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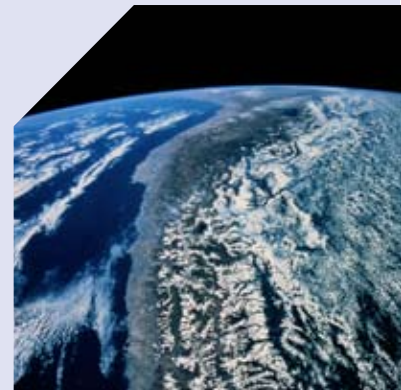


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CAPACITY FOR CLIMATE RESILIENCY IN TAJIKISTAN:

STOCKTAKING AND INSTITUTIONAL ASSESSMENT

Tajikistan PPCR Phase I Component A1
Stocktaking Report and Gap Analysis





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The stocktaking report was commissioned as the primary output of Phase I of the Pilot Programme for Climate Resiliency (PPCR) in Tajikistan. The report summarizes climate change policies and institutions and their capacity and gaps. It then looks at capacity in key sectors and cross-cutting areas and provides recommendations and roadmaps for building capacity that are based on these findings.

Specifically, the report examines three types of capacity: (i) Systemic capacity; (ii) Organizational capacity; and (iii) Individual Capacity. The report also considers four key sectors: (i) Water Sector; (ii) Agriculture; (iii) Energy; and (iv) Human Health.

The views expressed in this document are those of the author(s) and do not necessarily reflect views and opinion of the partner organizations and government.

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@UNDP Tajikistan 2012



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LIST OF ACRONYMS

CAREC	Central Asian Regional Environmental Center
CBO	Community Based Organization
CCA	Climate Change Adaptation
CCFP	climate change focal point
CDM	Clean Development Mechanism
GBAO	Gorno-Badakhshan Autonomous Oblast (Region)
GIZ	Deutsche Gesellschaft fuer Internationale Zusammenarbeit
Hydromet	State Administration for Hydrometeorology
LULUCF	Land use land use change and forestry
MEDT	Ministry of Economic Development and Trade
MLRWR	Ministry of Land Reclamation and Water Resources
NAP	National Action Plan
NGO	Non-Governmental Organization
ODPM	Office of the Deputy Prime Minister
PER	Public Expenditure Review
PPCR	Pilot Programme on Climate Resiliency
RRS	Regions of Republican Subordination (Region)
SES	State Epidemiological Service
SCEP	Committee for environmental protection under the GoT
SPCR	Strategic Programme on Climate Resiliency
TNC	Third National Communication [to the UNFCCC]
UNDP	United Nations Development Program
UNCBD	United Nations Convention on Protecting Biological Diversity
UNCCD	United Nations Convention on Combating Desertification
UNFCCC	United Nations Framework Convention on Climate Change
USD	Dollar (United States)
WUA	Water User Association

NOTES ON TERMINOLOGY:

1. The term Government (*pravitel'stvo*) refers to the administrative section of the executive branch headed by the president; it is an executive office that oversees and endorses national strategies and action plans. It should not be confused with the government as a whole (*gosudarstvo*), meaning the overall system of governance in Tajikistan.
2. The following terms are used throughout the report to designate administrative territories:

Region	The highest sub-national territory, often referred to as a province (<i>Tajik veloyat, Russian oblast</i>)
District	The second-highest sub-national territory (<i>Tajik nokhia, Russian rayon</i>)
Jamoat	Village-level self-governing units
Village	Local settlement (<i>Tajik qyshloqs; Russian sel'skiy naselyonniy punkt</i>)

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FOREWORD

*For many countries, negative climate change impacts are a significant future concern. For Tajikistan, they are a daily reality, particularly for poor and vulnerable groups. As the UNDP Human Development Report *Climate in a Changing World* states, "...we must see the fight against poverty and the fight against the effects of climate change as interrelated efforts. They must reinforce each other and success must be achieved on both fronts jointly." (UNDP 2008: 3). The Pilot Programme for Climate Resilience represents an important step forward in these efforts.*

*However, *Climate in a Changing World* also finds that "...having established the need for limiting future climate change and for helping the most vulnerable adapt to what is unavoidable, one has to move on and identify the nature of the policies that will help us get the results we seek." (UNDP 2008: 3). That mandate is the objective of the following report.*

The following report was funded by the World Bank. It would not have been possible without this support and the inputs of many people in Tajikistan and abroad. UNDP would like to acknowledge the participation of the more than 30 government agencies and educational institutions and more than 30 non-governmental organizations that were actively involved in the institutional assessment and data-collection process and who devoted their time and expertise to the project. In addition to organizations at the national level, both government and non-government organizations at the regional and district level were also essential to providing information on current conditions in communities in each of Tajikistan's four regions.

This report also benefited significantly from the inputs and feedback provided by key PPCR stakeholders, including the World Bank, the Asian Development Bank, the European Bank for Reconstruction and Development, and the PPCR Secretariat.

The publication of this report represents a starting point on an important journey. It is hoped that the findings and roadmaps in the following pages will help Tajikistan to address the climate-related challenges that it already faces and will do so in a way that will support economic and social development.

Norimasa Shimomura
UNDP Country Director

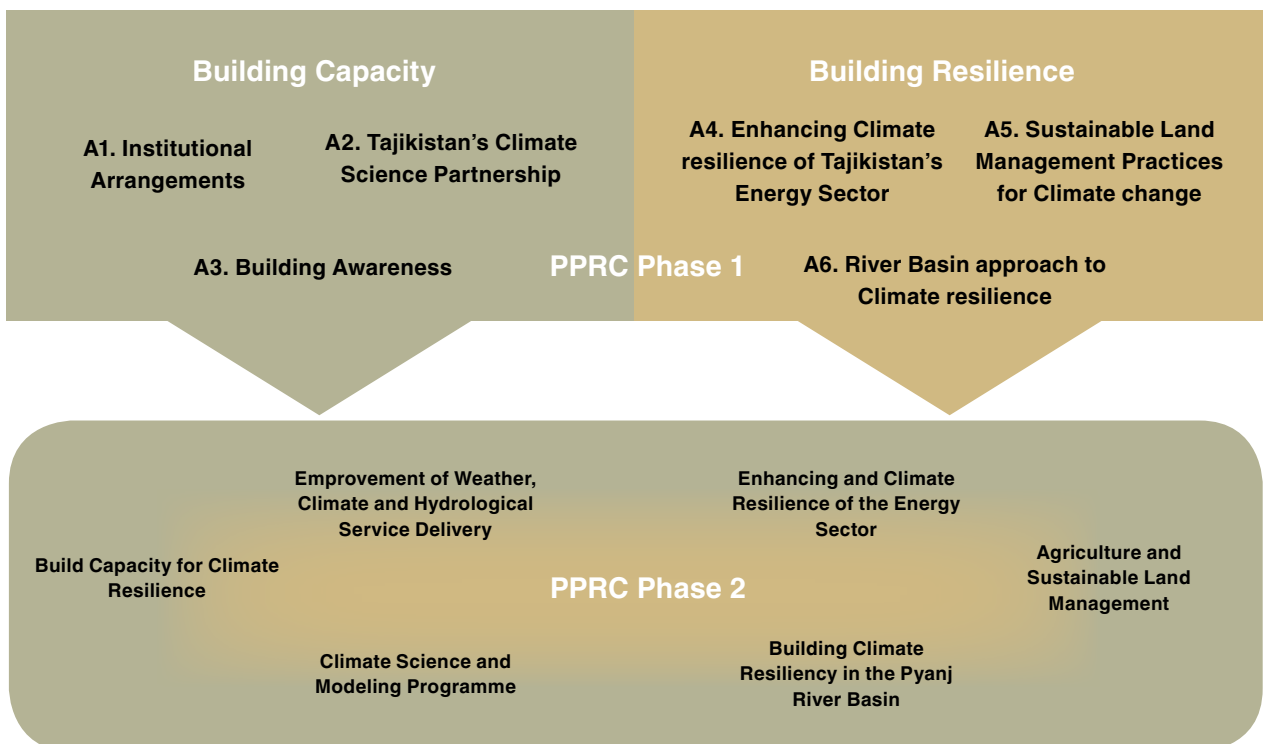
1. INTRODUCTION

Tajikistan has the unfortunate distinction of being the country that is the most vulnerable to climate change in Europe and Central Asia, because of its relatively high exposure to climate change, its very high sensitivity to climate change, and its very limited capacity to adapt to climate change (World Bank 2009: 7). Tajikistan now faces a tremendous challenge: to make the most of its limited resources to address climate threats while also promoting economic and social development.

CONTEXT

The stocktaking report was commissioned as the primary output of Phase I of the Pilot Programme for Climate Resiliency (PPCR). Component A1 of Phase I was designed to conduct a stocktaking exercise on the capacity of the Tajikistan to adapt and respond to climate threats. The exercise also includes information collected from other components, particularly Component A3.

Figure 1: Overview of PPCR Phase I Activities



OBJECTIVES

This report was commissioned as the primary output of Phase I of the Pilot Programme for Climate Resiliency (PPCR).¹ It is designed to serve three purposes:

1. Identification of existing (baseline) capacity to support climate resiliency at all levels of society.
2. Identification and analysis of capacity gaps in the country's ability to prevent and respond to climate change threats.
3. Formulation of recommendations on how to address these gaps and provision of a road map for achieving the recommended measures.

SCOPE

The scope of this report covers adaptive capacity in Tajikistan across a broad variety of stakeholders and levels (see Figure 3). For the purposes of this report, adaptive capacity is understood as “the ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damages, to take advantage of opportunities, or to cope with the consequences.” (CARE 2011: 5).

The report summarizes climate change policies and institutions and their capacity and gaps. It then looks at capacity in key sectors and cross-cutting areas and provides recommendations and roadmaps for building capacity that are based on these findings.

Specifically, the report examines three types of capacity: 1) Systemic capacity; 2) Organizational capacity; and 3) Individual Capacity. These three types are defined in Annex 4. The report also considers four key sectors: 1) Water Sector; 2) Agriculture; 3) Energy; and 4) Human Health. A summary of all categories in the assessment is provided in Figure 2.

Figure 2: Categories in the Institutional Assessment

By Jurisdiction	By Legal Status	By Nature Of Capacity	By Level of Capacity
National	Public	Sectoral	Systemic
Regional	Private	Cross-Cutting	Organizational
Local	Civil Society (NGOs, General Public)		Individual

METHODOLOGY

Climate change resiliency is a very dynamic area, and even during the relatively short period of project implementation, a variety of new assessment, planning, and monitoring tools became available.

Two main types of tools were used to conduct the research and analysis in this report: 1) capacity assessment/development tools, which have emerged from a public sector reform perspective and were then applied with a view to climate resiliency; and 2) climate change adaptation planning tools, which mostly focus on either high-level central policy and coordination or community-based measures. The preferred approach for this study was to draw upon the best tools from each perspective.

1. The ToRs for the report as described by the working document for the PPCR, the Strategic Programme for Climate Resilience (SPCR), are provided in Annex 7.

Specifically, the questionnaires and analysis in the baseline capacity assessment drew upon the CARE Climate Vulnerability and Capacity Analysis (CVCA) model and Climate Smart framework (DFID) in combination with proprietary modules on knowledge, information, and education (to augment the limited CARE framework on capacity). The gap analysis and recommendations drew upon the ADB Capacity Development Practical Guide, which focuses mostly on capacity development within a single institution, and the UNDP 2007 and 2010 guides on Capacity Development. A complete list of these and other tools is available in Annex 1.

DATA COLLECTION

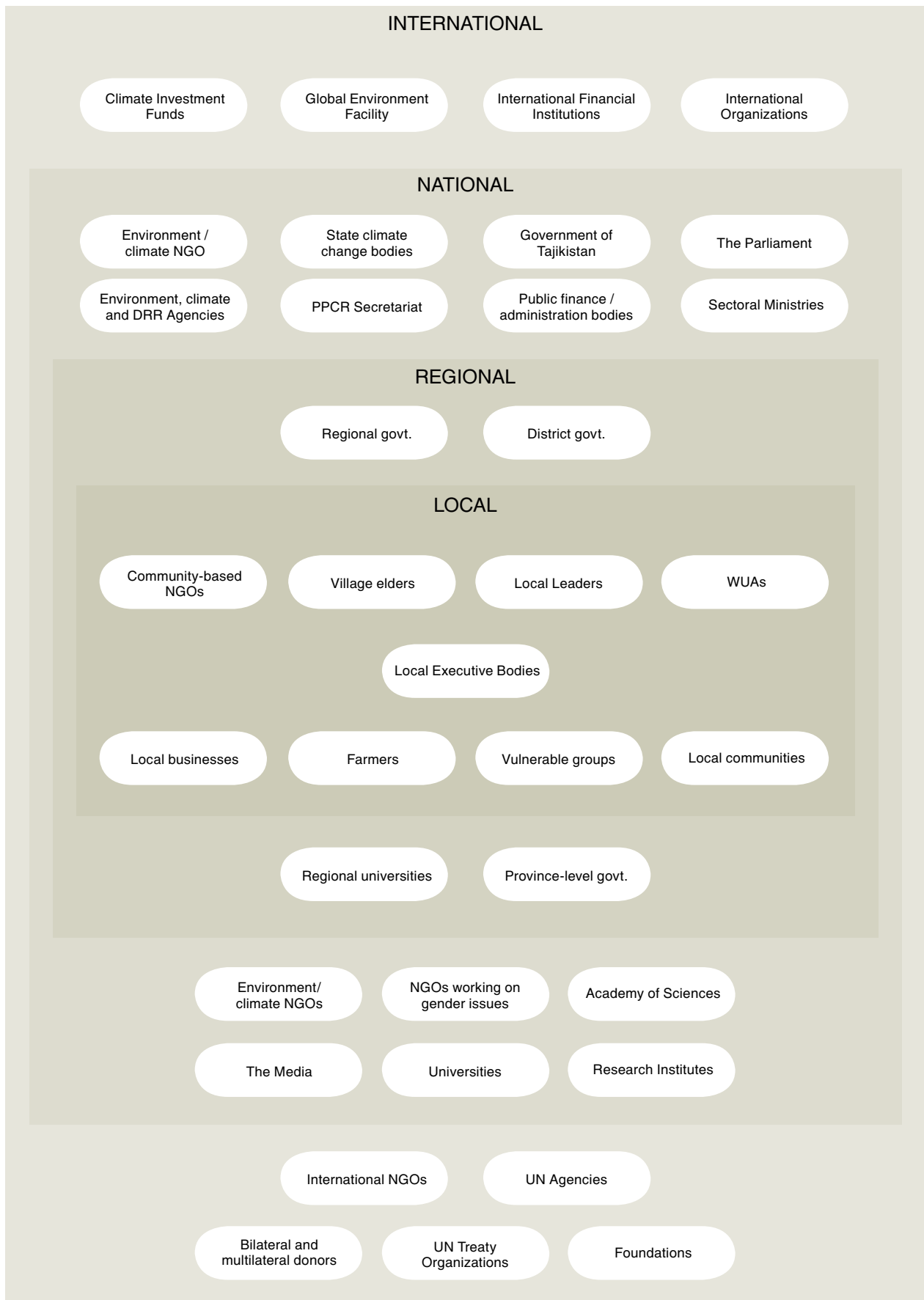
Data collection methods included the following:

- A desk review of climate change adaptation materials, institutional assessment materials, country-specific information, and national policy documents.
- A desk review of project documentation from other PPCR Phase I components, such as final reports for Components A2, A3, and A5. Stakeholder inputs from workshops and trainings held under A3 were also provided. All materials are listed in Annex 1 of this report.
- Institutional mapping of relevant institutions in Tajikistan (see Figure 3).
- A stakeholder consultation conducted at the project inception workshop that included a prioritization exercise and a partial SWOT analysis of priority sectors.²
- Semi-structured and structured interviews focusing on baseline activities and capacity and priority capacity needs: sample questions used are included in Annex 4. Separate semi-structured interviews were also conducted with 25 stakeholders, and follow-up discussions on recommendations were also conducted with several independent experts.
- Forty questionnaires (in several versions) distributed to national and regional civil servants regarding their baseline capacity and capacity needs.

In total, 33 government officials and 35 representatives of civil society, the private sector, and international organizations provided information during the data collection stage of the project. Institutional affiliations are provided in Annex 4.

2. These materials are available on the Adaptation Learning Mechanism platform at <http://www.adaptationlearning.net/experience/inception-workshop-materials-and-findings>.

Figure 3: Map of Climate Change Adaptation Stakeholders



2. NATIONAL POLICIES AND CLIMATE CHANGE ADAPTATION

NATIONAL DEVELOPMENT POLICIES

The National Development Strategy (NDS), which covers the period 2007-2015, does not mention climate variability and climate change explicitly. However, the NDS includes environmental sustainability as a target sector, and it identifies problems that are directly related to climate variability and climate change adaptation.

The other key development planning document in Tajikistan is the Poverty Reduction Strategy of Tajikistan (PRS-3), which covers the period 2010 to 2012.

While the Poverty Reduction Strategy represents a step forward by explicitly mentioning climate change issues and by acknowledging potential climate-related issues that affect water resource management, both the National Development Strategy and the Poverty Reduction Strategy have the following gaps:

- Neither strategy clearly links climate change and climate change adaptation explicitly to key, climate-sensitive production sectors, such as agriculture
- Even in the Poverty Reduction Strategy, discussion of climate change issues is almost exclusively limited to the environmental management sector and is not mainstreamed into broader poverty alleviation language
- The strategies fail to note or include climate change adaptation considerations in proposed sectoral measures and targets, even when these targets are directly affected by climate variability and climate change.

RELEVANT LAWS AND POLICIES

Current environmental laws and policies do not include explicit policies related to climate change adaptation, and broader language on climate is largely inadequate. The following table summarizes key legislation and policies in Tajikistan on environmental issues.

Figure 4: Status of climate change adaptation issues in laws and policies

Law or Policy	Status	Treatment of Climate Change Issues
Environmental Protection Concept for Tajikistan	Approved December 2008, applies through 2015	Adaptation is not mentioned; however, proposed measures in education and program management could promote adaptation.
Action Plan (to implement the Environmental Concept)	Approved 2010 for the period 2010-2012; the 2012-2015 action plan will be developed in 2012.	Adaptation is mentioned only in the context of applied research.
Law on Environmental Protection	Approved 2010	No mention of climate change or adaptation
Law on Environmental Education	Approved 2010	No mention of climate change or adaptation
Sectoral Legislation and Policies	Varies; laws, concepts and action plans are updated periodically	No mention of climate change or adaptation
National Action Plan on Climate Change Mitigation	Approved 2003	Currently the only climate policy in effect
Environmental Legal Code	To be developed 2012-2013; will supersede existing legislation on environment	

It should be noted that the State Administration for Hydrometeorology (Hydromet) is developing a climate change adaptation strategy for the period 2012-2030 and has formed a working group to draft an Action Plan on Climate Change Adaptation. These represent significant steps forward in providing a cohesive approach to climate change adaptation issues. However, there is no overall Climate Doctrine at present that would place the Action Plan on Mitigation and the anticipated Action Plan on Adaptation into a comprehensive national strategy on climate change or low-carbon development.

Additional information the above laws and policies and how they are directly or indirectly related to climate change adaptation is available in Annex 5. Overall, the following shortcomings in legislation and policy documents exist:

- With only one exception, climate change adaptation (and even climate change issues as a whole) are not mentioned explicitly, even in the most important environmental laws and policies;
- Sectoral legislation and policies do not address climate-related impacts or adaptation even in climate-sensitive sectors such as disaster risk reduction or agriculture;
- The absence of a specific reference to climate change in many laws hinders the development of sectoral programs for adaptation, because government agencies without an express mandate (polozhenie) to work on climate change adaptation then cannot request funding for adaptation-related activities; the Ministry of Finance does not consider them to be part of the agencies' jurisdiction; and
- Legislation is piecemeal, often overlaps, and can be unclear as to monitoring and enforcement.

Figure 5: Agencies with a Mandate to Implement Climate Change Adaptation Activities vs. Agencies in Sectors Where Adaptive Capacity is Needed

Agencies with a Legal Mandate to Address Climate Change Issues	Agencies Overseeing Sectors Where Adaptive Capacity is Needed
Committee on Environmental Protection and Forestry	Committee on Environmental Protection and Forestry
Hydromet	Hydromet
	Ministry of Health (and State Epidemiological Service)
	Committee for Emergency Situations and Civil Defense
	Ministry of Agriculture
	Committee for Land Use Geodesy, and Cartography
	Ministry of Land Reclamation and Water Resources
	Ministry of Energy and Industry

3. NATIONAL INSTITUTIONS AND CLIMATE CHANGE ADAPTATION

GOVERNMENT INSTITUTIONS

Figure 6 provides an overview of the types of institutions that are involved in adaptation-related activities at the national level.

