ha of agricultural land, about 780,000 ha are irrigated. Of the remainder, a large proportion is in semi arid and fragile

mountain ecosystems, used as pasture and forest, with much of the land already degraded.

- The impacts for the country's uplands and rainfed farming areas are likely to include reduced water inflows and crop and rangeland productivity, changes in crop and forage quality, and the ranges of pests and vectors, plus associated shifts in land-use systems livelihoods. Irrigated agriculture will also experience additional water stress, with the need for enhancements in water storage capacity and management. These changes will put additional pressure on a sector which already faces numerous technical and financial challenges. Water infrastructure is often in a poor state of repair and water availability unreliable.
- Despite the increasing pressure, there are potential changes to the way both irrigated and rainfed land is managed that can provide positive impacts on production and increase the resilience to adverse effects of climate change. PPCR will provide additional financing that support pilots that with a focus on agricultural livelihoods and rangeland management. The investments will help farmers and communities to address these issues by enabling them to adapt, as well as become more resilient, to climate change by improving local livelihoods, reducing hunger, and restoring productive natural resources.
- Additional financing available through PPCR will be used to support replicating and scaling up effective, existing land management practices to ensure that climate resilience becomes an integral part of land management and agricultural production.
- The exact detail of initiatives will be determined through a country-wide analysis and consultation process, funded through PPCR Phase 1. Implementation during Phase 2 will likely be through existing donor-supported Government programmes that are already addressing the sustainable land management, rural livelihoods and irrigation. Modalities could include providing additional financing for clear climate resilience needs as part of the Second Upland Agricultural Livelihoods and Land Management Project (under preparation) and the Fergana Valley Water Resources Management project.

Building Climate Resilience in the Pyanj River Basin

- PPCR Phase 2 investments on Tajikistan's river basins aim to build climate resilience in critical ecosystems, communities and infrastructure that are particularly vulnerable to climate change risks. Climate change in Tajikistan is mainly about water. Major glacier-dependent river basins, containing a large proportion of agricultural land, such as the Pyanj River basin, are increasingly vulnerable to glacial melt and extreme events, whether caused by climate or other factors. Increasingly unstable hydrological resources can threaten upstream ecosystems and downstream infrastructure and services, such as irrigation, hydropower, and potable water, as well as vulnerable communities and infrastructures. Climate change in Tajikistan has therefore the potential to weaken household livelihoods and lead to trans-border effects on neighbouring countries.
- This Phase 2 investment will build on the findings of the Phase 1 activity A6 'Analysis of River Basin Approach to Climate Resilience'. The Phase 1 activity will develop a methodology to integrate climate risk in river basin investments and identify sector-based national and sub-regional investment priorities. Under ADB leadership, Phase 2 investments will be directed to increase the climate resilience of river basins in Tajikistan. ADB will work in partnership with the government of Tajikistan, the Ministry of Water resources, the Tajik Hydromet and other national and international experts to identify and implement measures aimed at building climate resilience and reducing the vulnerability of communities, ecosystems and infrastructure in the Khatlon target area of the Pyanj river basin, and Pyanj tributaries. Lead time for preparation is approx 10 months (2 months from approval of SPCR to fund commitment, and 8 months for feasibility study and ADB's internal project approval).

Note on component complementarities

- Each component is closely coordinated with other PPCR components to prevent overlap and take advantage of synergies. For example, the component to improve *Weather, Climate and Hydrological Service Delivery* targets the basic acquisition and use of hydromet data nationally. The proposed *Climate Science and Impact Modelling Program* aims at improving and sharing the science base; for example in glaciology and climate modelling. Nevertheless, as Tajikhydromet will have an important role in projects, data outputs and capacity building will be harmonized.
- Similarly the component dealing with *Building Climate Resilient in the Pyanj River Basin* may require additional water monitoring stations over and above the national system (and other pilot area) to more fully characterize basin hydrology. Project implementers will ensure there are close links in terms of instrumentation, telemetry, data analysis and other aspects to ensure complimentary results and avoid duplication. The component dealing with *Enhancing the Climate Resilience of the Energy Sector* also outlines a need for Tajikhydromet to be included in the planning of hydropower investments given the importance of reliable hydromet data. Clearly the PPCR Secretariat will play an important role in coordinating actions and communicating results.