Figure 6: Stakeholder Roles in National Adaptation-Related Activities

Climate Change Adaptation Project Cycle			
Program Design	Program Implementation	Program Monitoring and Reporting	Program Funding
Sectoral Ministries and State Committees (Sectoral Action Plans, National Strategies)		Ministry of Economic Development and Trade (National Development Strategy, Poverty Reduction Strategy)	Ministry of Finance (agency budgets, special funds, investment projects)
Parliament (Laws)		Ministry of Finance (Sectoral programs)	Donors
Donors		Sectoral Ministries (internal reporting from auditing and monitoring departments and external reporting to MEDT and Ministry of Finance)	
		NGO monitoring activities	
		Donors	

NATIONAL INSTITUTIONAL ARRANGEMENTS FOR CLIMATE CHANGE ADAPTATION

Government of Tajikistan (the executive administration)

In adaptation, the Office of the Deputy Prime Minister is overseeing the Strategic Program for Climate Resilience on behalf of Tajikistan and has provided the program and PPCR process with high-level government support. The government administration also houses the PPCR focal point, who is the Head of the Department of Environment and Emergency Situations. More generally, the administration plays an important role in enforcing laws related to environment and climate, as all levels of state committee offices (e.g. forest administration, Hydromet, land use) are subject to Governmental decisions under the principle of double subordination. The administration must also approve all action plans, such as the Action Plan on Climate Change Adaptation that is under development.

Inter-ministerial Committee

The Committee is a governmental body that is headed by the Deputy Prime Minister and includes representatives of sectoral ministries and relevant state agencies. The Committee is tasked with providing guidance to the PPCR Focal Point.

State Administration for Hydrometeorology (Hydromet)

This agency, which is overseen by the Committee for environmental protection under the GoT is the governmental body that is responsible for dealing with climate change issues in the country, and its director is the National Focal Point of the UNFCCC. Hydromet also houses the Climate Change and Ozone Center.³ The Center handles all aspects of climate-related research and reporting related to both mitigation and adaptation. In particular, the Center is leading the development of the National Action Plan on Climate Change Adaptation and the National Strategy on Adaptation for 2012-2030. In addition, the center leads the preparation of the upcoming Third National Communication to the UNFCCC, which includes a number of activities on climate change outreach and awareness-raising that will be important to increasing knowledge about climate change adaptation in Tajikistan.

Hydromet has facilities and a laboratory in Dushanbe. Hydromet also has a sub-national network of 60 observation stations, or small field organizations that provide climate data to its national office. Of the approximately 760 staff at Hydromet, 10-15 work on issues related to climate change, approximately 20-25 staff have received training on climate change issues (Hamidov 2011). Hydromet staff have also served as trainers on climate change issues (Bizikova 2012). The capacity needs of Hydromet are described in the final report of Phase I Component A2 and include a lack of resources to acquire training for staff in the field and a lack of resources to purchase and maintain equipment for hydroclimate data collection and analysis (GoT and ADB 2011: 18-25).

Committee for Environmental Protection under the Government of the Republic of Tajikistan (CEP)⁴

The Committee coordinates activities on environmental protection among government agencies and is charged with overseeing government control over natural resource use, land protection, subsoil, forests, water, and other resources. Its decisions on environmental protection are considered to be mandatory for all legal entities and individuals. In the area of climate change, it oversees Hydromet and an institute that works in the area of forestry and climate change studies.

CEP currently has a total of 400 staff, which includes staff at its headquarters in Dushanbe and in regional offices. A much larger number of employees work for the Forest Service, which CEP oversees. Approximately 15% (15-20 full-time staff and 3-5 part-time staff) work on climate change issues as part of their job duties. In addition, 50-60 employees at the Committee have received some type of training on climate change issues. CEP has a website and publishes an environmental periodical, *Tabiat*; a government newsletter, *Navruzgoh*, that is published 1-2 times a month; and the State of the Environment report. In addition, CEP produces a monthly video for television on a selected environmental issue, and climate change issues have been addressed in previous broadcasts. CEP also has its own information center, an Aarhus Center, a training center, and laboratory facilities. Current needs at CEP related to climate change adaptation include a need for increased involvement in policy-making for sectors that are vulnerable to climate threats, a clear mandate for coordination with other ministries in cross-cutting areas such as environmental education, and training on climate change adaptation and mainstreaming adaptation into policies and programs.

Parliament

The Parliament plays a key role in determining policies, strategies and rules for sectors that will affect and be affected by climate change. It maintains a forecast for updating legislation, drafts proposals to formulate or update laws and regulations, and involves relevant executive agencies. It is important to climate change adaptation because of its overview of relevant sectoral legislation and active role in endorsing supporting laws and sub-laws. Several committees are of particular relevance: the Ecological Committee, which

³ In Russian, Центр по изучению изменения климата и озонового слоя. The short title for the center is the Climate Change Centre. The center is also sometimes referred to as the Climate Change Study Centre.

⁴ The Russian acronym is KOOC.

oversees climate-related legislation; the Education Committee, which oversees the Law on Environmental Education and laws regarding post-secondary education and professional training; sectoral committees covering climate-sensitive sectors, such as the Agriculture Committee, which will be essential to integrating adaptation issues into agriculture, land use, water, and other policies.

Parliament facilities include an informational library for members of the Lower Chamber that contains more than 16,500 publications. Of the 63 Parliamentary Deputies, 6 members of the Ecological Committee work directly on climate-related legislation, and two are former Deputy Ministers of Environmental Protection⁵. While members of the Ecological Committee received an introductory training on climate change issues under Phase I Component A3 (Bizikova 2012), legislators and staff from all of the relevant committees would benefit from training on climate change, climate change adaptation, sectoral impacts, cross-cutting impacts, best practice in adaptation policies and programs, and best practice in mainstreaming climate issues into sectoral legislation.

PPCR Secretariat

The Secretariat, which was created in the spring of 2011, is responsible for day-to-day coordination of PP-CR-related activities and reports to the PPCR Focal Point. The Secretariat can also draw upon inputs from a Steering Committee, which serves as a liaison group for stakeholders, and a Technical Group, which is designed to provide on-demand technical expertise. It should be noted that the Secretariat is not a government agency; it is currently an ADB-funded project implementation unit with 3 full-time staff that is located in Hydromet facilities. The Secretariat is in the process of finalizing its legal status and jurisdiction over climate change adaptation activities. Confirmation of the Secretariat's legal status will be important to determining the scope of its future work as well as the division of adaptation-related work among other organizations.

KEY MINISTRIES

Ministry of Economic Development and Trade (MEDT)

The Ministry is the government agency tasked with overseeing the system of state economic planning and forecasting and facilitating the effective implementation of socio-economic development priorities in Tajikistan. One of the main tasks of the Ministry is to develop and implement economic development programs and strategies of the Republic of Tajikistan with the aim of reducing poverty and stabilizing socio-economic conditions. According to governmental regulations, the Ministry of Economy is to be included in all working groups that develop sustainable strategies, plans and budgets. Representatives of the Ministry head the editing group to prepare the country's National Development Strategy and the Poverty Reduction Strategy, and the Ministry also monitors the implementation of the two strategies. Among its other roles, MEDT is one of the co-executive bodies of the National Action Plan for Climate Change Mitigation. While staff have received specialized training in a variety of economic and development issues, they have not received training on climate-related issues.

Ministry of Finance

The Ministry carries out the traditional functions of a ministry of this type, including budgeting, auditing, macroeconomic statistics, capital investments, oversight of sovereign debt, and management of securities and exchange activities. The Ministry is most important to climate change adaptation because of its mandate to review and approve the budgets of state agencies, including ministries and committees. As noted in the previous section, the Ministry can only provide funds to agencies with an institutional mandate to carry out activities related to the funds requested. While Ministry staff do not work directly on climate issues, decision-makers there could nonetheless benefit from increased awareness regarding the economic impacts of climate change and the economics of climate change adaptation.

⁵ The State Committee for Environmental Protection was formerly a ministry.

Ministry of Agriculture

As the agency responsible for implementing sectoral strategies and activities in the agricultural sector, the Ministry oversees a significant segment of the economy that is vulnerable to climate change. The Ministry develops, creates and coordinates agricultural and regional policy, strategic plans, state and sectoral programs in the agricultural sector. Furthermore, the Ministry also oversees the work of the Academy of Agricultural Sciences, which serves as the scientific and coordination centre for agrarian science in Tajikistan. The work of the Academy of Agricultural Sciences is directly relevant to adaptation, as it conducts research on cotton, wheat, barley, and legume crops, including work on the introduction of high-yield varieties. The Ministry is also affiliated with Tajik Agrarian University, which has nine faculties. Both of these connections provide opportunities for applied research and knowledge transfer. The Ministry also publishes a journal, *Kishovarz*, and in the past had a newspaper, *Tabiat va hayot*. The Agrarian University publishes a monthly newspaper, *Donish*. Of a total workforce of 3583, 104 staff work in the central management of the Ministry. It is estimated that a total of 2 staff work part-time on climate change issues. At the Agrarian University, it is estimated that of the university's 475 lecturers, 3 employees work full-time and 2 part-time on climate change-related issues (Sadykov 2011).

The Ministry of Energy and Industry (MEDT)

MEDT is involved with climate change issues through its role as Designated National Authority for Clean Development Mechanism projects conducted under the Kyoto Protocol of the UNFCCC in Tajikistan. In other areas, the Ministry is tasked with the development of environmentally-friendly local and alternative energy sources. The activities of the Ministry are interlinked with the construction of hydropower plants and their reservoirs in two areas related to adaptation: a) providing the necessary flow regulation during the fluctuation and changes in water content; and b) reducing the negative impacts of silt on existing reservoirs. The Ministry has offices in Dushanbe and experience with coordinating data flow, monitoring, and analysis under the National Development Strategy process.

Ministry of Land Reclamation and Water Resources

The Ministry is responsible for the water policy in the country and the national irrigation system. It is involved in almost all emerging policies in the country, including the discussion of program action plans focusing on the environmental protection. The Ministry is participating in the development of the national water strategy based on the Millennium Development Goals. The Ministry also monitors the use of water resources, being responsible for the distribution of water to farmers for agricultural purposes, and provides data on water consumption to the Committee of Environmental Protection. Finally, the Ministry is also responsible for the operation and infrastructure maintenance of irrigation and rural water supply. The Ministry has offices in Dushanbe and also oversees the Institute of Water Melioration.

Ministry of Health

According to the Public Health Law, the Ministry provides sanitary-epidemiological services to the public. The Ministry of Health conducts the state sanitation-epidemiological supervision, carries out activities on environmental safety, environmental protection and sanitation, and develops and approves the state and industry health norms, regulations and hygiene standards. The Ministry has an affiliated research institute, the Institute of Epidemiology and Sanitation, and it also manages about 73 sanitary-epidemiological observation stations. Currently, the State Epidemiological Service, which functions as an independent agency, is participating in a WHO regional project on health and climate change. The project team has drafted a Strategy for Health and Climate Change.

Ministry of Education

The Ministry is in charge of developing and implementing policies on all stages of education. It is relevant to climate change adaptation because of its mandate under the Law on Environmental Education, which allows it to develop and carry out environmental education projects. It is also important as the government institution

that oversees schools, which can serve as effective entry points for awareness about climate change issues. The Ministry oversees the work of the Academy of Education. It also has an Institute for the Development, Publication, and Distribution of Textbooks, and it has its own publishing house for specialized journals and periodicals. Finally, it has its own center for professional training. As the Ministry was re-organized in early 2012, specific data on personnel and capacity needs were not available at the time this report went to press.

Ministry of Transport

The Ministry is responsible for the implementation of transportation policy, and it is relevant to climate change adaptation because of its participation in the development of a National Strategy for Sustainable Transport. The impact of climate change on the state of road infrastructure in the country is considered to be significant and has reflected in destruction of road bridges, roads washout by mudflows and avalanches.

OTHER KEY COMMITTEES AND AGENCIES

State Committee for Land Use, Geodesy, and Cartography

The Committee was established in 2011 and is responsible for developing policies on land use and land use reforms. It is one of the main agencies being responsible for the development of the Land Code. The Committee's functions including monitoring land resources, state control on efficient use and conservation of land, introduction of land inventory, state registration to legal land use, promoting the rational ways of the land use, defining land tax and land use fees for violation of land legislation, participation in decision-making regarding the rehabilitation of degraded land, and the preparation of documents for the distribution of land among various executive agencies. In addition, the Committee oversees LULUC-related issues in Tajikistan, and it oversees two institutes that conduct applied research relating to land use change, including land use inventories and mapping. The Committee has a main office in Dushanbe with approximately 70 staff and district level offices with approximately 200 staff. Approximately 10 staff work on climate change-related issues, and approximately 10-15 staff have received training on climate and climate-related issues.

Committee for Emergency Situations and Civil Defense

The Committee is the government agency that is tasked with disaster risk reduction and response, which covers climate-induced natural disasters. The Committee conducts reviews and analysis of disaster risk assessment in light of climate change, and it has a department that focuses on evacuation and re-settlement. In terms of facilities, the Committee has its headquarters in Dushanbe and representatives in every region and district of the country. The Committee has its own training facilities, and it offers in-service training for its employees. It also has its own chemical-radiometric laboratory. It participates in several CIS-wide initiatives to share good practice, and it has previously used international experts on an extended-term basis through technical assistance projects with good results (Komolov 2011).

OTHER RELEVANT GOVERNMENT INSTITUTIONS

The Academy of Sciences

The Academy of Sciences is the main source of scientific information and data that possesses highly-qualified specialists and researches. The findings of the 15 research institutes under the umbrella of the Academy are used by governmental agencies. The institutes also have the capacity to develop long term action plans in different sectors of the economy, and Academy researchers were involved in developing the National Action Plans on biodiversity and climate change mitigation. The Academy includes institutes that are conducting research on climatology, glaciology, hydrology, radiation safety, hydropower, biodiversity conservation and water resource management; 14 institutes are located in Dushanbe, and 1 is located in GBAO. These institutes could be a valuable source of science-based information and data on climate

change in general and its impacts on national development. The Academy issues two publications: *Izvestiya* (“News”) and Reports of the Academy of Sciences of the Republic of Tajikistan. Of the 894 researchers in the Academy’s institutes (out of 2006 total staff members), 3 researchers work full-time on climate change issues (at the Institute of Water Problems, Hydropower, and Ecology), and several researchers at other institutes work part-time on these issues.

Universities

The role of universities and their current activities related to climate change are discussed in Chapter 7.

Post-Graduate Institute of Continuing Education for Civil Servants

The Institute, which falls under the jurisdiction of the Ministry of Education, is engaged in the ongoing preparation and re-training of public servants ranging from the heads of jamoats (district-level officials) to senior management staff in all government ministries and departments. In 2010, the Institute developed three training modules on the three Rio Conventions (UNFCCC, UNCBD, UNCCD), and it expects to deliver 20 trainings on climate change for public servants in main oblasts of Tajikistan. The Institute is also planning to establish a Department of Environmental Education. The Institute has also conducted a special course on human development that included modules on environmental security and gender equality.

SUMMARY OF CAPACITY GAPS IN GOVERNMENT INSTITUTIONS

Government agencies interviewed under the stocktaking and institutional assessment included ministries, state committees, and other agencies. Their assets and baseline capacity included the following: 1) various facilities, such as conference and training facilities, publishing facilities, and laboratories; 2) human capital in the form of staff in Dushanbe and at the regional (and sometimes sub-regional) level, including in-service training at several agencies; and 3) cooperation with other organizations on relevant issues, including international organizations, bilateral and multilateral donors, and multilateral organizations such as the CIS.

The representatives of government organizations that completed written questionnaires or participated in interviews during the stocktaking listed several gaps that prevented their organizations from functioning effectively. The frequency of responses was as follows:

Most frequently mentioned:

- “Lack of financing”
- “Lack of qualified personnel”
- “Lack of equipment” and “lack of monitoring equipment”

These first two concerns are closely related. Government agencies have had difficulties retaining qualified staff, because low salaries in the government and the rules against supplementing government salaries.⁶ As a result, “When people get trained, they leave” (Safarov 2011). This problem is especially serious for staff in the field in remote areas. For example, the Hydromet remote monitoring station employees receive less than \$30 per month. In a 2010 GTZ forestry sector assessment, forestry administration staff salaries in GBAO ranged from \$36 per month for the director to \$12 per month for forest guards,⁷ leading many staff to seek additional employment.

7 It should be noted that GIZ is currently piloting a program using Local Subsidy Contracts with the Committee for Environmental Protection, in which designated staff at the Committee for Environmental Protection are compensated by the GIZ Forestry Sector Reform Project for their performance according to special Terms of Reference established by the project (pers. comm. with Joachim Kirchoff, 26 January 2012). If successful, these contracts could be used elsewhere in government.

8 172 TJS and 56 TJS, respectively (Kirchoff and Fabian 2010: 30).

The absence of trained staff leads to difficulties in effective data collection. For example, the State Epidemiological Service has districts where there is no public health physician, meaning that reporting on chronic and infectious disease is done by paramedics, who lack the necessary diagnostic skills.

These findings were consistent with findings from the capacity assessment conducted under PPCR Phase I Component A2, which found that “Many times the TA teams heard from national, regional and local officials that the key issue was the lack of resources, namely funding with which to buy in expertise and training, to buy to invest in protective and rehabilitation works and to invest in training of personnel and the acquisition of equipment...” (ADB 2011: 18). They were also consistent with the findings of the GTZ institutional assessment of the Committee on Environmental Protection and government forest management (Kirchhoff and Fabian 2010: 28-31), which concluded that low salaries made it very difficult to attract and retain younger staff in the forestry sector.

“Lack of equipment” often meant computers.⁸ Government e-mail addresses were almost completely unknown, indicating relatively poor networks. That said, all government organizations contacted at the national level had an internet presence in the form of a website. Another issue related to equipment was the need to store, archive and distribute information effectively. Hydromet, for example, mentioned the need to digitize data (now ongoing), and several agencies mentioned the difficulty of maintaining informational records and continuity in reporting when agencies were re-structured.

Mentioned less frequently:

- “Structural problems in projects”
- “Not enough capacity”

Mentioned by only a single respondent:

- “Lack of methodological / guidance materials”
- “Issue not in the agency’s functional mandate”
- “Lack of reforms in the sector”

Finally, an OECD review in 2010 found that the knowledge of climate and environmental issues was very low precisely among government workers who made decisions on the allocation of financing; i.e., those at the Ministry of Finance (Oprunenco et al 2010: 39). That said, it should be noted that an interviewee at the Ministry of Finance noted that in the budgeting process, approximately 90% of the responsibility of preparing and defending a sectoral budget lies with the sectoral agencies themselves.

Overview: Public Administration/Public Management

While there are shortcomings in the content of national policies, the most significant gap is that of implementation. Even the National Development Strategy acknowledges that “Despite an advanced legislative framework for environmental protection, compliance with these legal norms is unsatisfactory due to inadequate implementation mechanisms and insufficient inter-agency coordination. As a result, the goal of promoting environmentally sound activities in various sectors of the economy is not being met” (NDS 2006: 42).

This issue is not unique to the climate change sector, or even to the environmental sector. A Public Expenditure Review conducted by the World Bank in 2008 found a lack of policy-based budgeting and resource monitoring. The government’s 2006 Public Administration Reform Strategy (PARS) through the year 2015 is designed to bring about improvements in policy-based budgeting, and the Ministry of Economic Development and Trade is working to improve the alignment of budgetary resources and policy priorities. However, most of the work on design, budgeting, management, and results-based learning must happen within the sectoral ministries, where supporting skills are not as strong.

⁸ For example, at the Physics Department at Tajik Agrarian University, 13 faculty shared a single desktop computer with no internet connection.

The text box below presents a case study⁹ of the “implementation gap” in a key piece of environmental legislation in Tajikistan: the Government Environment Strategy.

Case Study: The State Environmental Program (1998-2008)

Prior to the Environmental Protection Concept, the most important government policy in the area of environment was the State Environmental Program of the Republic of Tajikistan.¹⁰ The Program was intended to govern natural resource use and environmental health for a 10-year period.

Article 2 of the decree required all participating institutions to develop and submit an implementation plan within three months. However, this plan – the Government Environmental Strategy – was not approved by the Government until more than a year later.¹¹

The Program envisioned the implementation of 51 activities in 18 areas from 1998 to 2008. However, the program lacked financing for implementation. Not surprisingly, implementation was unsatisfactory.

Lessons Learned: There were several important shortcomings in the Program that should serve as a cautionary tale in the development of future policies and legislation.

- Lack of program management: Although the Program required regions and districts to develop local implementation programs and include financing from local budgets and the regional and district-level program budgets of government agencies, these local programs were never developed.
- Lack of Prioritization: The existence of multiple, competing “top priorities” made it impossible to prioritize resource allocation across initiatives and made it more difficult for these initiatives to secure funding from national and local budgets
- Lack of financial planning and oversight: Budgeting and accounting information were also inadequate; the total amount of financing for the 10-year Program was never calculated. Some activities did not take place due to a lack of financing, while other activities lacked adequate financing. Article 3 of the Program envisioned financing from the general budget, ministry budgets, regional and sub-regional budgets, and businesses. This very broad, vague picture of financing led to a lack of accountability. While a 2004 OSCE-sponsored roundtable called attention to the budgeting and financing issues, its recommendations were not undertaken (OSCE 2004: 2).
- Lack of Coordination: While Article 4 of the Program called for the Ministry of Environmental Protection and the Ministry of Education to organize a broad environmental education program, three other initiatives were operating in parallel: the State Program on Ecological Education in the Country until the year 2000, the UN Decade on “Education for Sustainable Development” for the period 2005-2014, and the EU/EC Ecological Strategy “Education for Sustainable Development” adopted by WECCA countries in 2005. Article 4 activities in the State Environmental Program were never implemented.

The case study indicates that new policies will not be sufficient to address systemic capacity gaps in climate change adaptation in Tajikistan if certain key barriers are not addressed: namely, an absence of policy-based budgeting, inconsistent resource allocation, and the lack of a means by which findings from program monitoring can be used to refine program approaches.

Civil Service Capacity

As a recent Oxfam report on the PPCR recommended: “Investments need to include building the capacity of government staff to manage climate change adaptation.” (Oxfam 2010: 1). The institutional assessment of government agencies conducted under Component A1 revealed the following:

- Fewer than 15% of national-level government respondents to the institutional assessment in Component A1 felt that they had sufficient information about climate change adaptation to do their jobs effectively.

⁹ Adapted from Babadjanova 2011.

¹⁰ No. 344 of August 4, 1997.

¹¹ Decree No. 534 of December 12, 1998.

CAPACITY FOR CLIMATE RESILIENCY IN TAJIKISTAN

- Approximately one third of the respondents had received no training on climate change issues at all
- Of those respondents who had received training, the most common type of climate-related training was disaster risk management / early warning systems, followed by training in desertification issues.
- For these respondents (working in Dushanbe), the most common source of information on climate change was the mass media, followed by specialized journals / websites, and then meetings.

Lack of knowledge of climate change adaptation is a gap that is evident at many government agencies in spite of trainings that have been held over the past several years. Even in agencies with a mandate to address climate change issues, some individuals interviewed held the perception that climate change adaptation was a strictly “ecological” issue. Several interviewees also cited a lack of familiarity by civil servants of their own agencies’ mandates and the laws governing those mandates--a gap that could hinder work on adaptation. Furthermore, a lack of analytical skills was cited as a gap; i.e., agencies collected data and reported on programs but were not able to analyze the data and use the findings to inform program design.

OTHER TYPES OF ORGANIZATIONS

NGOS AND NGO NETWORKS

NGOs represent a relatively important source of capacity in Tajikistan, both as individual organizations and as networks. The main players among the national and international NGOs along with community based organizations (CBOs) that provide services on raising awareness on climate change in Tajikistan, include the Centre for Climate change and disaster reduction, the Youth Ecological Centre (YEC), Little Earth, Youth of the 21st Century, the Tajik branch of the Regional Environmental Centre for Central Asia (CAREC), CAMP Kukhiston, Oxfam, Acted, and others. A summary of the NGOs that are actively involved in raising awareness on climate change in the country is provided in Section VII.

Figure 7: A Solar Oven: Part of the NGO project “Demonstration and Promotion of Solar Energy Uses in Sahmuratli Village Kerkenes Eco-Centre” (funded by the GEF SGP)



Source: UNDP-GEF 2011

In addition to individual organizations, TajCN, or the Tajik NGOs Climate Change Network, was set up in 2008 as a joint initiative of the YEC, Little Earth, and the Club of Ecological NGOs. TajCN is an informal network for the free exchange of information, dialogue and discussions of NGOs and other partners that highlights the issues of environmental and climate policy, adaptation to climate change, energy efficiency, and the deployment of renewable energy. The main principle of the network is to promote the interests of civil society in national climate change policy, maintain a joint platform of actions in international climate policy, and raise awareness and strengthen the capacity of NGOs and CBOs on climate change. At present, the network is fairly popular and includes up to 86 subscribers that represent local NGOs, international agencies, organizations from other CIS countries, experts and academicians, and the mass media (Idrisov in Skochilov 2011).

Case Study: Community Capacity-Building through Small Grants

Background: The GEF Small Grants Programme, which is implemented by UNDP, was established almost 20 years ago “as a means of helping communities around the world to combat the most critical environmental problems....” (SGP 2011). A country-level SGP was recently launched in Tajikistan.

How it works: SGP funds project proposals from non-governmental and community-based organizations in focal areas that correspond to global environmental threats, including climate change projects and land degradation projects. The program is unique among climate funds in that grants are given directly to NGOs and CBOs. A National Steering Committee works with the National Coordinator to develop a Country Programme Strategy. The Coordinator then screens project applications for grants, which can reach up to USD 50,000 per project (average grant size globally is around USD 20,000). Proposals that are accepted are monitored, and lessons learned are collected not just at the country level, but globally in order to disseminate best practice quickly and effectively.

Sample grants: Recent projects approved in Tajikistan include the following:

- Create conditions for rehabilitation of wood areas and protection of lands from wind and sand erosions through plantation of Halaxyon in 60 ha land in Shaartuz area, Tajikistan (Grantee: NGO-Jamoat Resource Centre “Jura-Nazarov”)
- Eco-farmer. Demonstration of alternative, sustainable and effective land use and increase land production (Grantee: NGO-Jamoat Resource Centre “Komsomol”)
- Rehabilitate and conserve agrobiodiversity through increase number of wild Vaksh and Hazrati-Shokh ridges, Tajikistan (Grantee: NGO ‘Subhi Tandurusti’)
- Demonstrate alternative energy supply to local community through construction of mini-hydropower station, Tajikistan (Grantee: NGO “Binokor”)
- Introduce effective use of degraded lands on hill-slopes to protect arable lands downhill and rehabilitate mountain and forest ecosystems (Grantee: NGO-Business Advisory Information Centre ‘Komron’)

Lessons Learned¹²:

- Local NGOs and CBOs are an efficient way of implementing projects at the community level because of their existing relationships with key stakeholders.
- Local organizations lack information not only about global environmental conventions, such as the UNFCCC, but also about current environmental policies and programs in Tajikistan.
- On-going consultations and support with project design are quite labor-intensive but essential to the grants management process, even when existing approaches are being replicated in a new location.
- Even when local NGOs and CBOs have good ideas and good local project management skills, they often lack the ability to prepare proposals and applications for funding. In addition, local organizations often lack project monitoring and evaluation skills and could benefit from training by more experienced NGOs.

PRIVATE AND PUBLIC-PRIVATE ENTERPRISES

While the private sector was not the primary focus of this assessment, it is an important stakeholder. Two thirds of small and medium enterprises (SMEs) are in climate-sensitive sectors such as agriculture (Ujabaeva 2011). Furthermore, the private sector is a potential means of promoting and disseminating adaptive technologies. At a systemic level, a lack of tax incentives and other economic incentives to pursue “green” technologies has resulted in low investment in this area. There are also general gaps in the overall framework for public-private partnerships (currently, the International Finance Corporation is conducting an assessment of the country’s overall readiness for public-private partnerships). At the individual level, there is a

12 Kholov 2011.

need for information regarding climate change risks and adaptive measures among entrepreneurs in small and medium enterprises, particularly because many have entered the field from other professions, such as teaching or medicine. As there is a need for capacity development in business and accounting skills, there are opportunities to coordinate training and awareness-raising with training providers in these areas.

Figure 8: Gap Analysis: National Level Capacity Gaps

National Level	Gap Analysis by Capacity Levels		
	Systemic	Organizational	Individual
<i>National Development Policies</i>	Climate change and adaptation are not mainstreamed into national development strategies	Reporting on climate-related issues in the NDS and the PRS is not consolidated; the adaptation-related “portfolio” is not seen as a whole	Decision-makers are unaware of adaptation issues or perceive adaptation as a strictly “ecological” issue rather than a development issue
<i>Economic/Sectoral Development Policies</i>	Laws in climate-sensitive sectors (agriculture, water, health) do not mention climate change and/or adaptation	Ministries and other agencies in climate-sensitive sectors do not have a legal mandate to conduct work on adaptation	Decision-makers are unaware of adaptation issues or perceive adaptation as a strictly “ecological” issue rather than a development issue
<i>Environment Policies</i>	Action Plan on Climate Change Mitigation lacks funding; no Action Plan addressing adaptation	Committee on Environmental Protection is a less powerful organization than other agencies Restructuring and shifts in program mandates can lead to low availability of program-related information Need to prepare compelling budget requests that explain the development linkages of environmental programs	Decision-makers and staff lack specialized knowledge to design and implement climate change adaptation programs
<i>Public Admin/Public Management</i>	Low government salaries make it difficult to attract and retain qualified staff Institutional reorganizations lead to lack of continuity; loss of data, reports, and institutional memory Climate change adaptation portfolio (and climate change more generally) is not treated as a whole for monitoring	Government agencies may report on program implementation but not necessarily incorporate lessons learned into program design Unclear alignment between agency budgeting and policy priorities.	Sectoral agencies may lack the skills to analyze the data they collect and utilize the findings from adaptation-related projects.
<i>NGOs and NGO Networks</i>	Lack of ongoing support for initiatives leads to continuity gaps	Organizations lack funding to maintain staff and facilities	Staff often lack specialized training or mentoring; capacity development has focused on multiple introductory-level trainings from different donors.



4. CLIMATE CHANGE ADAPTATION AT THE SUB-NATIONAL LEVEL

Regional-level capacity is often overlooked in the focus on national policies and community-based adaptation, but its importance should not be underestimated. As recent guidance on regional planning for adaptation notes, “the ability of regional authorities to meet climate change mitigation and adaptation objectives is closely linked to their capacity to implement long-term development efforts in an integrated manner (Glemairec, et. al. 2009: 69).

THE REGIONAL (VELOYAT) AND DISTRICT LEVEL

Respondents to the questionnaire distributed to regional officials as part of the institutional capacity assessment under Component A1 listed several projects that they perceived to be addressing climate change adaptation in some way, including a competition for the creation of a model mini-hydropower station, monitoring, cleaning up illegal landfills, and tree planting.¹³

The most significant capacity gap at the regional level is also one of implementation. The Government Ecological Program (№ 534 dated 30.12.1998) had a regional element, and according to the program, regions and districts were supposed to develop local programs for the realization of the program. The program envisioned financing for program measures from local budgets. However, a lack of financing, at both the national and regional level, crippled the program.

In the institutional assessment, when piecemeal environmental programs were reported as being carried out, their effectiveness was difficult to measure. While two respondents to the survey had been involved in the development of projects and/or action plans, both said that the action plans had not led to any improvements in their lives. Furthermore, when asked to suggest proposals to address climate change, one respondent answered, “Put into action plans that have been endorsed – many plans have not been implemented.”

Responses to questionnaires completed by sub-national officials described the presence of environmental NGOs at the regional level, and regional government officials noted that NGO activities in their respective regions included trainings, terrain mapping, park clean-ups, seminars for school-age children, and talk shows. However, the survey did not assess their specific capacity at the regional level.

All respondents to the survey at the sub-national level noted that climate change should require strong coordination (“good” and “excellent” were used) between the community, district, and oblast level. However, no specific examples were given of coordination.

When asked for ideas about climate change adaptation measures that would be appropriate for the region in question, one respondent answered “improving the environmental level of the jamoat.”

¹³ Note that identifying landfill clean-up as an adaptation activity might be indicative of a lack of a clear concept on adaptation.

At the individual level, officials surveyed during the institutional assessment of the A1 Component were all familiar with the terms “climate change,” “action plan,” and “adaptation to climate change” (in answer to the yes/no question, one official even responded “Of course”).

Furthermore, regional officials with jobs related to the environment or sustainable development reported getting most of their information about climate change from websites and academic journals, while officials whose jobs did not relate to climate change got most of their information from “popular mass media.”

While individual capacity was difficult to judge due to the small sample size, when asked the question, “Do you have sufficient information about climate change to carry out your duties?” only one respondent answered yes, while two others answered that they did not have sufficient information, and the other respondents answered that climate change information was not necessary for them to perform their jobs. Some of the respondents had been directly involved in activities related to climate change and climate change adaptation. These activities included an ecotourism program, a Saturday public service event (subbotnik).

All regional officials surveyed reported that women were involved in all of the environmental protection measures related to climate change that had been conducted at the district-level government (khukumat) level.

DIFFERENCES ACROSS REGIONS

Tajikistan’s four administrative regions differ in the types of climate threats that they face, from early freezes and crop failure in the Sughd Region to landslides and flooding in GBAO. Adaptive measures and training to increase adaptive capacity will, therefore, have to vary. In addition, these regions differ in other ways that will affect any program to increase adaptive capacity, including the following three examples:

- *Differences in the rate of reform.* In agriculture, for example, Sughd Region has been relatively slow in the process of implementing the new Law on Agriculture and the shift to dekhans farms (Hannah 2011:19).
- *Differences in NGO capacity.* Experiences from the UNDP-GEF Small Grants Programme suggested that the NGOs/CBOs of Sughd and GBAO regions were more experienced and flexible for reasons that may have included the following: 1) the availability of grant funding; 2) access to information about grant funding via the local media and other channels; 3) presence of donors that have built capacity (e.g. Aga-Khan Foundation dominated in GBAO)¹⁴ and projects in the regions; 4) overall size and capacity of specialists in the regions; and 5) relatively early engagement with climate issue (Kholed 2011).
- *Differences in individual awareness.* As a World Bank-commissioned survey found, the level of public awareness regarding climate change “varied considerably across different regions.” The percentage of survey respondents who considered themselves to be very well-informed or fairly well-informed about climate change ranged from 81 percent in Dushanbe to significantly lower levels in Sughd (60 percent), Khatlon (54 percent), and the RRS (41 percent) (Barbone 2011:32).

For these reasons, awareness-raising and outreach campaigns should consider regional differences carefully when planning their key messages and medium.

DIFFERENCES ACROSS DISTRICTS WITHIN A SINGLE REGION

Differences across districts are not limited to awareness of climate change. For example, awareness of the 2009 law on agriculture which moved the system from collective kolkhoz agriculture to dekhans farms, varied widely even across districts in the Sughd Province, ranging from 38% to 69% awareness of the Law (Han-

14 Several stakeholders provided this specific example.

nah 2011: 18). Different districts may also have varying levels of access to adaptive measures; the same survey found that there was a seven-fold difference among the districts in the % of respondents that had participated in a loan or grant or special finance program in agriculture – all within Sughd Region.

CLIMATE CHANGE ADAPTATION AT THE LOCAL LEVEL

LOCAL INSTITUTIONS

Local authorities have the mandate to carry out a variety of policies and programs that relate directly to climate change adaptation. They are able to issue land use permits and protect and control the use of water, forests, and other resources within their territory. They are also eligible to participate in the development and implementation of various government programs..

Other key organizations at the local level in Tajikistan usually include the traditional councils of elder people or mahalla (street) representatives, local councils (informal self-governments in villages, towns and cities), as well as local NGOs. The Law on public organizations, which was amended in 1998 and 2009, along with the Administrative Code (2000) provides a wide range of rights to civil society organizations at the local level.

SUMMARY OF CAPACITY AND GAPS

At the systemic level, the Poverty Reduction Strategy includes local-level measures that will raise adaptive capacity at the local level, particularly Activity 1.5.9.: “Planting of trees and bushes, use of crop rotation and others aimed at improving the quality of soil, reducing soil erosion and desertification (PRS 2010). However, climate change adaptation has not been mainstreamed into local development plans.

At the organizational level, there are several organizations that will be important to community development but which currently lack access to knowledge regarding climate change adaptation. For example, Water User Associations, which have been generally well-regarded in surveys, lack information on water-saving technologies. Structures that have arisen to support agricultural reform and the creation of dekhan farms (including associations and newly-appointed civil servants at the jamoat level) lack experience with climate change adaptation issues and adaptive measures. Even for NGOs and CBOs that are familiar with climate change, adaptation is a new term and concept for many of them and needs to be sufficiently explained.

That said, there are encouraging initiatives, such as the use of asset-based planning in villages introduced by the Aga Khan Development Network. The Aga Khan Development Network also implements a habitat improvement project that promotes building insulation and supports the Center for New Technologies at Khorog State University, which promotes adaptive technologies (AKDN 2011: pers. comm.). There are also individuals and communities that have undertaken adaptive measures (for various reasons), albeit on a very limited basis. As the PPCR Phase I Component A2 capacity assessment found, “The TA teams did see numerous examples on the field trip of locally managed measures to control floods and erosion through tree planting and the creation of stone embankments. These were on a very small scale, though their existence did indicate a degree of willingness for local action, a local understanding of some protective measures and links between local communities and MLRWR who provided some technical advice.” (ADB 2011: 21).

While there is an awareness of the impact of climate variability on agriculture (hail, adverse weather events such as early frosts, and changing seasonality), there is also a lack of good weather forecasting data that

could allow farmers to take protective measures for their crops and livestock. In addition, many farmers lack resources to buy better seeds, updated machinery, and better quality fertilizer that might improve their productivity and climate resiliency.

It should be noted that, like their national counterparts, municipal officials involved in planning and day-to-day administration should also have both climate knowledge and solid financial management knowledge. An interesting model might be a project funded by the Open Society Institute in 2009-2010 to increase the professional qualification of municipal workers of small cities and districts of the Khatlon Region. The project included 8 four-day trainings on the topics of Municipal Management, Municipal Rights, Municipal Economy and Municipal Finance, and published 6 issues of a newsletter, “Municipal Brief,” to be distributed in the region (Petkevicius 2011).

Additional information on individual capacity in the form of awareness and knowledge of climate change and climate change adaptation issues is provided in the sub-section of Section VIII on Public Opinion and Awareness.

Figure 9: Gap Analysis Summary: Regional and Local Levels

Level	Gap Analysis by Capacity Levels		
	Systemic	Organizational	Individual
Regional Level	Climate change and adaptation are not mentioned in regional development plans and therefore not funded or monitored	Regional branches of government agencies lack funding and training opportunities for staff Turnover of qualified staff is high, particularly in remote areas, due to difficult working conditions and low pay	Understanding of climate change varies significantly across regions (with much lower awareness in Sughd and RRS) and even across districts in a single region
Local Level	Climate change and adaptation are not mentioned in local development plans and therefore not funded or monitored	Lack of information centers and materials at the local level, lack of press centers Water User Associations lack information and tools on efficient use of water NGOs and CBOs lack information on adaptation and skills in obtaining financing for adaptive measures.	Adaptation is an unfamiliar term and concept to local NGOs and CBOs, even when their work may be directly related (e.g. disaster risk management, agroforestry, etc.) Lack of materials about climate change and adaptation in Tajik Individuals often confuse climate variability and climate change, there is a lack of information about the causes of climate change

5. KEY SECTORS

THE WATER SECTOR

The water sector represents the intersection of several key climate change adaptation issues (water resources, energy, agriculture, and human health), and the sector is already facing extremely serious challenges.

As the National Development Strategy notes, “In spite of the country’s substantial reserves of fresh water, half of the water used for public water supply purposes in Tajikistan has elevated hardness and mineralization levels. Some 59% of the population has access to centralized water supply systems, including 93% of the population in major cities and urban-type population centers, and 47% in rural areas.

“The rest of the population draws its water from other sources (springs, wells, irrigation ditches, canals, rainwater collection, and so on), which do not meet established public health and hygiene requirements, and this in turn contributes to the spread of infectious diseases” (NDS 2006: 39). Furthermore, the sector faces the threat of reduced groundwater supplies and reduced river flow in some areas just as demands on water supply for irrigation are likely to increase.¹⁵

A stakeholder consultation identified two strengths in the water sector: political will and the formation of Water User Associations¹⁶.

Major capacity gaps at the systemic level identified included the following:

- Old and degraded infrastructure;
- Not enough drive/motivation to save water;
- No straightforward means of inter-agency coordination;
- Lack of appropriate legislation in the sector (e.g. drinking water legislation);
- Tariffs/rates not set appropriately;
- Low percentage of access to clean water;
- Lack of clarity in jurisdiction, leading to lack of implementation in areas where the mandates of different ministries overlap (i.e. hydropower planning, irrigation, flood prevention and response, and drinking water safety); and
- Lack of an overall system for monitoring the sector and assessing/responding to risks.

Gaps at the organizational level included the gaps mentioned in the previous section, a lack of prioritization of issues (and policy-based budgeting), lack of agency oversight of programs, and the absence of a program to train officials on climate change and climate change adaptation issues.

¹⁵ See the First and Second National Communications of the Republic of Tajikistan to the UNFCCC.

¹⁶ WUAs, or ABП in Russian.

AGRICULTURE

In a country where agriculture makes up 25% of GDP and where subsistence agriculture is still an important phenomenon,¹⁷ adaptation in this sector will have a substantial impact on economic growth, livelihoods, and human security. About 70 percent of the population in Tajikistan lives in rural areas where the main activity and business of people is agriculture. Agricultural production usually depends on climatic conditions and its changeability. Both irrigated and dry farming are the basis for agricultural crops in Tajikistan. In the case of a significant reduction in water resources due to climate change, the amount of irrigated land will probably be reduced and the condition of the land will be depleted. Water use in irrigation also has serious implications for competing uses, particularly in the future. In summary, climate change will increase the demand for irrigation, increase land degradation, and lead to increased frequency of extreme weather events that are harmful to crops. Furthermore, extreme weather events and heat shocks can lead to livestock morbidity and mortality, and temperature increases can increase the vector of pests.¹⁸

At the systemic level, a stakeholder consultation conducted during the A1/A3 project inception workshop identified “new reforms” and “innovations” as strengths in the sector. Shortcomings identified were a “Lack of opportunity to defend rights (especially women’s rights)” and a “lack of benefits” (i.e., incentives) in various agricultural sectors. The final report of Component A5 identified an important systemic gap: the lack of transferability of land certificates and the corresponding need to address this in the new Land Code under discussion. Shortcomings in the cumbersome and outdated registration and titling system were also seen as potentially hindering land market transactions (A5 Final Report, App. 1 2010: 31).