PPCR Coordination Structure

- With full endorsement of the Government and MDBs, agreement has been reached on the establishment of a coordination structure for the PPCR and how it will work, including broad indicative suggestions concerning functions/roles, reporting lines, funding lines/mechanisms, and how to build capacity. Recognizing the urgent need to establish such a coordination mechanism, the Asian Development Bank will provide financial support during Phase 1 to fast start the PPCR Secretariat, which will facilitate the formation of other coordinating bodies such as an inter-ministerial committee and a multi-stakeholder steering group.
- Potentially, this could become a permanent structure of the Government to sustain the mainstreaming of climate resilience, with its own strategic vision, and the authority and responsibility for a much broader climate adaptation agenda, both nationally and internationally.

Next Steps

- Inter-Ministerial review by Government took place from October 13-20, 2010 with the Government submitting the SPCR for consideration by the PPCR sub-committee at its next meeting on November 10, 2010. Assuming the \$50 million "envelope" is approved at the meeting, with allocations in each of the 6 components, the MDBs will formalize their administrative arrangements with the CIF Administrative Unit and Trustee to allow the release of administrative fees for project preparation. Government institutions will work with the relevant MDB to further the preparation of each component over the following months. It is our understanding that the authorization for further release of funds can only take place once project documentation is received and considered adequate by the PPCR sub-committee.
- The first of the six components to be fully prepared (including co-financing) is expected to be the Improvement of Weather, Climate and Hydrologic Services Delivery project. The current schedule assumes full documentation and PPCR project-specific authorization of funds in December 2010, as project negotiation with Government would follow thereafter in February 2011. The project is scheduled to be considered by the World Bank Board of Directors at the end of March 2011.

- The other five components are estimated to have documentation ready for release of further project funds during the course of 2011. Actual dates will depend on availability of co-financing, progress in preparatory analyses, and other technical and administrative factors. As noted in project templates in the Annex, specific project activities of some components cannot be shaped before the outcomes of Phase 1 technical assistance work. The PPCR Secretariat will ensure all parties are informed of any major changes in project timelines.

Tajikistan SPCR Financial Proposal

Proposed investment program component	GoT Technical Lead	MDB Lead (TTL)	Component costs	MDB costs from PPCR (prepare and supervise)	Tentative co-financing (amount/source)	Key dates
Building Capacity for Climate Resilience	Executive Office of the President	ADB (P. Hayes; C. Losenno)	\$3 M	\$400K	None	Advance initiation by January 2011 through ADB additional funding; full project documentation in 4 th Q 2011
Improvement of Weather, Climate and Hydrological Service Delivery	Tajik Hydromet	WB (Tsirkunov; Anees)	\$7 M	\$400K	\$6M + (WB-IDA) \$1M (Government)	Full project documentation by January 2011; World Bank Board March 2011; effective Spring 2011
Climate Science and Modeling Program	Tajik Hydromet	ADB (Hayes)	\$3 M	\$300K	TBD	Concept Note prepared in mid 2011; to be informed by Phase 1 findings; Full project documentation 3 rd Q 2011
Enhancing the Climate Resilience of the Energy Sector	Barki Tojik (and ME&I)	EBRD (Davies/Chabrier)	\$10 M	\$350K	EBRD (\$30 million loan) EIB (\$15 million loan) EC (€15 million grant – approx \$20 million equivalent)	Project preparation expected to start in January 2011; Grant agreement for project preparation(feasibility study and ESIA) in January 2011; Negotiation of loan agreement spring-summer 2011; EBRD Board decision autumn 2011; Grant agreement for project implementation in 4th Q 2011.
Agriculture and Sustainable Land Management	MoA and/or MoW	WB (Croxtton; others)	\$9.45 M	\$400K	TBD	Concept Note prepared in mid-2011; to be informed by Phase 1 findings
Building Climate Resilience in the Pyanj River Basin	MoW / CEP	ADB (Ryutaro)	\$15.3M	\$400K	None	Full project documentation 3 rd Q 2011
Subtotal			\$47.75M	\$2.25M		
Total request			\$50M			