A recent international assessment of technologies to promote climate change adaptation in the agriculture sector noted the types of organizations that could provide capacities at local level to transmit technologies and practices – extension services, farmer-to-farmer extension, farmer field schools, forest user groups, and water user groups (Clements 2011:152-169).

At least six important government agencies in Tajikistan and a number of domestic and international non-governmental organizations influence and contribute to areas that affect climate change adaptation in agriculture.¹⁹ There is a strong need to coordinate activities, delegate responsibilities clearly, and allocate funding accordingly in areas where the mandates of these organizations overlap, such as land reclamation, irrigation, and agrobiodiversity.

Capacity gaps at this level identified during the stakeholder consultation included gaps in implementation mechanisms, monitoring, and coordination. Lack of financing, qualified personnel, and equipment were also reported in the institutional assessment.

Individual capacity gaps identified in the stakeholder consultation included lack of access to appropriate seeds and adaptive technologies and weak awareness levels among farmers. However, a survey undertaken as a part of PPCR Phase I Component A5 found that “Most farms (64%) use 2-3 land improvement measures and only 25% report a single measure” (A5 Final Report, App. 2 2010: 15).

¹⁷ As of 2009, 85% of arable land controlled by households (20% in household plots and 65% in dekhans farms) Source: Phase I Component A5 Final Report 2011 (Appendix 1 p.5).

¹⁸ In the spring of 2011, 9,850 hectares of farm land in the Kulob region of Khatlon Oblast were affected by locust infestations. The head of the Kulob Agricultural Department stated that “warmer temperatures had increased the further spread of serious locust infestations” (Asia-Plus, 26 Apr. 2011).

¹⁹ Government agencies include the Ministry of Agriculture, Hydromet, State Committee on Land Management, Tajik Academy of Agricultural Sciences, Ministry of Water Resources and Melioration, Ministry of Education.

The report also found the following:

“Farmers receive training and practical information mainly from international organizations and local NGOs (51% of respondents), but also from the state extension and consulting service (19%). Overall, 62% of farmers access this information channel.... A much smaller proportion of farmers (22%) have actually worked with international organizations, benefiting mainly from seed and fertilizer distribution programs. Within this group, 41% of farmers received both seeds and fertilizers and another 38% received seeds only; only one respondent received fertilizer without seeds. Overall, 80% of farmers working with international programs benefited from distribution of inputs. Another important benefit from international organizations is obviously participation in trainings and workshops, reported by 47% of farmers working with international organizations (or 11% of all farmers).” (A5 Final Report, App. 2 2010: 30).

ENERGY

As a country heavily dependent on hydropower, Tajikistan is uniquely vulnerable to climate change--related threats to the energy sector.

Figure 10: Risks and Impacts of Climate Change on Energy Sector

Climate Change Factor		Risks for Sector		The Final Effect of Influence
Increases in air temperature	→	Shortage of water resources for hydropower generation	→	Threats to energy security
Changes in moisture regime		Potential damage to facilities, infrastructure		
Glacial melting		Changes in the structure of power consumption		Possible dependence on fossil fuel (coal, black oil)

Source: Chart 4 from Oprunenco et. al. 2010: 16

There is a current Law on Renewable Sources of Energy (No. 587, 12 Jan 2010). Furthermore, international donors are currently supporting the preparation of a comprehensive Action Plan for hydropower development in Tajikistan. (OSCE Website 2011). However, the potential for renewable energy is still underutilized, and there is a lack of a strategy in energy efficiency and energy saving in the form of a law or action plan. An additional problem identified during the stakeholder consultation was the unequal distribution of energy across the country. Specific measures in energy efficiency and in wind and solar energy could significantly increase adaptive capacity to face the threat of reduced energy from hydropower.

The Ministry of Energy and Industry is the governmental entity responsible for the implementation of the Kyoto Protocol, in particular, Clean Development Mechanism (CDM) policy in Tajikistan, acquiring the mandate of the Designated National Authority since 2009. Throughout its existence, the MEI with support of the donors²⁰, conducted a number of awareness workshops and round tables on CDM and its procedures and launched a website²¹ for information exchange. As a result of this project, the capacity of the authority was strengthened in terms of procedures and guidelines and PIN submission in line with CDM mechanism. It should be noted that during the trainings provided in the PPCR Phase I Component A3, participants expressed a strong interest in learning more about CDM and Kyoto Mechanisms more generally.

²⁰ UNDP/GEF project on the capacity building of the MEI on the Kyoto Protocol

²¹ <http://cdm.tj>

In early 2012, The World Bank will conduct a Public Expenditure Review of **Barqi Tojik**, the national utility, that will examine its deficit and evaluate the alignment between expenditures and priority areas.

At the individual level, the Phase 1 Component A1 stakeholder consultation identified gaps in education and training for individuals in the relationship between climate and energy. It should be noted that NGOs such as Little Earth are conducting training on energy saving and water saving, which also usually reduces energy consumption.

HUMAN HEALTH

Health threats from climate change are multiple and varied in Tajikistan. Within a single project for high mountain areas, the project identified the following threats and opportunities for the local population: “They bear potential risks from glacier lake outburst floods, high UV radiation exposure, water quality in health systems and potential opportunities from renewable energy for health care” (WHO BMU 2011). This issue is closely related to vulnerable groups, because elderly people, young children, the poor, and those with existing chronic conditions and compromised disease resistance are all at increased risk for health problems related to climate variability and climate change.

In Tajikistan, the Ministry of Health oversees healthcare planning and delivery, and there is a National Program on Health and Well-Being. In addition, the State Epidemiological Service (SES), which functions as an independent agency, collects and analyzes morbidity and mortality data. The SES is participating in a WHO regional project on health and climate change. The project team has drafted a Strategy for Health and Climate Change.

Ideally, Tajikistan should develop the following capacity in health and climate change:

- Capacity to assess and monitor vulnerability to climate change-related health risks.
- Strengthened primary health care (including primary prevention) services to support capacity of local communities to become resilient to climate-related health risks.
- Adequate staffing, equipment, and financing of public health systems at the national level.
- A national adaptation action plan that specifies and requires health-system action.
- Functional early warning systems related to the health consequences of climate change and climate variability.
- Development (and ongoing assessment) of health emergency management measures to reducing the impact of extreme events on health.
- Economic analysis of health benefits when assessing investments in other sectors, such as agriculture and disaster risk reduction, in the design stage.²²

22 Adapted from WHO 2012 and ADB 2011: 28 (final recommendation).

Figure 11: Sectoral Gap Analysis Summary

Sector	Gap Analysis by Capacity Levels		
	Systemic	Organizational	Individual
Water Resources	<p>Climate change and adaptation issues are not mainstreamed into water legislation</p> <p>Low dissemination of water-saving technologies in agriculture and other end-use sectors</p>	<p>Water User Associations lack information and training on climate change and adaptation issues, particularly adaptive behaviors</p> <p>Lack of staffing and funding to ensure potable water for all residents, particularly in remote areas</p>	<p>The general population lacks information on water-saving measures</p> <p>Farmers are unaware of less water-intensive farming practices</p>
Agriculture	<p>Climate change and adaptation issues are not mainstreamed into agricultural legislation</p> <p>Farm reform has created many decentralized, individual land owners who will require information about adaptive measures</p>	<p>Government officials overseeing farm reform lack information about climate change and adaptation</p>	<p>Farmers lack important information on effective practices in irrigation and crop and livestock protection</p> <p>In certain regions, farmers may not trust farming advice provided by non-family members</p>
Energy	<p>Energy laws and policies do not mainstream climate considerations</p> <p>Energy efficiency is underutilized as an energy resource</p>	<p>High-quality long-term climate models are not available for energy planners to utilize in the hydropower sector</p>	<p>Individuals are often unaware of ways to save energy or use renewable resources that are not dependent on water supply</p>
Health	<p>Lack of a mandate for health agencies to address climate change issues</p> <p>Lack of population-based screening to provide data on prevalence of chronic and infectious diseases</p> <p>Lack of early warning and response systems for extreme weather events that threaten human health (e.g. heat shocks or flooding)</p>	<p>Difficulties in retaining qualified staff in the regions</p> <p>Lack of funding for continuing medical education and for laboratories and training facilities</p>	<p>Health professionals may lack training to properly monitor and analyse morbidity and mortality data</p> <p>Individuals in certain regions are unused to temperature extremes and lack knowledge of how to protect themselves</p>



6. CROSS-CUTTING AREAS

GENDER

The SPCR specifically labels gender as an important priority for the PPCR, noting:

“The promotion of gender equality is an important priority in Tajikistan’s National Development Strategy. The strategy acknowledges that gender issues have not been adequately addressed in principal government strategies. Women tend to have unequal access to resources and control over resources particularly in rural areas. This makes women more vulnerable to poverty. Climate change will exacerbate these existing problems. The specific vulnerability of women in Tajikistan is notable in a number of areas. For example, almost half of the severely food insecure households are headed by a woman, as well as one third of the moderately food insecure (Shahriari et al 2009). These female-headed households, which represent about a fifth of total households, also have a significantly higher overall incidence of extreme poverty” (Source: Tajikistan SPCR 2010, Text Box 1).

A 2010 Oxfam analysis of the PPCR process also notes that “Climate change investments need to be inclusive to the needs of both women and men. For example, in Tajikistan many small food producers are women, as men have often migrated for work. Initiatives to help farmers learn new techniques should be planned in a way that reflects the needs of women” (Oxfam 2010: 1). This finding was confirmed by the stocktaking analysis: women are an important segment of the climate-vulnerable agriculture sector. Furthermore, as de facto heads of households when men are working abroad, women in rural areas are often confronted with water quality and availability problems on a daily basis. Finally, natural disasters can have a devastating effect on women in flood-prone areas, and women in floods have died because they did not know how to swim (Nazarova 2012).

The lack of women in influential positions is probably the most notable barrier to mainstreaming gender at the systemic level. As a UNIFEM study found in 2008, “It should be noted that the contemporary political reality of Tajikistan shows that women still occupy marginal positions in the sphere of political decision-making. This conclusion is true for all branches of power – legislative, executive and judicial, although to differing extents [author’s emphasis].” (Mezentseva 2008: 3)

At an organizational level, women’s issues are generally handled by the Committee for Women and Families under the Government of Tajikistan. The Committee has representatives in each region and district, who in turn work with women at the jamoat and village level. While the organization does not cover climate change in its mandate, its network is potentially a very effective channel for distributing information about climate change and adaptation, particularly because it works through women’s networks and existing relationships at the community level.

Although women have direct knowledge and experience with climate threats, their individual adaptive capacity is very low, particularly among rural women living in poverty. Overall, a World Bank study found that female households adopt fewer [coping] strategies and receive less assistance from institutions. (CALI study, xii). Two elements seem to be at work: 1) Low awareness of coping strategies (and of their rights more generally); and 2) Low levels of decision-making that prohibit women from acquiring and applying adaptive skills.

Social norms can also hinder capacity development. For example, norms that limit women's decision-making can hinder climate adaptation activities. For example, a survey undertaken by PPCR Component A5 found that "More than one-third of respondents report that women do not make any decisions on the farm..." (A5 Phase 1 2011: App. 2, pp. 20-1).

On a positive note, a national-level training conducted during the PPCR Phase 1 Component A3 for women's representatives was met with great interest, and participants from the regional and district level of the Committee for Women and Families spontaneously requested materials to conduct their own trainings in the regions (UNDP 2011). Existing women's networks that rely on women who are known and trusted in their communities can potentially be an effective channel for delivering information about climate change adaptation for women in rural and remote areas.

MIGRATION

Migration issues in Tajikistan currently center around external labor migration. This migration has both economic and social consequences, which are also discussed in the section on gender.²³ There is also some evidence that in certain districts, environmental problems may contribute to this migration (Oprunenco 2010: 13). At the systemic level, planners lack specific data for planning projections related to migration and climate (as the result of a lack of high-quality projections) and there are legislative gaps related to internal migration related to resettlement following natural disasters.

At the organizational level, the Ministry of Labor and Social Protection has not taken climate change and climate change adaptation into consideration in its programs related to migration. At the individual level, adaptive capacity and awareness-raising may be especially important for wives of migrants, who may be running the family farm by themselves, or who may face social pressure against seeking employment outside the home. Groups working with wives of migrants can be an important conduit for information on climate change adaptation.

VULNERABLE GROUPS

Not surprisingly, vulnerability to climate threats is socially differentiated; vulnerable groups are also at higher risk from climate threats. At the systemic level, policies and programs such as the PRS are designed to address the high percentage of people in Tajikistan living below the poverty line. However, it is also important to "Move beyond 'poor and vulnerable' as a monolith of groups" (Pech 2011) and consider other vulnerable groups, which can include the elderly, women, people with chronic health conditions, children, disabled people, indigenous peoples, people dependent on natural resources (e.g. pastoralists), migrants, and "the poor." (Bachofen 2010).

At the organizational level, the Ministry of Labor and Social Protection does not have a mandate to address climate change issues, and there is a need to increase the knowledge of ministry staff on climate change adaptation. NGOs that work on poverty alleviation, humanitarian assistance, and local development have strong networks in communities, but they do not generally have ongoing relationships with environmental NGOs, nor do they have much knowledge of climate change adaptation and how it may affect their beneficiaries.

²³ The PPCR Phase I Component A5 study found that "More than half the family income derives from agriculture Remittances are the second most important source, contributing 23% of total income (A5 final report: Appendix 2: 11).

It should be noted that the pilot training on climate change and poverty alleviation conducted under PPCR Phase I Component A3 was met with a high level of interest, and groups expressed a need for more information on climate change adaptation, particularly practical adaptive measures. Because of the population segments involved, it will be important to present accessible training in the locally-appropriate language.

DISASTER RISK REDUCTION

Natural disasters cause USD 600 million of damage to Tajikistan annually (PRS-3 2010: 52). Damages from these disasters represent 4.8 percent of the GDP and mainly affect the poor segments of the population. As the National Development Strategy states, “Natural disasters are one of the main causes of environmental degradation. Steep mountain slopes and unstable soils contribute to something in the neighborhood of 50,000 landslides per year. Deforestation, cultivation and over-grazing of slopes and open-pit mining aggravate the natural instability, particularly in mountainous areas. There is widespread logging because other energy sources are not available areas” (NDS 2007: 42). Emergency situations, such as extreme temperatures, may particularly affect people in regions that do not traditionally experience these weather conditions, such as unusually high temperatures in the RRS and GBAO regions. (CES 2011).

At the organizational level, the Committee on Emergency Situations and Civil Defense is the lead agency on disaster risk reduction. Their mandate and activities are dictated by four main laws. Because none of these laws mentions climate change or climate change adaptation, the Committee cannot request funding to work directly on these issues (e.g., offering civil defense training related to climate threats or establishing an emergency response plan for extreme heat or cold) even though the agency has experience with climate risks and risk management and these areas directly relate to adaptive capacity. While the committee has educational facilities and officers in the field, low salaries and hazardous working conditions have resulted in high turnover.

In other agencies, decision-makers may not see their work (e.g., in agroforestry) as being related to adaptation, even though it directly affects adaptive capacity.

Figure 12: Cross-Cutting Issues Gap Analysis Summary

Sector	Gap Analysis by Capacity Levels		
	Systemic	Organizational	Individual
Gender	<p>Low representation of women in all branches of government</p> <p>Social norms that limit decision-making power of women in the household or on the farm</p> <p>Social norms that can hinder women’s presence and level of participation in trainings, particularly in a mixed gender group</p>	<p>Governmental women’s organizations are not tasked with addressing climate issues</p> <p>Women’s NGOs have a very low awareness of climate change and adaptation issues</p> <p>Organizations may not realize the magnitude of climate threats for women, especially rural women</p>	<p>Lack of awareness among women of adaptive practices</p> <p>Lack of decision-making power among women to undertake adaptive measures</p> <p>Lack of information on disaster preparedness and response among women, including knowledge about evacuation and even skills such as swimming</p> <p>Reduced likelihood of women to receive training that is offered</p>
Migration	<p>External migration generates additional labor burdens in the agricultural sector for those who remain at home</p> <p>Policies do not explicitly link internal migration due to climate threats and climate change adaptation</p>	<p>Organizations working on internal and external migration are not familiar with climate change and adaptation and do not have a mandate to address related issues, even when they may exacerbate out-migration in communities</p>	<p>Low awareness of climate change adaptation and adaptive practices by internal migrants, who may resettle in areas that are equally vulnerable to climate threats or who may return to their original villages.</p>

CROSS-CUTTING AREAS

Sector	Gap Analysis by Capacity Levels		
	Systemic	Organizational	Individual
Vulnerable Groups	Climate change and climate change adaptation are not mainstreamed into the Poverty Reduction Strategy or other social sector strategies	<p>The Ministry of Labor and Social Protection does not have a mandate to request funding for adaptation-related issues and measures, even when they would reduce threats faced by vulnerable groups</p> <p>NGOs and CBOs working with vulnerable groups often have a low awareness of climate change and adaptation issues</p>	<p>Individuals in vulnerable groups lack funding to undertake adaptive practices</p> <p>Vulnerable groups may lack access to information campaigns in the media</p>
Disaster Risk Reduction	<p>Climate change and climate change adaptation are not mainstreamed into legislation on disaster preparedness</p> <p>Lack of early warning and response systems for extreme weather events that threaten human health (e.g. heat shocks or flooding)</p>	The Committee for Emergency Situations does not have a mandate to work directly on climate change and climate change adaptation issues	Low level of awareness about disaster risk reduction practices that may improve adaptive capacity (gabions, flood control measures, afforestation)

7. EDUCATION, AWARENESS, AND PUBLIC OPINION

EDUCATION

Education on climate change and climate change adaptation serves a dual function: 1) Increasing public awareness; 2) Providing people with skills to gather information on climate, apply it to decision-making, and undertake climate-proofing measures. At the systemic level, the legislative base for environmental education in general is supported by two laws: the Law on Environmental Education (2010) and the Law on Environmental Information (2011). However, climate change education is not specifically mentioned in environmental education laws and policies, and it is not currently included in the required curriculum for primary, secondary, or post-secondary education; learning about environmental policy issues in schools and universities is limited to information about nature protection, and the one existing degree program on hydrometeorology²⁴ does not involve broader climate issues.

Education on climate change, and environmental education more generally, faces organizational gaps that mirror gaps in the education sector as a whole. The following table provides an overview of the key capacity issues facing universities and research institutes and their implications for climate change.

Figure 13: Gaps in the Educational Sector and their Implications for Climate Change Education

Gaps in the education sector as a whole ²⁵	Implications for Climate Change Education
The need to improve the professional skills of academic staff	The need for faculty to receive specific training on climate change concepts and issues
The need to integrate higher education and post higher education of the Republic of Tajikistan into the worldwide educational process	The need to educate students about climate change in a way that emphasizes both national and international issues; the need to provide qualifications and credentials in the study of climate change that are consistent with trends in the global educational process
The need for state support for training specialists, development of the priority directions of fundamental and applied scientific research within the framework of higher and post higher education	The need to assess the needs for specialist in climate and climate-related research and to develop a strategy to provide the necessary academic and professional training
The need to strengthen the quality of higher education, coordination and systematisation of the curriculum, study material development, etc.	The need to provide high-quality materials on climate change, particularly at the secondary and post-secondary level, in all relevant languages.

²⁴ This program is located at Tajik National University; Tajik Agrarian University would like to open a degree program on meteorology and climatology but lacks financing and an approved curriculum.

²⁵ EC-TEMPUS 2007: 8.

Any training or education on climate change in schools occurs on a voluntary basis and is almost entirely donor-funded. These programs have been in existence since the project team responsible for compiling the First National Communication to the UNFCCC provided climate change training for educational organizations using support from the Global Environmental Facility. During the preparation of the Second National Communication, the project team organized climate change educational trainings in Dushanbe schools and a university in Khujand (Rajabov 2011). Climate change education that includes adaptation issues has also been developed and carried out by a number of NGOs (see the text box below). The only exception to donor-funded activities is the ongoing lecture series on human adaptation to climate change that has been offered to medical students since 2003 by the Faculty of Public Health of the State Medical University (Kayumov 2011).

Climate change education and public outreach is foreseen as a component under the support for the compilation of the Third National Communication (TNC) of Tajikistan to the UNFCCC, and the project's activities will include mainstreaming climate change education curriculum into existing courses in national universities and academia, mass media awareness-raising campaigns (which will probably be implemented jointly with NGOs), and an Action Plan on climate change education and awareness-raising (TNC Proposal 2011). Furthermore, a UNDP-funded project on environmental learning²⁶ opened resource centers at the State Polytechnic University and the Postgraduate Institute of Continuing Education for Civil Servants. The centers developed two training modules that include climate change for secondary and post-secondary educational institutions. It is expected that the centers will develop additional training modules on climate change and organize a series of trainings and workshops for teachers and civil servants (Davlatov 2011). Starting in 2011, the Postgraduate Institute will deliver 20 trainings on climate change for regional-level public servants and will establish a department of environmental education (Davlatov 2011). NGOs have also played a significant role in the production and distribution of materials on climate change and adaptation (see the Case Study below and Annex 9 for a list of climate change publications available in Russian and Tajik).

At the individual level, there is an immediate need for experts to conduct applied research in climate issues. Currently, there are three individuals in Tajikistan with a PhD-level qualification in climatology, and they all received their degrees in what is now Ukraine. The Phase I Component A2 final report discusses the need for individual capacity in hydrometeorology and climate modeling (ADB 2011 Final Report: 19-26).

PUBLIC AWARENESS

The international mandate to undertake public awareness-raising measures related to climate change is the same as the mandate to undertake education: Article 6 of the UNFCCC and the New Delhi Work Programme. And as with education, the driving policy document is the National Action Plan on Climate Change Mitigation.

The main types of events that are conducted by the governmental agencies and universities to raise awareness about climate change in Tajikistan are workshops, trainings, round tables, press conferences, and national/international conferences. The audience for such events is usually comprised of policy-makers, experts, and NGOs.

The majority of the initiatives on climate change awareness are undertaken as part of projects and programmes funded by international organizations, multilateral development banks, and international NGOs. While these programmes do not implement adaptation activities directly, they highlight its importance. For example, specific activities to document natural resource management approaches in light of climate change, as well as strengthening the capacity of national experts, have been seen in Tajikistan since 2010-2011. Ex-

26 More information about the project is available at the http://www.undp.tj/index.php?option=com_content&task=view&id=422&Itemid=129

amples of good practice include sustainable land management projects with regional and global linkages, such as Sustainable Land Management in the High Pamir-Altai Mountains, the World Overview of Conservation Approaches and Technologies, and the Central Asian Countries Initiative on Land Management.

No agency has been able to undertake an ongoing program to raise awareness on climate change. The Center for Climate Change at Hydromet, which has been tasked with climate change awareness-raising under the National Action Plan on Climate Change Mitigation, lacks the funding to conduct regular awareness-raising campaigns. This is also true for governmental organizations that carry out occasional climate awareness-raising activities, such as the State Committee for Youth, Tourism, and Sport, and it is mostly due to the lack of financial resources, particularly once individual projects have been completed. Awareness-raising events related to climate change have therefore been limited to one-time events, usually conducted by NGOs and experts during fixed-term projects.

Case Study: NGOs and Awareness Raising

NGOs have undertaken a number of different types of awareness-raising activities. They include the following:

School and youth projects on climate change awareness: A number of NGOs in different fields focus on education and awareness raising in Tajikistan, including environmental and climate-focused NGOs.²⁷ The projects directed towards youth are a good example of this type of activity. For example, the SPARE project managed by the NGO “Little Earth,” has brought information about energy efficiency and climate change to 70 secondary schools located in Dushanbe, Sughd Region, Khatlon Region, and GBAO since 2006; the Green Patrol run by the Youth Group for Environmental Protection also brings climate change and more general environmental information to secondary schools in the Sughd Region.

Other types of interactive awareness-raising projects with youth include summer environmental camps that are organized annually by the NGO “Youth Ecological Centre.” The agenda of such camps usually includes environmental trainings (including those of climate change) and master classes on building solar cookstoves and basic solar water heaters. Youth Ecological Centre also holds regular youth debates, and the topic of climate change has been discussed more than any other since the series began in 2008.

Raising awareness about climate change: The role of NGOs, particularly CAREC and CCDR, is also recognized in strengthening the capacity of the governmental officials and experts through the provision of training and education courses involving national and international experts. CAREC included climate change topics in its training for civil servants at the Committee for environmental protection under the GoT in 2009. With its focus on disaster risk reduction and climate change, the CCDR provides donor-funded technical assistance and advice to the professionals and practitioners of the Committee for Emergencies and Civil Defense through trainings, workshops and interactive courses. At the local level, NGO Youth of the 21st Century developed training modules on the three Rio Conventions, including the UNFCCC. In 2011, they provided training in 4 local jamoats of the RSS.

Implementing Community-Based Adaptation: NGOs currently use trainings, master classes, and demonstration plots to help communities to acquire practical adaptive skills. In 2008, the Youth Ecological Centre set up community-based centers in Kabodiyon, Nosiri-Khisrav, Shartuz and Gissar districts that provide support to the communities in construction of solar greenhouses and energy-efficient stoves, use of drought-resistant crops, and renewable energy use through master classes and on-site trainings (YEC 2009). Farmers who are trained in turn train villagers in neighboring communities. Other active NGOs include “Azal,” which also conducts climate-related trainings and produces awareness materials through information centers for the communities living in Rasht valley; the Alliance of Central Asian Mountain Communities; Camp Kuhiston; the Foundation to Support Civil Initiatives, which collects and analyses traditional land and water use practices and then distributes the knowledge to communities; and NGOs that work closely with farmers, women’s groups, and extremely poor communities and include adaptive practices into their programs, such as Zan va Zamin, Mehrangez, Nau, Ghamkori bakhri tarakkiet, Baht and Saodat (Partoev and Rajabov 2010).

27 A summary describing initiatives dedicated to climate change awareness and education conducted by these NGOs in Tajikistan is available separately (Skochilov 2011).

PUBLIC OPINION

In 2007, a public perception assessment conducted by the Youth Ecological Centre showed that up to 25% of respondents, namely communities and general public, are aware of climate change and its impacts.²⁸ Respondents cited extreme changes in precipitation and temperature (70%), more frequent rate of natural hazards (65%), including droughts (50%). The respondents also mentioned that the climate change impacts are evident in the loss of the harvest (65%) and health threats (50%).

In 2008, an overview assessment of climate change awareness that was conducted within the project on the Second National Communication (SNC) under the UNFCCC showed that in the past five years public awareness on climate change increased in cities and towns by 10-15%, in rural areas by 10%, as compared to 2003; i.e., during the preparation of the First National Communication (FNC). The main factors that hamper the spread of information on climate change were seen to be the remoteness of the areas and limited access to media and electronic data.²⁹

In 2010, a national random survey of households commissioned by the World Bank (P-LITS 2) again found growing levels of awareness. The survey revealed that 57% of respondents considered themselves to be “well informed” or “very well informed” about the consequences of climate change – numbers that are comparable to the EU-27 (Barbone 2010: 32).³⁰ However, the researchers note that “when asked to select the single-most serious problem confronting the world, only 5-7 percent of respondents in Tajikistan and Kazakhstan chose climate change (compared to 31 percent in EU27 countries); instead, respondents in these two countries ranked “spread of infectious diseases” and “poverty, lack of food and drinking water” as the two most important problems” (Barbone 2010: 32).

Other key findings of the P-LITS 2 survey were as follows:

- The three proposed additional spending measures that had the support of more than half the population were: “1) Improving extension services and providing seeds more resilient to climate extremes (64%); 2) Providing clean drinking water (63%); and 3) Investing in increasing availability of electricity” (57%).
- “When respondents were asked “Suppose the government had a sizeable sum of money to soften climate change impact on people in your community, or communities like yours: on which of the following do you think the government should spend more money?” more than half the P-LITS 2 sample in Tajikistan identified “improving extension services and providing seeds more resilient to climate extremes” (64 percent of respondents), “providing clean drinking water” (63 percent of respondents), and “investing in increasing availability of electricity” (57 percent) as important priorities for government spending.
- “When asked to choose the single-most important priority for additional government spending related to climate change, (i) investing in increasing availability of electricity (22 percent), (ii) improving extension services and providing seeds more resilient to climate extremes (18 percent), and (iii) providing clean drinking water (14 percent) received the highest share of votes from respondents (Figure 9b); (iv) providing more help and relief after natural disasters occur (10 percent), (v) reforestation to prevent soil erosion (8 percent), (vi) providing more reliable weather forecasts (7 percent), and (vii) investing in health facilities and provision of health services (7 percent) received the next highest share of votes.”
- “As one would expect, peoples’ past experiences with adverse climate change-related impacts play an important role in influencing their views regarding what future course of action should be taken to combat climate change: the P-LITS data clearly show that respondents that reported having experienced unpredictable and extreme weather that harmed agricultural production, or a decline in fresh water

²⁸ Report on public perception of climate change in Tajikistan and Kyrgyzstan <http://ecocentre.tj/ru/index/index/pageld/74/>

²⁹ The use of community radio for education on climate change issues is an interesting approach that should be considered more widely (Baker and Tulieva, June 2011, pers. comm.).

³⁰ It is important to note that this was self-assessed knowledge; unlike other comparative surveys of climate change knowledge and attitudes (see Sandvik 2008), and no follow-up questions tested whether respondents could actually name causes and consequences of climate change.

available for drinking or irrigation are much more likely to favor increased government spending on improving extension services and providing seeds more resilient to climate change, as well as investing in clean drinking water and irrigation infrastructure respectively, compared to respondents that did not experience such climate change-related hazards” (Barbone 2010: 15).

PERCEPTION OF CLIMATE CHANGE: OTHER FINDINGS

Trainings and workshops conducted under Phase I A3 found that climate change and climate variability were often confused by participants, who lacked a clear understanding of the difference between the two concepts. In addition, the PPCR Phase I A2 team found that “It was notable from our field trips and also from other research that the attribution of climate change to divine causes is not uncommon, even among government officials.” (ADB 2011: 18).

THE MEDIA

A recent summary of lessons for policymakers in climate change communication made three key recommendations for strengthening climate change communication in countries: 1) building media capacity; 2) improving communication [between policymakers and journalists]; and 3) engaging marginalized communities [e.g. through community radio] (Shanahan 2011).

In Tajikistan, coverage of climate change issues has appeared in print media, on television and radio programs, and on the Internet. Coverage of climate change in Tajikistan has several main characteristics. First, it is relatively politicized. Second, it is directly linked with existing and future problems related to water shortages and energy production. Third, it often mentions the country’s very low greenhouse gas emissions due to hydropower generation, contrasting this with neighboring states that produce large amounts of fossil fuel, which challenges the environmental and energy security between the countries (Nazarov 2010). Finally, the media recognize that attracting climate-related investments for economic development should be a priority (Nabieva 2010).

Although the media have succeeded in highlighting the policy and security aspects of climate change in Tajikistan, media coverage falls short of what is needed in terms of awareness-raising. Unfortunately, the interest of the big mass media companies in the country on environmental challenges and climate change is grounded mostly on a commercial basis. One has to pay to publish an article or post a video or other information materials in the press or TV and radio. Moreover, it is the big broadcasting companies that have coverage of the whole countryside and oblasts. The enthusiasm of the journalists to highlight the issue of climate change in press and radio programs, is nevertheless, growing. This became possible because of the launch of big programs on climate change, including PPCR and interest from the GoT.

The capacity of the media to properly interpret climate change science, impacts and mitigation is fairly limited. The representatives of the press, radio and TV are regularly invited to the workshops, conferences and round tables, but the knowledge they have acquired is still limited.

In order to strengthen the capacity of the mass media, a number of trainings were conducted by local NGOs. A summary table highlighting the courses and trainings that were organized for the mass media in the past three years is provided in Annex 9.

OTHER AWARENESS AND OUTREACH ISSUES

Language

One important element in individual capacity that has been overlooked at times is the lack of access to Tajik-language education and awareness materials. Although some publications on climate change have been developed by both governmental and non-governmental organizations in Tajikistan, there is an extreme shortage of publications in the national language, Tajik.

Although target audiences in cities understand information in Russian, the majority of communities, who live in rural areas, communicate in Tajik only. Given that the rural population comprises up to 70% of the total population of Tajikistan, it is important to elaborate both training materials and radio and television clips in the national language. Journalists, even when they are interested in delivering messages in a scientifically-justified or survey-based way, usually don't have these materials in the national language. This represents a significant barrier to the wider public, who speak and understand Tajik only. Moreover, the reference materials or the study findings that NGOs use in their activities to reach people at the community level, are also either in Russian or English. Organizations make an effort to interpret some of the key messages for the needs of trainings and distribution materials, but it is not enough.

Language issues also play a role in media use, which affects the audience for stories about climate change. For example, in the mass media, 80% of the newspapers publish in the Tajik language. Local television is almost all in Tajik, and most FM radio is bilingual (pers. comm. Skochilov, 9 Aug 2011). It should also be noted that in remote areas of GBAO, Russian-language programming via satellite broadcasts may be a significant source of information for communities. In other districts, minority languages such as Uzbek may also be important in reaching local populations, particularly women. Several people surveyed mentioned that brochures were less useful than verbal materials (radio and short videos for broadcasting on television were mentioned specifically) as a means of communicating information to communities. In addition, more research needs to be done to determine whether there are significant differences in media consumption between men and women in different regions.

While government officials in the capital surveyed in the Component A1 reported getting some information on climate change from the Internet, this is not a typical source of climate change information. Market research suggests that only about 10% of the population of Tajikistan uses the Internet (disproportionately in urban areas). This figure is low compared with the Asia-Pacific regional average (20%). Barriers include poverty, high taxes on computers, unreliable power supply, and a lack of local (and local-language) content (IWPR 2011).

Geography

Geographic issues figure in several ways when conducting trainings or awareness raising activities. First, training plans need to consider sub-regional (district level) and even community-level mapping to ensure that the most vulnerable are reached. A 4-district survey in Sughd Province of land owners and land users found that training tended to take place in areas close to urban centers as opposed to remote areas (Hannah 2011: 33).

Second, workshops using participatory scenario development may be most successful with groups from the same district or community. Larger-scale workshops may have difficulties due to the different needs of communities living in the same region due to different climate conditions and different threats and levels of vulnerability.

Social Norms

It should be noted that venues and formats can affect women's levels of participation. For example, women may participate more actively in a women-only training, women's organizations may engender higher levels of trust and participation in training sessions, and facilitators should be sensitive to patterns of involvement (e.g. women may be active in small groups but more reluctant to contribute during a larger plenary session).

In rural communities, capacity building measures must be particularly sensitive to entry points for awareness-raising and acknowledge a reluctance to accept advice from unfamiliar sources.³¹

Other

Feedback from participants and organizers in the Phase I A3 pilot training sessions indicated that while participants were highly satisfied with the training sessions, trainings longer than one day would be useful for those learning about cross-cutting climate change issues for the first time. Other recommendations included the use of practical exercises directly following the training to allow participants to apply their knowledge. Finally, it is important not to present the information on climate change in a highly technical way particularly when discussing vulnerability and indicators/monitoring, which were both new issues for all training audiences.

Finally, all of the agencies questioned stated that they could benefit from capacity development measures other than training, such as mentoring, ongoing relationships with similar organizations in the region or in other regions such as Europe, and the use of long-term experts.

Figure 14: Gap Analysis Summary for Education and Outreach

Sector	Gap Analysis by Capacity Levels		
	Systemic	Organizational	Individual
Professional and Public Education	<p>Climate change is not mentioned in laws and policies on environmental education</p> <p>Climate change is not included in curricula even when laws and policies would support this under environmental education</p> <p>Different environmental education initiatives can overlap, spreading limited resources even more thinly</p>	<p>There is a lack of coordination and overlapping mandates in government agencies that are supposed to provide environmental education</p> <p>Organizations do not have access to Tajik-language materials that are relevant to local conditions</p> <p>Lack of a climatology curriculum or a climate policy-related curriculum in the country's universities and post-secondary institutes.</p> <p>Lack of equipment and laboratories to support a potential curriculum on climatology.</p>	<p>There are a lack of trainers in education for civil servants with knowledge and training skills in climate change.</p> <p>Students and trainees do not have sufficient access to Tajik-language materials on climate change and adaptation and often lack the language skills to use specialized materials in other languages.</p>
Awareness-Raising and Public Opinion	<p>Lack of on-going support for national awareness-raising campaigns in climate change and climate change adaptation.</p> <p>Awareness-raising campaigns are dependent on donor funding, lack sustainability.</p>	<p>Government agencies and NGOs lack funding to conduct ongoing outreach and training and are largely donor-dependent for the campaigns they conduct</p> <p>Awareness-raising campaigns are not coordinated across groups, nor do they usually have a media plan and strategy</p>	<p>While self-assessed knowledge of climate change is increasing and support for government-funded adaptation measures is present, many individuals do not link infectious disease and drinking water issues with climate change, seeing them as separate issues competing for limited resources</p>
The Media	<p>Lack of programming on environmental issues in the media limits the opportunities for journalists to develop and broadcast stories on climate change.</p>	<p>Media channels that ask for payment for programming limit the opportunity of organizations to promote climate change messages in the absence of a media budget.</p>	<p>Journalists are increasingly aware of climate change issues but tend to cover the politics of mitigation rather than climate impacts and adaptation to climate change.</p>

31 A 4-district survey in Sughd Region found that an average of 80% of land owners and land workers responding to a survey did not identify with any external source of influence on their land management practices (Hannah 2011: 28).



8. CONCLUSIONS AND RECOMMENDATIONS

In the analysis of information from the various activities in the A1 and A3 components, six major findings emerged:

Finding 1: The government is funding work on climate both directly and indirectly; now there is an opportunity to prioritize and publicize this work. While additional policies supporting climate resiliency should be introduced, the government could make substantial progress towards improving adaptive capacity simply by effectively implementing policies that have already been approved. Currently, there is no framework to consider the “climate portfolio” as a whole.

At the systemic level, it is not clear which climate-related programs have the highest priority, there is a lack of policy-based budgeting, and decision-making is hindered by a lack of an overall picture of climate-related spending. At the organizational level, it is often unclear how agencies need to coordinate with one another (and there is a lack of oversight of this coordination), and agencies frequently lack the staff, funding, and equipment to carry out their job. In addition, they lack the necessary information to structure programs effectively. At the individual level, turnover in civil service positions results in a loss of individuals who may have already received training or have experience in climate change-related issues. For these reasons, new policies will not be effective unless this implementation gap is closed.

Recommendations:

- The climate resilience portfolio should be treated as a whole in government policy-making and resource allocation. Government spending on climate resiliency includes measures as diverse as data collection, tree-planting, water resource management, and environmental education; its policies and programs should be considered in their entirety.
- The Government should attempt to develop clear priorities and performance targets for spending on climate-related issues. The PPCR Secretariat can provide valuable input to this process using the information that is generated by Phase I and Phase II projects, but ultimately the Government must establish where best to allocate its limited funds for activities to support resiliency. Even a modest allocation would represent an important step toward sustainability in national environmental programs and would send a clear signal to donors about national priorities, allowing them to better prioritize technical assistance needs.
- In order to establish these performance and spending targets, the Government needs to ascertain how much money is currently spent on activities that are explicitly related to climate change, and those that are not labeled as climate change activities but are highly important from a climate resiliency perspective (in health, agriculture, land use, disaster reduction, and other areas). A Public Expenditure Review (PER) focusing on climate resiliency³² would provide the Government with a picture of its current spending on climate issues and would allow it to compare its expenditures with its priorities and form a baseline for monitoring. There is already a methodology for this work (Bird et. al. 2011) and two similar initiatives in the region that can provide guidance to this review; a climate expenditure review has been completed in Nepal, and an additional review is ongoing in Bangladesh.

³² While there is not a standard template for a “climate PER,” there are many examples of Public Environmental Expenditure Reviews (see Swanson and Lundethors 2003) and of Environmental Performance Reviews conducted by UNECE and OECD that could serve as templates.

- Monitoring the climate portfolio can be used as a tool for awareness-raising and learning. It would be useful for the PPCR Secretariat to produce an Annual Performance Report on Climate Policies and Programs that would include a summary of climate-related policies and programs, a report on the actual funding disbursed and level of implementation, an assessment of the effectiveness of the portfolio and its impacts on various stakeholders, and recommendations. These reports will also be essential to the development of an effective post-Phase II strategy.

Finding 2: The Government should endorse a National Action Plan on Climate Change and update related legislation. While a National Action Plan will be an important step forward, it is only one part of a larger policy package of legislation that must promote climate resiliency.

Recommendations:

- The Government should finalize and endorse a National Action Plan on Climate Change Adaptation that states clear targets and sources of funding. In addition, the action plan should clearly state the lead agency that will be accountable for progress towards the action plan targets in order to avoid the ongoing problem of overlapping agency mandates. Finally, the action plan should be monitored by the PPCR Secretariat and included in annual reporting on climate policies and programs.
- Climate change issues should continue to be mainstreamed into national development plans. They should be mentioned in the next version of the National Development Strategy, both in the environmental section of the “Social Block” and in the sectoral development strategies of the “Production Block.” Discussion of climate change adaptation should also be strengthened in the next version of the Poverty Reduction Strategy, including a more comprehensive description of climate-related issues and targets
- As key sectoral legislation and regulations are updated in the priority areas covered in this report, the Government should take climate into consideration in newer versions of the legislation. It is particularly important to ensure that government agencies in climate-sensitive sectors have the legal mandate (polozhenie) to request funding for adaptation-related activities. The project should also support mainstreaming adaptation into the Environmental Legal Code that will be developed by the Parliament during the project implementation period.
- Phase II activities should include a thorough review of sub-legislation and regulations for all key adaptation-related areas by a legal expert in order to identify gaps at lower levels in the legislative framework that may hinder implementation of high-level legislation.

Finding 3: While public awareness of climate change is higher than anticipated and is growing; information and outreach should now focus on more targeted information on climate change adaptation. A national survey of households taken from a random sample revealed that 57% of respondents considered themselves to be “well informed” or “very well informed” about the consequences of climate change – numbers that are comparable to the EU-27 (Barbone 2010: 32). However, the level of knowledge of the respondents was self-assessed, and other responses revealed that they did not make a connection between adaptation to climate change and other key concerns such as infectious disease or water availability. While awareness of climate change issues among individuals may be higher than originally thought, there is still a lack of knowledge about climate change adaptation and about how to address it.

Recommendations:

- Awareness-raising strategies should primarily target regions and sub-regions. The household survey mentioned above revealed very large regional differences in self-assessed knowledge about climate change (81% of respondents in Dushanbe considered themselves “informed” or “well informed” about climate change, while in the Region of Republican Subordination, only half as many respondents gave those answers). In addition, the regional awareness-raising workshops conducted under Component A3 confirmed that scenario development (and proposed measures to address climate threats) are highly localized. Finally, regional differences in media use (satellite television, local television, radio, newspapers,

etc.) and language mean that a generic approach to an information campaign will not necessarily reach all households.

- Awareness campaigns should include selected key messages about climate change adaptation. There is still a failure to link climate change to key issues such as water resources, energy, disaster reduction, and health. A survey of awareness-raising campaigns conducted under A3 revealed that many national campaigns lacked a unified message that was easily understandable to the public. In addition, project activities should include training for broadcast and print journalists to reinforce these key messages in campaigns and in ongoing coverage, particularly those linking climate change adaptation to other issues important to the public. These messages should be consistent across agencies and projects; e.g., it is very important to coordinate messages with the awareness-raising and outreach efforts that will be conducted by the project team preparing the Third National Communication to the UNFCCC.
- Public awareness campaigns should involve the development of a media plan that calculates the optimal mix of publicity in various media outlets based on a given budget and target audience. While this may seem obvious, the review of previous awareness-raising campaigns conducted in Tajikistan revealed that none of the campaigns had used a media plan; most simply allocated money across outlets or chose a particular outlet without considering how best to reach their target audience. Campaigns should also use informational conduits outside the media, such as schools, to reach communities.
- Media campaigns should take women into consideration. Household survey results revealed that awareness of climate change issues was “somewhat lower” for women than for men in Tajikistan (Barbone 2010: 33). Key messages should also consider how women may relate to climate change issues, particularly in rural areas. Finally, media plans should consider women’s media usage patterns, and training sessions should be sensitive to social norms that may affect women’s participation.

Finding 4: Stakeholders are open to many kinds of capacity building, and programs should respond to their diverse needs. Responses to the institutional assessment questionnaire identified lack of qualified personnel as one of the key gaps in organizational capacity. Furthermore, more than 90% of regional and national officials completing questionnaires in the institutional assessment requested additional information on climate change issues, and only a small number had received any training in climate issues. However, the stakeholder consultation revealed significant “training fatigue,” and multiple, uncoordinated training sessions by various donors were conducted during this project’s relatively short stocktaking period. These findings seem to imply that capacity building in climate issues is still necessary, but that project developer should use general training and assessments only for those audiences unfamiliar with climate change; for those who have been working on climate issues, other means of capacity building such as exchanges or international mentoring should be considered.

Recommendations:

- Capacity building should not be limited to training. Mentoring programs, fixed-term, in-house international or national experts, an on-call international expert, institutional twinning, short-term expert shadowing/coaching, and study tours can all be effective ways of capacity building, and the government agencies interviewed expressed a high level of interest in all of these capacity development measures. A combination of these techniques will help to maximize the reach of incoming experts under the Phase II project and avoid training fatigue.
- The Phase II program should establish a small grants program for community-level organizations to undertake community-based adaptation projects. A model for this program already exists in the form of the GEF Small Grants Program. Potential grantees would include small businesses, local governments, and NGOs and CBOs. One of the most important features of adaptive capacity involves strengthening the ability of people to experiment and innovate; a small grants program can generate effective solutions at the community level, which is particularly important given the different array of threats facing individual communities in Tajikistan, even within a single region. Furthermore, an organized program can allow that

information to be shared with other communities in a systematic way. Small grants programs tend to be cost-effective, and this program would also represent an innovative pilot for PPCR countries.

- When strategic training sessions are to be included (either specialized sectoral training for climate change specialists or introductory training for officials with general budgeting and planning responsibilities), the Phase II project should consider using existing training strategies and facilities as a resource-effective means of reaching those who need training. For example, the Institute for Continuing Education of Civil Servants (IPKGS), which covers the executive branch of the government and district leaders, already trains civil servants who may not realize how their jobs relate to climate resiliency (e.g. Ministry of Finance, Ministry of Energy, Ministry of Health, and District Governments). Additional training facilities include the Environmental Education Center at Tajik Technical University, the environmental training center affiliated with the Committee for Environmental Protection, the non-governmental Center for Climate Change and Disaster Reduction, and others. Existing facilities are capable of providing both basic and advanced training, including training of trainers.
- While specific sectoral needs are addressed elsewhere in this report, special attention should be paid to capacity building programs that address climate change and human health, as health is a government and public priority that will not be directly addressed in other Phase II projects.
- All capacity building programs for the public sector, particularly those targeted at district leaders, must take active steps to ensure that women are well-represented. Fewer than one third of jamoat leaders or mayors, fewer than 10% of leaders in the executive branch, and fewer than 20% of people's deputies are women (Mezentseva 2005: 7). Because of the low level of women in leadership positions, activities that target policy-makers irrespective of gender will result in women being significantly underrepresented.³³

Finding 5: Climate change education should have three different goals: raising awareness among students, providing skills to officials, and educating climate experts. Educational activities³⁴ in climate change and climate resiliency can work in three ways: 1) Raising the awareness of the general population about climate change issues by educating students about these issues in primary and secondary school; 2) Providing university undergraduates with sufficient knowledge of climate change to allow them to apply this knowledge in their chosen professions; and 3) Allowing post-graduate students to develop the skills necessary to conduct applied research in climate-related science (or in related disciplines such as applied economics, agronomy, epidemiology, and others). An effective long-term strategy will consider all three goals and a clear mechanism for implementing the strategy. All three need to be considered in order to support the long-term needs of Tajikistan.

Recommendations:

- The current draft of the State Environmental Education Programme for 2012-2019 and the Law on Environmental Education should be revised so that they include the following: 1) inclusion of climate change and climate change issues, including text on the influence of climate change on the environment and habitats; 2) a clear delegation of authority for implementation; and 3) specific tasks and timelines.
- In undergraduate education, the current curricular module on environmental sciences should be expanded to include climate change and climate change adaptation issues. Furthermore, a degree program should be developed that will train specialists to address climate change adaptation issues. Finally, applied climate modules for students in economics, business, medicine, and energy engineering should be developed for use at the undergraduate level.
- The government should develop a long-term plan to address research needs and to cultivate the next generation of climate researchers. This strategy should acknowledge the changes in academia following the dissolution of the Soviet Union and should identify targeted, cost-effective steps, involving national and international training, that could form the basis of a proposal for consideration under post-Phase II programs and funding.

³³ Training initiatives targeted towards the civil service should also cooperate with organizations that are implementing Government Resolution No. 496 to Encourage the Increase in Qualifications of Women in Civil Service.

³⁴ Continuing education is addressed in Finding 4.

Finding 6: Non-Governmental Organizations (NGOs) should be leveraged as significant contributors to Phase II activities. NGOs are already providing training on climate change and climate change adaptation at the national and local levels. Furthermore, they have a strong network of local contacts and have access to information on the implementation and effectiveness of community-based adaptation measures.

Recommendations:

- NGOs with capacity in climate change issues should be involved in capacity-building and training activities, particularly for continuing education provided to civil service employees in sectors that have not been introduced to climate change concepts in detail. Their capacity to provide training in several aspects of climate resiliency should be taken into consideration when designing training and awareness-raising activities at both the national and local level. They also have an important role to play in knowledge management and should be involved in organizing information and disseminating key messages about climate change and climate change adaptation to various audiences, ranging from farmer organizations and local communities to research institutes.
- NGO experience in small-scale programs at the community level in introducing adaptation technologies and measures should be incorporated when assessing vulnerability to climate threats in different regions, planning adaptation measures and capacity-building activities for local officials, and addressing issues such as energy efficiency, renewable energy development, crop cultivation and soil conservation, irrigation upgrades, early warning systems, and disaster risk reduction. NGOs and CBOs can also be expected to participate actively in a small grants mechanism.
- NGOs must be included in both the implementation and monitoring of the proposed National Action Plan on Climate Change Adaptation. NGO participation in the working group develop this action plan is a very positive sign. NGOs will provide an important source of community-level expertise and will ensure the representation of vulnerable groups in these processes. NGO participation can also increase the transparency of the PPCR process at all levels.

SUMMARY OF RECOMMENDATIONS

The following table describes the summarizes the key outputs described above and lists the baseline in-country capacity for producing these outputs and the gaps that they are designed to address.

Figure 15: Overview of Recommended Outputs for Phase II

Output	Baseline Capacity	Gap Addressed
Climate Expenditure Review	Existing government monitoring and auditing; previous Public Expenditure Reviews and Sectoral Reviews	Lack of an overall picture of money that is already being spent on adaptation-related programs and CC programs in general across government agencies; lack of policy-based budgeting in the area of climate and adaptation
Climate Change Annual Report	Reporting and cooperation on data collection and analysis between the Government and donors under the Poverty Reduction Strategy and National Development Strategy	Lack of an annual “snapshot” of climate activities and implementation progress; lack of information for decision-makers, making it difficult to prioritize climate change activities
National Action Plan on Climate Change Adaptation	Working group convened to develop this document; previous experience with the National Action Plan on Mitigation	No Action Plan on Climate Change Adaptation at present
Mainstreaming Adaptation into development policies, sectoral laws, sub-laws, and the legal code	Ongoing legislative process and development of government programs by the executive branch	Lack of a mandate for line ministries to work on adaptation issues; adaptation is not mainstreamed into development policy or sectoral policy
Regional and sub-regional awareness-raising campaigns	Government and NGOs have led numerous awareness-raising campaigns	Climate change knowledge is much higher in some region than others; it may also vary even within districts

Output	Baseline Capacity	Gap Addressed
Unified messaging for public awareness activities	Information campaigns related to issues outside of environment	Campaign messages have not been coordinated across agencies, limiting effectiveness
Mentoring, institutional twinning, and longer-term expert exchange	Ongoing agency participation in international programs at the regional, CIS, and global level	Need for in-depth capacity building among officials working on climate issues beyond a one-time event
Small Grants Program for Local Adaptation Measures	Experience in country with a Small Grants Mechanism for climate-related grants	Need to test and disseminate information on promising local-level adaptation measures
Utilization of existing training facilities	The government has an ongoing training program for civil servants and a dedicated institute (IPKGS); training facilities and experience with climate-related issues exist at several ministries, other agencies, universities, and an NGO	Several agencies have facilities and staff for training but have shortages of funding
Targeted training in climate change and human health	Lectures at the Medical University have covered climate and health issues; existing cooperation with WHO on identifying climate and health needs	Need for climate change adaptation information for health professionals, particularly epidemiologists, regional health workers, and sub-national authorities
Gender inclusion plan for all capacity-building measures	UNIFEM-supported projects and existing networks of women's organizations under the Committee for Women and Families	The relatively low number of women in decision-making positions means that training targeted only at authorities of a certain level will lead to a lack of representation by women, who play key roles in their communities
Revision of the draft State Program on Environmental Education and the current Law on Environmental Education	Periodic updates of legislation by parliament and line agencies and the working group on the State Program	The draft State Program and the Law do not mention climate change adaptation
Applied modules and curriculum at the undergraduate level	There are number of precedents with topics related to the environment	Lack of applied modules and curricula; adaptation is not covered in existing environmental modules.
Long-term plan for training climate specialists	Workforce and educational planning conducted by government agencies	Current specialists with post-graduate qualifications received their degrees outside of Tajikistan; lack of in-country facilities for post-graduate training in climate change adaptation.
Involvement of NGOs in capacity-building and training	Current, donor-funded NGO activities in climate change adaptation.	Shortage of in-country trainers with specific experience in climate change adaptation issues
NGO inputs to assessment of climate threats and adaptive measures	Current NGO projects at the community level.	Knowledge at the local level is not making its way to the national level to inform decision-making
NGO involvement in implementation and monitoring of the proposed National Action Plan on Adaptation.	NGO involvement in the working group that is developing the proposed Action Plan	Previous difficulties in monitoring and implementing environmental initiatives such as state programs and action plans (OSCE 2004).

The table below lists specific agency recommendations that emerged from the data collection and analysis.

Figure 16: Agency-Specific Recommendations

PPCR and Climate Change Adaptation Institutions	
Organization	Recommendations
Parliament	<p><i>Ecological Committee:</i> Work with sectoral ministries and Phase II experts to conduct a full analysis of existing gaps in environmental legislation and propose amendments</p> <p><i>Education Committee:</i> Work with sectoral ministries and Phase II experts to amend the Law on Environmental Education</p> <p><i>Agriculture Committee and other committees covering climate-sensitive sectors:</i> Work with sectoral ministries and Phase II experts to conduct a full analysis of existing gaps in sectoral legislation and propose amendments</p> <p><i>All Committees:</i> Receive training on climate change, climate change adaptation, sectoral impacts, cross-cutting impacts, and best practice in adaptation policies and programs</p>

PPCR and Climate Change Adaptation Institutions	
Organization	Recommendations
The Government of RT	<p>Develop and endorse a National Action Plan on Climate Change Adaptation</p> <p>Establish clear priorities in the climate change sector.</p> <p>Request that all agencies in climate-sensitive sectors appoint a working-level climate change focal point to promote a two-way flow of information between agencies and the PPCR.</p> <p>Provide clear guidance to regional and local governments on the need to include climate change considerations into regional and local development planning.</p>
Local authorities	<i>Jamoat authorities:</i> mainstream climate change adaptation into local development plans.
Hydromet	<p><i>Agency:</i> Support the provision of timely and accurate weather forecasts to government agencies, particularly the Committee for Emergency Situations and Civil Defense.</p> <p><i>Agency:</i> Cooperate with Hydromet’s efforts to develop a general climate change strategy for 2012-2030 and a climate doctrine for Tajikistan.</p> <p><i>Agency:</i> Coordinate capacity-development activities to complement and support activities under Phase 2 Component A2 to strengthen modeling capacity.</p> <p><i>Regional offices:</i> Provide support for the field stations that are presently under operation.</p>
State Committee for Environmental Protection	<p><i>Committee:</i> Utilize the committee’s existing training facilities, press centers, and information centers.</p> <p><i>Committee:</i> Provide advanced training for ministry officials at the main office on mainstreaming climate change adaptation into environmental legislation and sub-legislation.</p> <p><i>Regional Offices:</i> Provide customized training on priority adaptation issues relevant to the districts in which the offices are located.</p>
Ministry of Finance	<p><i>Ministry:</i> Provide support for the ministry to provide the necessary data for a climate public expenditure review.</p> <p><i>Ministry:</i> Senior staff in the budget and macroeconomic departments could benefit from general training on climate change adaptation, while mid-level staff could benefit from specialized training focusing the economics of climate change and climate change adaptation.</p>
Ministry of Agriculture	<p><i>Ministry:</i> Mainstream climate change considerations into agricultural legislation.</p> <p><i>Regional Ministry officials:</i> provide information on climate change adaptation to farmers through communication channels used for agricultural education.</p>
Ministry of Economic development and trade	<i>Department of Ecology and Agriculture and Department of Sectoral Economics:</i> Receive training on the economic aspects of climate change and climate change adaptation.
Ministry of Energy and Industry	<p><i>All departments:</i> Increase knowledge of climate change adaptation, possibly using climate change issues more generally and climate finance (CDM) as an interest point that would attract this audience.</p> <p>Mainstream adaptation issues into all energy legislation.</p> <p>Increase outreach and awareness-raising in areas that can increase adaptive capacity, such as energy efficiency and renewable energy resources other than hydropower.</p>
Ministry of Land Reclamation and Water Resources	<p><i>Ministry:</i> Mainstream adaptation issues into water legislation.</p> <p><i>Ministry:</i> Increase awareness of water-saving technologies and their relationship to climate change adaptation.</p>
Ministry of Health	<p>[Government of Tajikistan]: Endorse and implement the draft National Strategy for Climate Change and Human Health</p> <p><i>Ministry:</i> Provide support for sub-legislation on epidemiology to improve data collection systems and monitoring of chronic and infectious diseases that may be affected by climate variability and climate change</p> <p><i>Ministry:</i> Request funding for continuing medical education in the field of climate change and human health and facilities for training for the Department of General Hygiene and Epidemiology</p>
Ministry of Transport	<p><i>Ministry:</i> Mainstream climate considerations into transportation legislation.</p> <p><i>Ministry:</i> Develop capacity to incorporate climate considerations into infrastructure planning.</p>

CONCLUSIONS AND RECOMMENDATIONS

PPCR and Climate Change Adaptation Institutions	
Organization	Recommendations
Committee for Emergency Situations and Civil Defense	<p><i>For the Committee and Parliament:</i> Expand the mandate of the Committee to explicitly mention climate change, possibly including the creation of a dedicated climate change and climate risks unit.</p> <p><i>For the Committee (pending an expanded mandate):</i> Establish a protocol for responding to extreme temperature emergencies (i.e. above +40C and below -20C)</p> <p><i>For staff in headquarters and regional offices:</i> Training in climate change adaptation and climate risk management, particularly the influence of climate change on public health and water supply and quality.</p> <p><i>For the Committee:</i> Improving the capacity of the chemical and radiometric laboratory at the Committee.</p>
State Committee for Land Use, Geodesy and Cartography	<p><i>Committee Staff in Dushanbe, at the regional level, and at the district level:</i> Training should be provided in climate change and climate change impacts and adaptation, with particular attention to land use and land use change.</p> <p><i>Regional and district office heads, Department of Monitoring staff in the national office:</i> Training should be provided on the provision and analysis of land data with regards to degradation, afforestation, and land use change.</p> <p><i>Committee:</i> The quarterly roundtables (collegiums) that the Committee convenes should be considered as a possible entry point for certain training modules and for presenting results and lessons learned from training.</p>
Academy of Sciences	<p><i>Research Institutes of the Academy:</i> Contribute actively to the development of courses, curricula, and degree program design in climatology.</p> <p><i>Research Institutes of the Academy:</i> Provide input into an assessment of research needs and educational needs for applied climate research over the long term in Tajikistan.</p> <p><i>Institute of Agrarian Science:</i> Utilize the work of the researchers at the institute when deciding how to mainstream climate change adaptation issues into agricultural policies and programs.</p>
State Universities	<p>Increase the number of students studying meteorology and hydrology.</p> <p>Introduce a curricular specialization in climate sciences.</p>
Postgraduate Institute for Continuing Education for Civil Servants	<p>Include climate change and climate change issues in current trainings related to environmental issues.</p> <p>Create special civil service training modules for district-level leaders on climate change, adaptation, and mainstreaming climate issues into regional and local development plans.</p> <p>Develop and publish training materials in Russian and Tajik for climate change adaptation trainings.</p>
Civil society organizations	<p><i>Environmental NGOS:</i> Provide input on the proposed Climate Change Annual Report and on all proposed changes to laws and policies, including the proposed National Action Plan on Climate Change Adaptation. Provide training and information to NGOs in other sectors, such as gender and humanitarian assistance.</p> <p><i>Other Sectoral NGOS:</i> Include information on climate change adaptation to local beneficiaries when working at the community level.</p>

9. ROADMAPS

A recent UNDP-UNEP publication on mainstreaming climate change adaptation into development planning (UNDP-UNEP 2011, Section 1.3) outlines a four-step process for mainstreaming:

1. find entry points and making the case
2. mainstreaming policy into adaptation processes
3. meeting the implementation challenge (budgeting, financing, implementation, monitoring)
4. Ongoing stakeholder involvement

The roadmaps in this section are designed to incorporate these steps. In addition, the roadmaps were designed to support the efficient use of limited resource by supporting existing capacity and relationships. Several examples follow:

- The revival of the high-level interagency working group on climate change to inform the PPCR process is a positive example – rather than having to create a new body that would have to be endorsed, the working group will be able to support the PPCR process.
- Phase II activities should use existing training facilities, conference facilities, educational facilities, publishing facilities, and media outlets such as journals that currently exist in government, academia, and civil society. These facilities often lack funding, and it would be counter-productive to attempt to develop new facilities that would only further diffuse scarce resources.
- Phase II activities should support and coordinate with CIS-wide activities and experience sharing (ministerials and on-going cooperation and exchanges among institutions ranging from universities to fire departments), particularly where countries share similar institutional structures and codes; this cooperation is important for both policies and programs.
- Phase II activities should coordinate with and support donor-funded regional programs, such as the UNEP-funded work on climate change issues for Central Asian countries as a group (Hasanov 2011) and the proposed regional adaptation center in Ashgabat, Turkmenistan.
- Phase II training and capacity building activities should utilize existing training programs (for example, donor-funded disaster risk reduction programs, foundation-funded training for farmer's and jamoat officials, and government-funded training for civil servants and women) and contests (such as the environmental competition sponsored by Tajik Technical University) to present key messages on climate change and to include adaptation training.
- Phase II activities should utilize the existing system of monitoring and reporting (while, of course, providing ongoing international oversight). Budgetary reporting (to Ministry of Finance), program reporting (to Ministry of Economic Development), and overall reporting on implementation (through internal reports and roundtables within climate-related agencies). Capacity should be built using existing monitoring departments with these agencies.

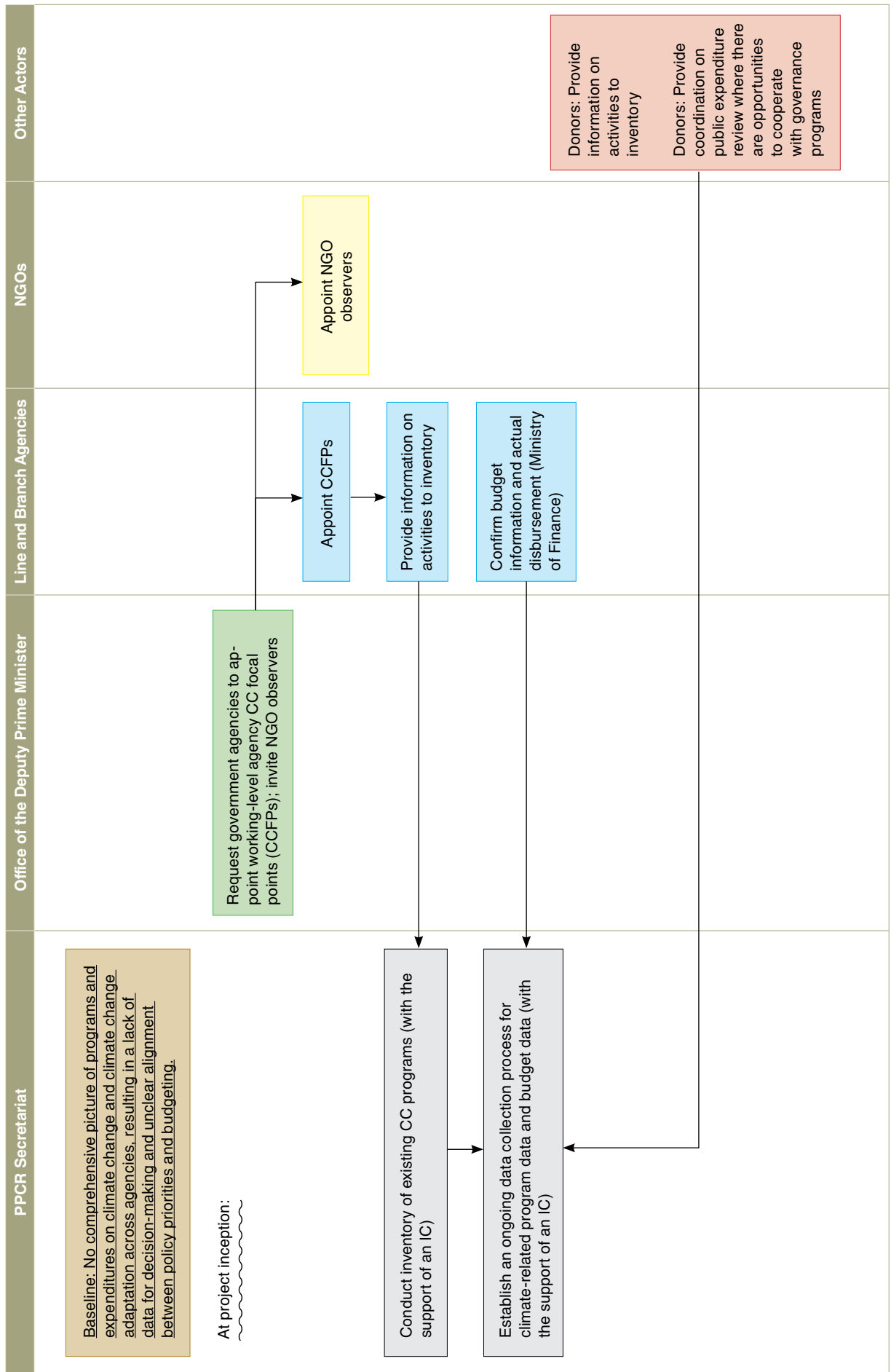
Another important challenge for Phase II activities will be ensuring continuity and sustainability from an institutional perspective. In particular, the project implementation unit should develop an information strategy for archiving project documentation that will allow broad access to project documentation during and after the conclusion of the project. This is particularly important given the administrative restructuring that has been a characteristic of the government.

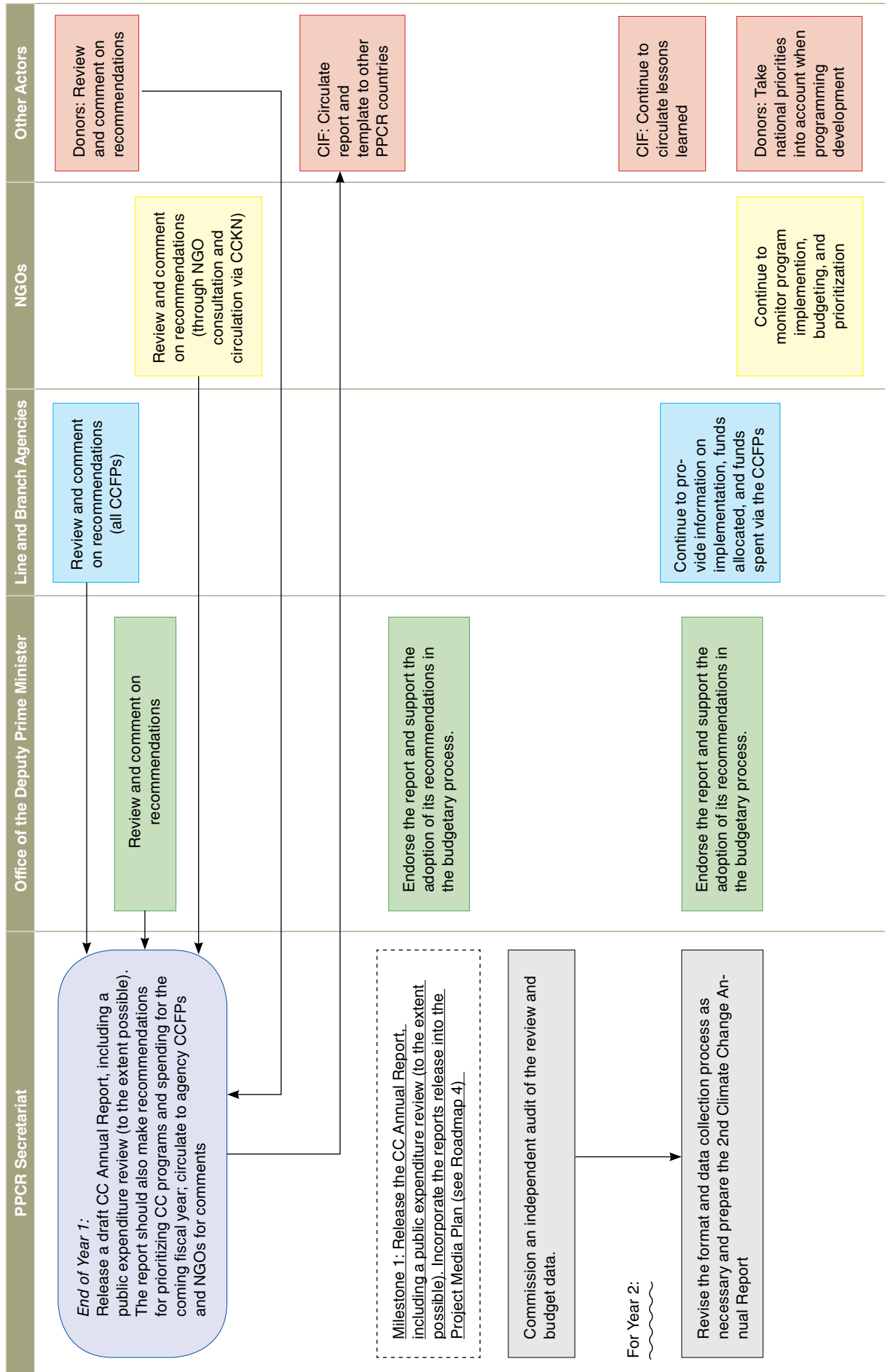
The following roadmaps use a “baseline, milestone, target” approach described by OECD (Lamhauge 2011: 41) as a proposed departure point for monitoring. It is also recommended that monitoring, particularly at the community level, be sensitive to gender issues and their possible effect on data collection and analysis.³⁵

As a recent OECD report concluded, “Monitoring and evaluation is inherently challenging for any development project, but this is particularly the case for climate change adaptation projects. Reasons for this include the uncertainty relating to climate, long-time horizons and in some cases the need to separate out the effects of current climate variability from climate change. In the context of scaled up funding for climate change adaptation, it is more important than ever to ensure the effectiveness, equity and efficiency of adaptation interventions.” (Lamhauge 2011: 42).

³⁵ For example, a recent 4-district survey in Sughd Region used one male and one female interviewer and still found that women frequently declined to respond or did not respond due to male authorities in the communities. (Hannah 2011: 14-16).

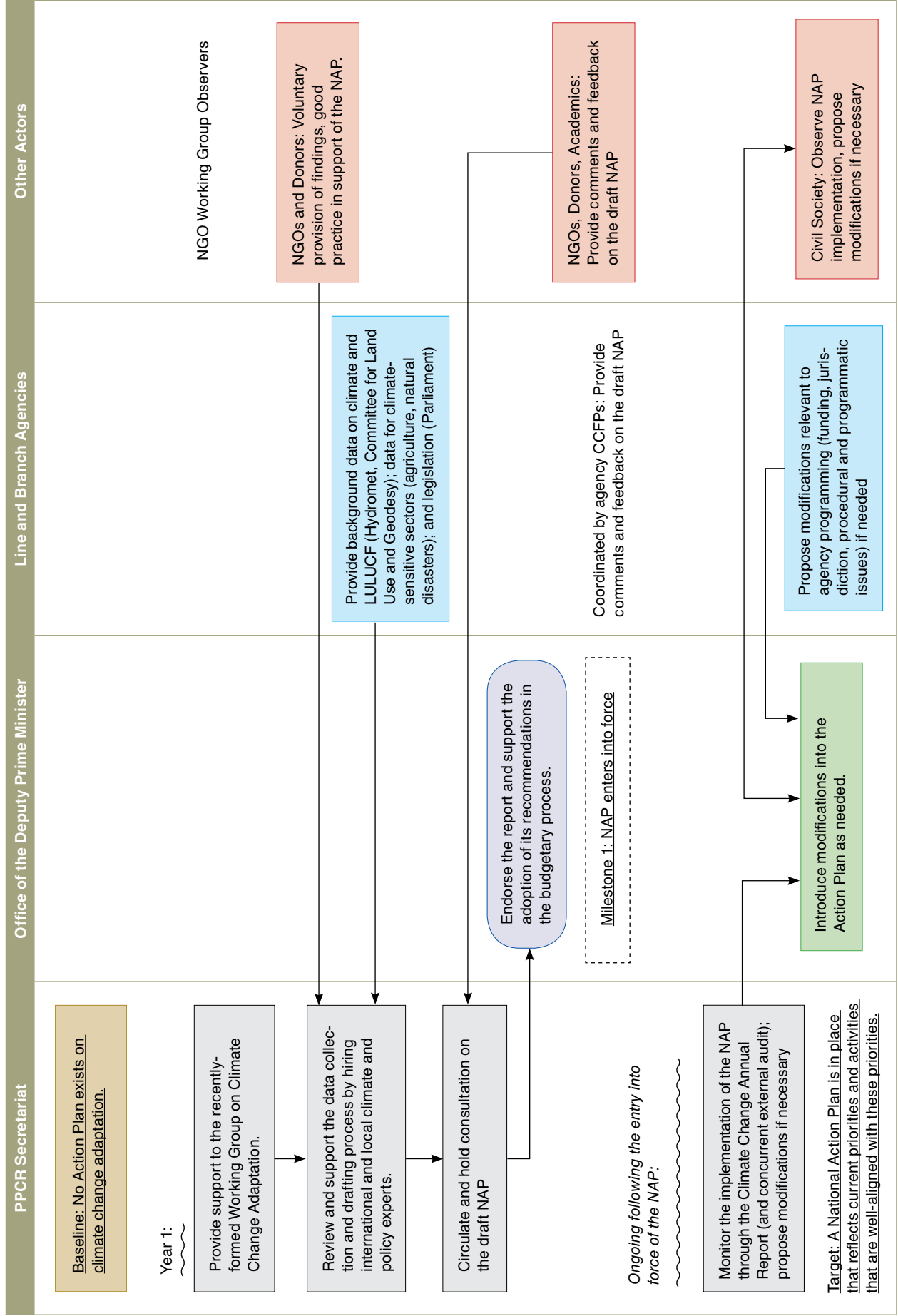
Roadmap #1: Meeting the Implementation Challenge



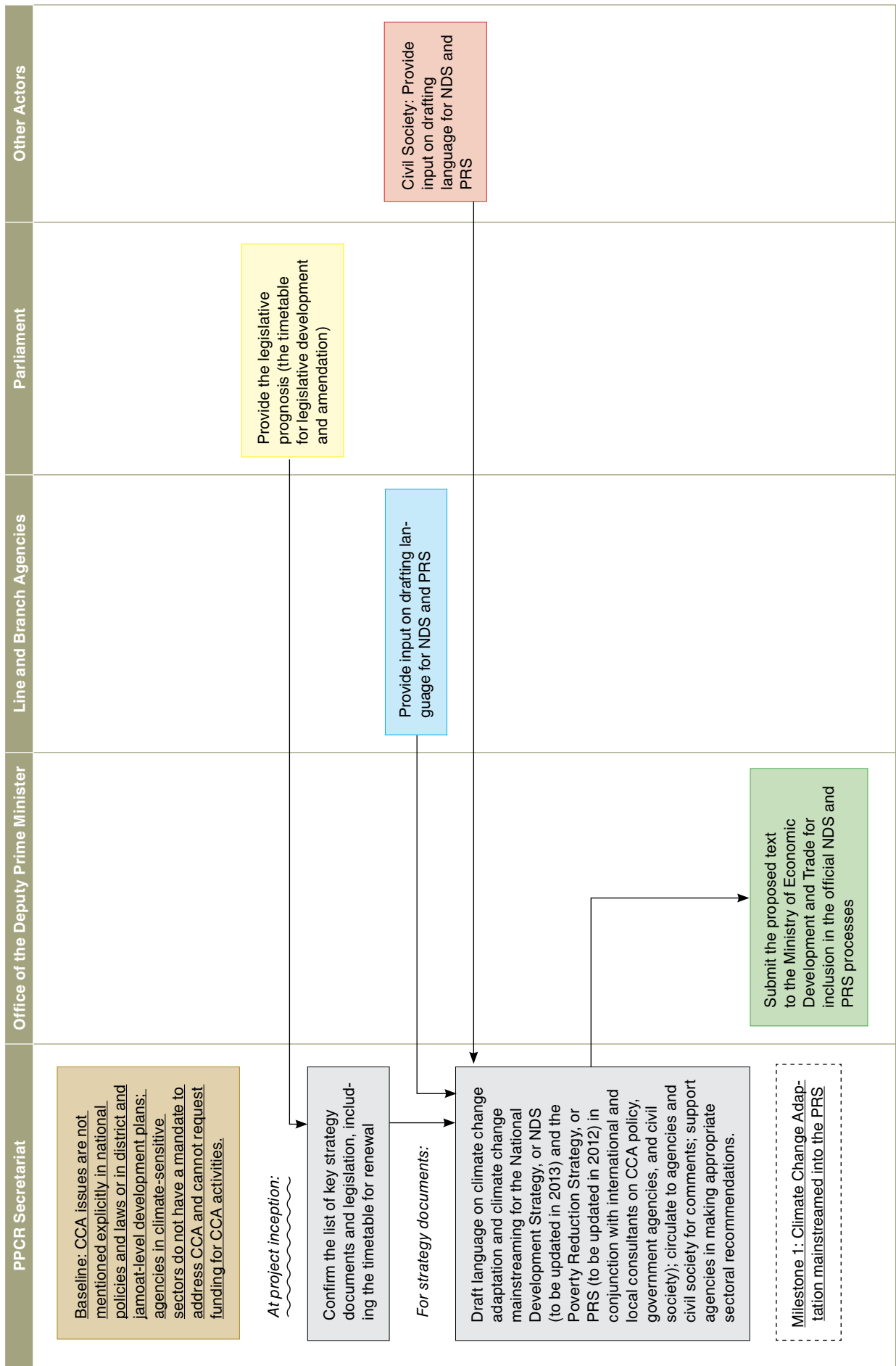


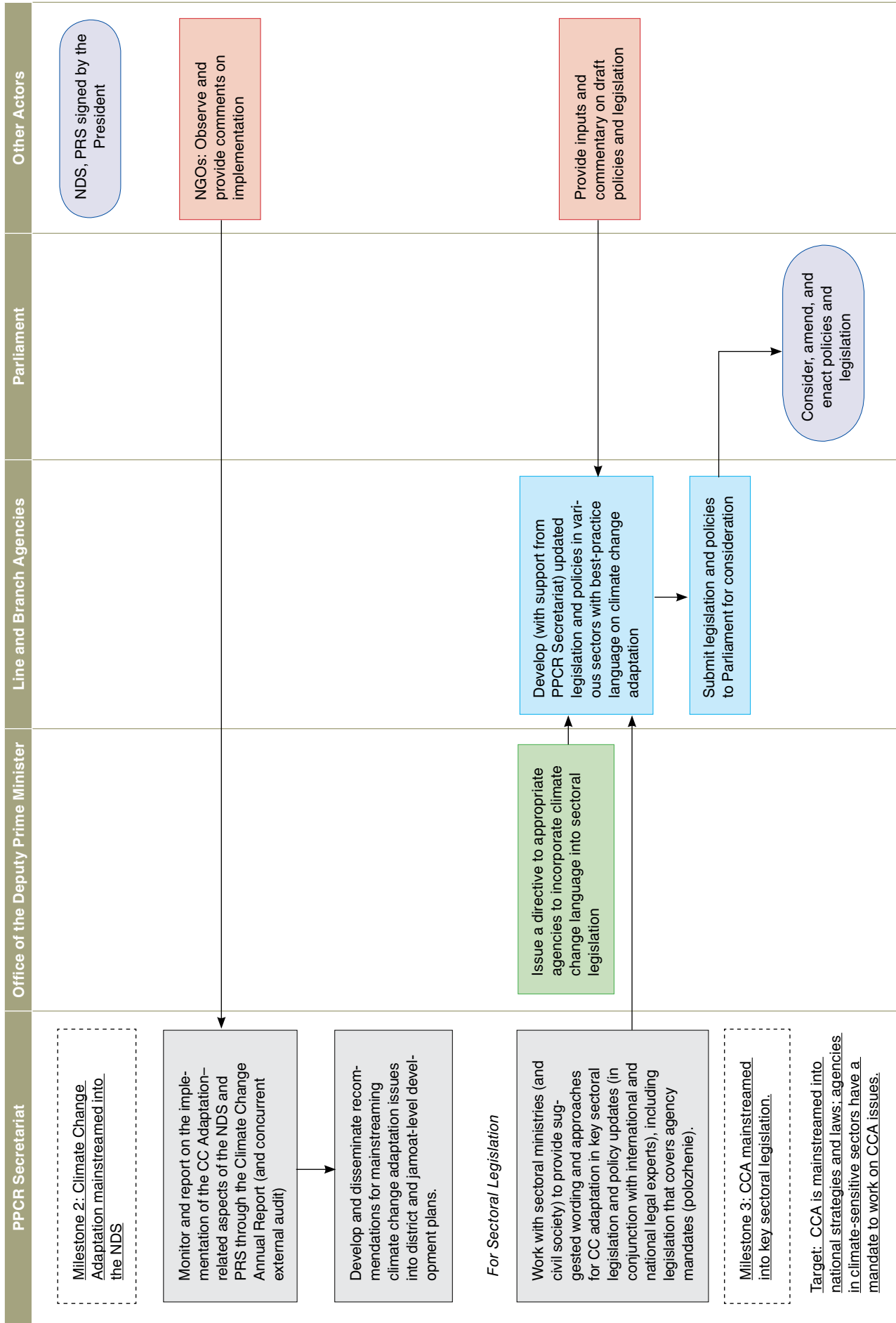
PPCR Secretariat	Office of the Deputy Prime Minister	Line and Branch Agencies	NGOs	Other Actors
<p>For Years 3-5:</p> <p>Repeat the cycle and revise as needed as per annual audits.</p> <p>Milestones 2-5: Annual Reports with program and budgetary information and analysis.</p> <p>Target: A comprehensive picture of programs and expenditures on climate change and climate change adaptation across agencies, resulting in accurate, up-to-date data for decision-making and alignment between policy priorities and budgeting in climate change adaptation.</p>				<p>assistance.</p>

Roadmap #2: A National Action Plan on Climate Change Adaptation



Roadmap #3: Mainstreaming CC Adaptation into National Policies and Legislation

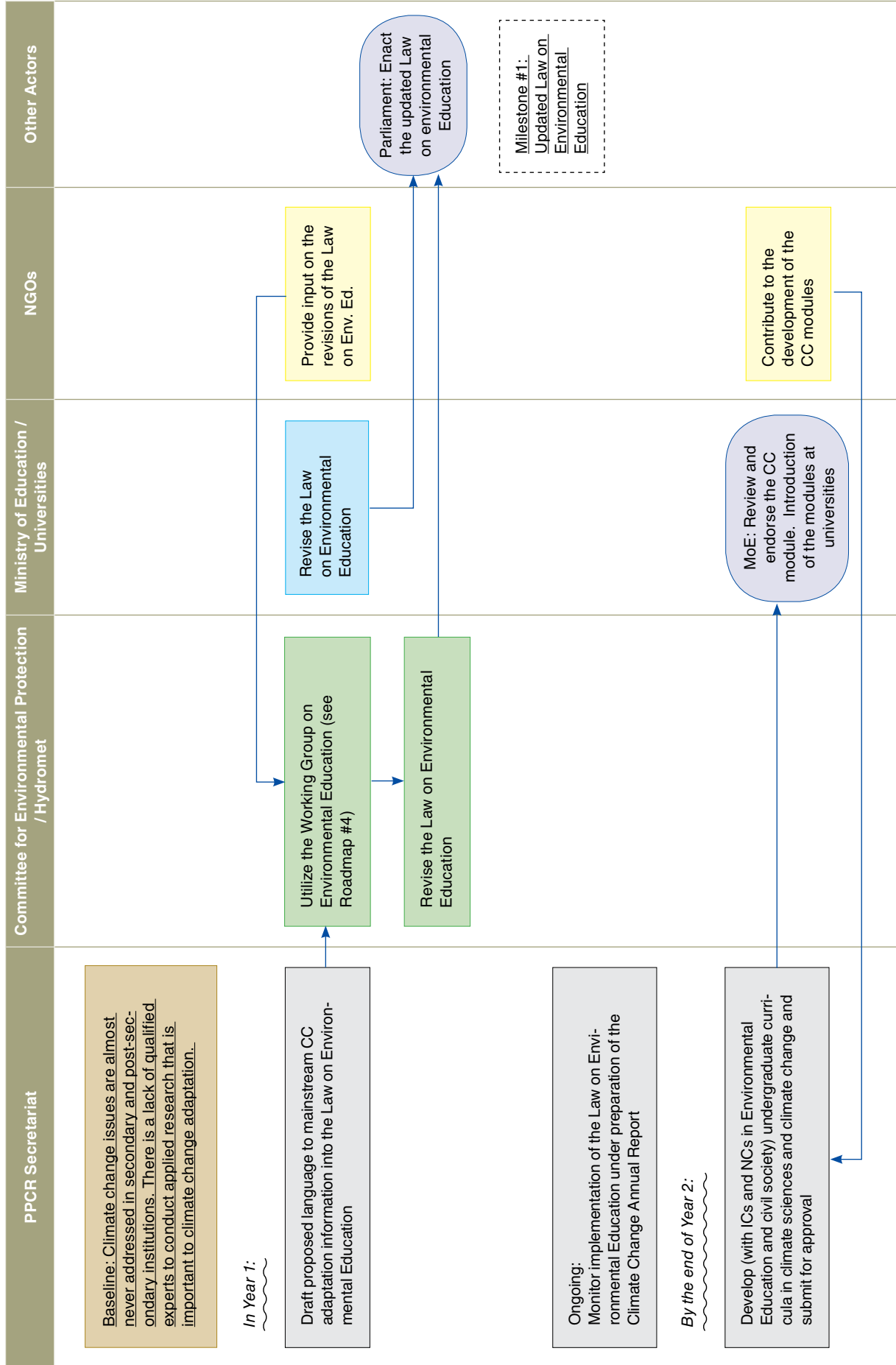


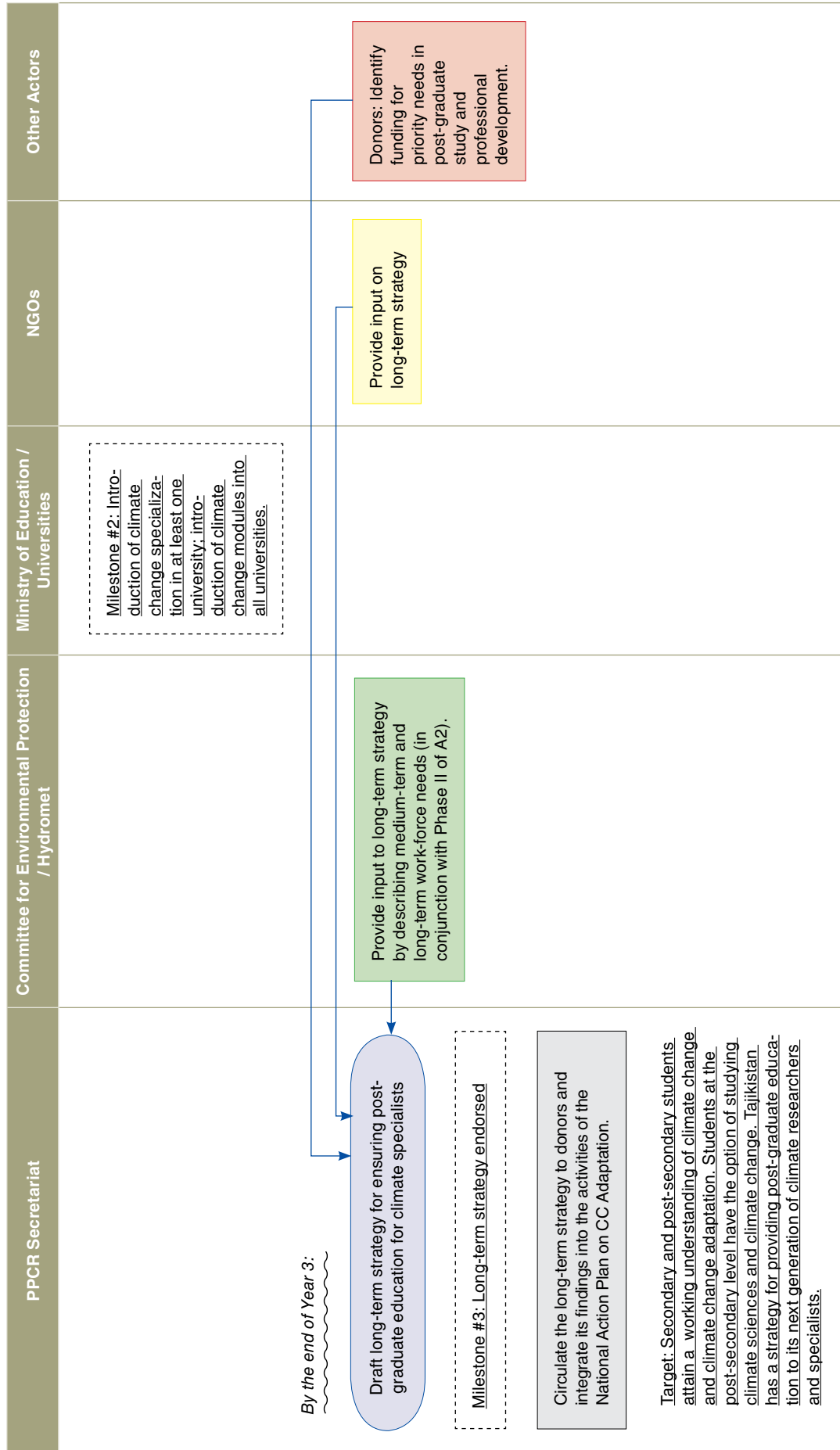


Roadmap #4: A National Program to Raise Awareness on Climate Change

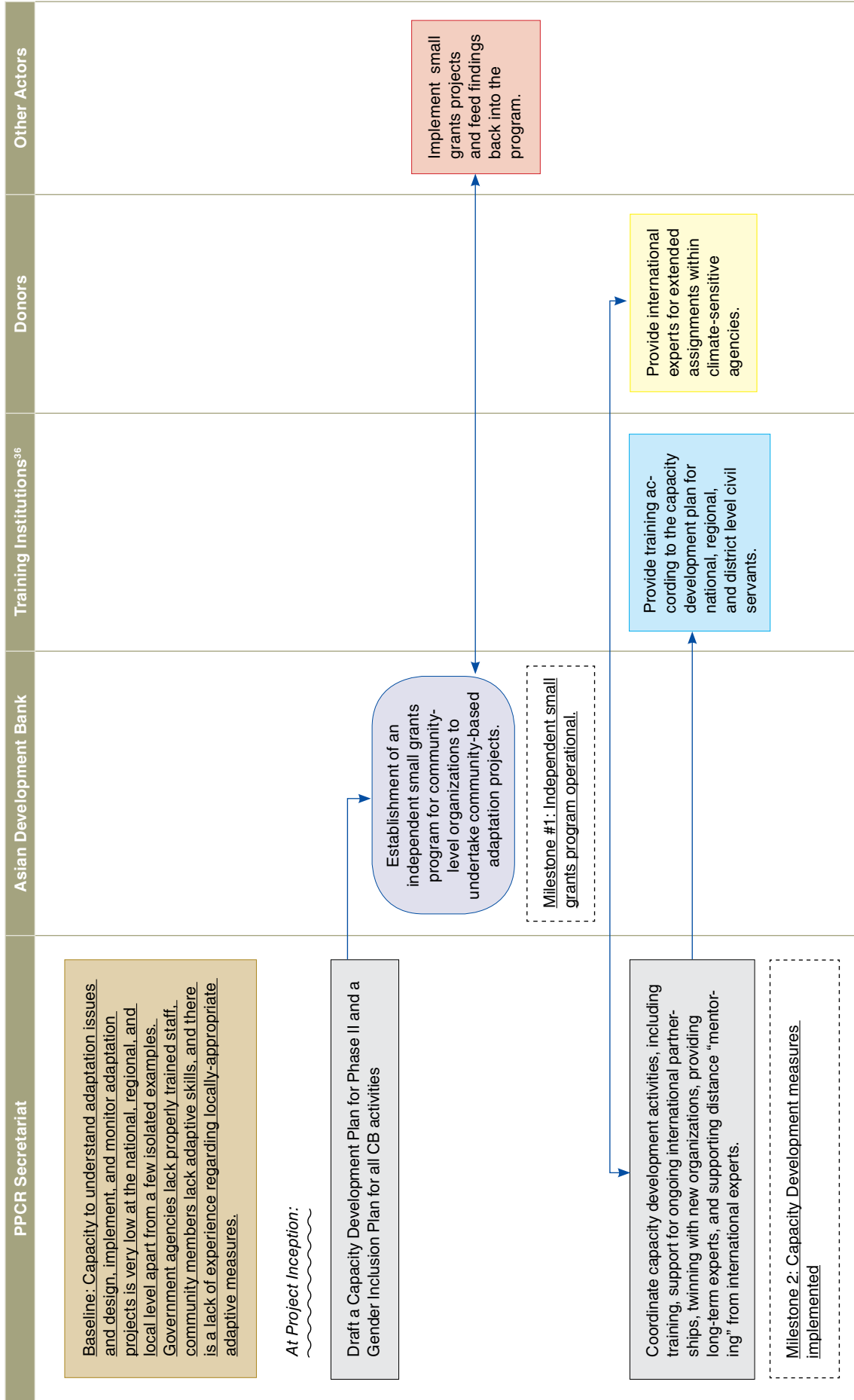
PPCR Secretariat	Government Agencies	Local Schools	The Media	Civil Society
<p><u>Baseline</u>: No comprehensive ongoing effort to raise awareness on climate change that reflects key messages and uses a media plan.</p> <p><i>At project inception:</i></p> <p>In conjunction with international and national experts: *Develop awareness objectives and key messages *Develop a media plan that corresponds to the project budget and coordinates with other existing efforts in government and from donors (such as the GEF-funded TNC support for awareness and outreach)</p> <p>Milestone #2: Media Plan in place for awareness-raising campaign.</p> <p>Develop indicators that allow for monitoring awareness at the sub-national level and by gender</p> <p>Target: Public awareness of climate change, climate change adaptation, and adaptive measures increases. Media coverage increases and focuses on key messages developed under the campaign.</p>	<p>ODPM: Re-convene the Working Group on Environmental Education to provide inputs on key messages and strategies and to incorporate awareness raising about climate change and climate change adaptation into existing government programs on environmental and disaster risk reduction.</p> <p>Milestone #1: Key messages developed and endorsed.</p>	<p>Conduct trainings and awareness-raising campaigns at the national and local levels.</p> <p>Use schools as focal point for community-level messages.</p> <p>Use broadcast media as a communications channel for public information.</p> <p>Use other community-level trainings as a vehicle for delivering information about climate change adaptation.</p>		

Roadmap #5: An Initiative to Improve Secondary and Post-Secondary Education on Climate-Related Issues





Roadmap #6: A Capacity Development Program for CC Adaptation



36 Training institutions include the Postgraduate Institute for Continuing Education (Civil Service Training Institute), Tajik Technical University Training Center, NGO Training Facilities, and other government agency training facilities.

PPCR Secretariat	Asian Development Bank	Training Institutions ³⁶	Donors	Other Actors
<p>Milestone 2: Capacity Development measures implemented</p> <p>Ongoing:</p> <p>Communication with agency CCFPs</p> <p>Monitoring</p> <p>Target: Capacity to understand adaptation issues and design, implement, and monitor adaptation projects is good at the national level; there is basic awareness of CC and CCA issues in all districts. Government agencies in climate-sensitive sectors demonstrate the use of CCA knowledge in their work, community members demonstrate adaptive skills, and locally-appropriate adaptive measures have been tested and replicated in each of the country's four regions.</p>				



ANNEXES

ANNEX 1: REVIEW OF LITERATURE

1.A. KEY METHODOLOGICAL DOCUMENTS

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ANNEX 2. GUIDE TO INTERNET RESOURCES

WEBSITES

List of Websites Dedicated to Environmental Protection and Sustainable Development in Tajikistan

www.president.tj	RT President
www.majmilli.tj	Majlisi Milli MO
www.ppcr.tj	Government of Tajikistan PPCR Website
www.parlament.tj	Majlisi Namoyandagon MO
www.met.tj	Ministry of economic development and trade
www.health.tj	Ministry of health
www.education.tj	Ministry of education
www.minenergo.tj	Ministry of energy and industry
www.minenergoprom.tj	
www.mid.tj	Ministry of foreign affairs
www.minfin.tj	Ministry of finance
www.mincom.tj	Ministry of transport and communication
www.stat.tj	State committee on statistics
www.gki.tj	State committee on property
www.mchs.tj	Committee on emergencies under the RT Government

www.andoz.tj	Committee on taxes under the RT Government
www.meteo.tj	ГУ по гидрометеорологии
www.komzem.tj	State committee on land planning and geodetics
www.src.gov.tj	Center of strategic studies under the RT President
www.spf.tj	Social protection fund
www.standard.tj	Tajikstandard
www.ant.tj	RT Academy of sciences
www.aclib.tj	Central scientific library of Academy of Sciences
www.kwc.tj	Khudzhandvodokanal
www.migrant.tj	Center for labor migrants
www.biodiv.tj	Center on biodiversity and biological safety
www.aarhus.tj	Aarhus center
www.tajikngo.tj	NGOs of Tajikistan
www.ygpe.tj	Youth group on environment protection
www.tabiat.tj	Youth movement “Green patrol”
www.ecocentre.tj	Ecological center
www.eco-portal.kz	Central Asia Ecological Portal
www.kishovarz.tj	Agricultural website «Kishovarz»
www.zakaznik.tj	Zakaznik Dashtidzhum
www.dehkans.tj	Association of farmers
www.tf-prs.tj	Poverty reduction strategy, Trust Foundation
www.carecnet.org	Regional ecological center of CA (CAREC)
http://www.hifztabiat.tj	Committee on Environment protection under the RT Government
www.mwr.t	Ministry of Land Reclamation and Water Resources
http://www.spareworld.org/rus/tajikistan	SPARE
http://www.fsci.freenet.tj	Fund to Support Civil Initiatives
http://ygpe.tj	Youth Group for Environmental Protection

OTHER WEBSITES ACCESSED DURING THE COMPILATION OF THE REPORT:

Adaptation Learning Network (general)

<http://www.adaptationlearning.net>

Adaptation Learning Network (PPCR Phase I A1 and A3 Materials)

<http://www.adaptationlearning.net/project/tajikistan-ppcr-phase-i-components-a1-and-a3>

Notes on ICTs, Climate Change, and Development website. “Notes on Water, Climate Change & ICTs: The Need for Innovative Policy Approaches” by Angelica Valeria Ospina, posted June 27, 2011. Accessed 16 August 2011.

<http://niccd.wordpress.com/2011/06/27/water-climate-change-icts-the-need-for-innovative-policy-approaches/>

Government of Nepal PPCR Website

ppcrnepal.gov.np

International Federation of Red Cross and Red Crescent Societies. “Tajikistan: Helping Elderly People Survive in the Cold without Heating.” Madina Saiffidinova, Red Crescent Tajikistan. Posted 6 March 2008.

<http://www.ifrc.org/en/news-and-media/news-stories/europe-central-asia/tajikistan/tajikistan-helping-elderly-people-survive-in-the-cold-without-heating/>

Accessed 18 August 2011.

ANNEXES

Open Society Institute

Local Government and Public Service Reform Initiative

http://lgi.osi.hu/country_datasheet.php?id=170

Accessed 18 August

OSCE Office in Tajikistan

<http://www.osce.org/tajikistan/>

UNDP Capacity Development Website (accessed 17 August 2011)

<http://www.beta.undp.org/undp/en/home/ourwork/capacitybuilding/overview.html>

World Bank: Adapting to Climate Change in Europe and Central Asia

<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/ECAEXT/0,,contentMDK:22196205~pagePK:146736~piPK:226340~theSitePK:258599,00.html>

WIKIS

Low-carbon development plans

http://en.openei.org/wiki/Overview_of_Network_Activities

WEBINAR AND WEBCAST ARCHIVES

5th annual CBA conference (IIED) in Bangladesh

<http://www.youtube.com/watch?v=1TYI4pYBZC8&feature=relmfu>

CCA webinar seachange COP

PPCR stakeholder meeting webcasts

TRAINING MODULES

World Health Organization (year not given). Protecting our Health from Climate Change. WHO training course for public health professionals. Geneva: WHO. http://www.who.int/globalchange/training/health_professionals/en/index.html

Accessed 15 August, 2011.

VIDEOS

Energy for the Pamir Mountains, Tajikistan (UNU-TKI Indigenous Perspectives on climate change video series): <http://www.vimeo.com/7606780>

Pamiri Women and the Melting Glaciers of Tajikistan (UNU-TKI Indigenous Perspectives on climate change video series): <http://www.vimeo.com/album/85004/video/6242134>

ANNEX 3: KEY POLICY, STRATEGY, AND REGULATORY DOCUMENTS IN TAJIKISTAN

CLIMATE CHANGE DOCUMENTS

First National Communication of Tajikistan to the United Nations Framework Convention on Climate Change. Dushanbe: Government of Tajikistan.

First National Communication of Tajikistan to the United Nations Framework Convention on Climate Change: Phase 2. Capacity Building in Priority Areas. Dushanbe: Government of Tajikistan.

Second National Communication of the Republic of Tajikistan to the UNFCCC (2008)

Ministry of Environmental Protection (MoEP) and Main Administration of Hydrometeorology and Environmental Pollution Monitoring (2003). National Action Plan for Climate Change Mitigation. Dushanbe: MoEP.

NATIONAL DEVELOPMENT DOCUMENTS

National Development Strategy (2007-2015).

Millenium Development Goals – Tajikistan Progress Report (2010)

Poverty Reduction Strategy (PRS-3) of the Government of the Republic of Tajikistan 2010-2012 (2010).

NATIONAL CONCEPTS RELEVANT TO CLIMATE CHANGE

Concept on labor migration for the citizens of Tajikistan, 2001.

Concept on rational water resources use and protection in Republic of Tajikistan, 2001.

Concept of Health reform in Republic of Tajikistan, 2001

Concept to develop fuel and energy complex in Republic of Tajikistan, 2002 for the period of 2003-2015, 2002.

Concept of industrial development of republic of Tajikistan, 2003.

Concept on the use of land in Republic of Tajikistan, 2004.

Concept of entrepreneurship development in republic of Tajikistan until 2015. 2004.

Concept of forestry development in Republic of Tajikistan, 2005.

Concept of vocational training development in Republic of Tajikistan, 2006.

Concept of transition of Republic of Tajikistan to sustainable development 2007.

Concept to preserve and create jobs in Republic of Tajikistan for 2008-2015, 2008.

Concept of environment protection in Republic of Tajikistan, 2008.

Agrarian policy development concept in Republic of Tajikistan, 2008.

Concept of hydrometeorological safety of the CIS-member countries for 2011-2015

NATIONAL STRATEGIES RELEVANT TO CLIMATE CHANGE

RT strategy on public health until 2010. Approved 2002.

RT strategy of science and technologies development for 2007-2015. Approved 2006.

Small Hydropower Energy Development Strategy (2007).

Natural Disaster Management National Development Strategy for the period 2010-2015.

Water Sector Development Strategy in Tajikistan (2006).

Public Administration Reform Strategy of the Republic of Tajikistan (2006). Approved by Presidential Decree No. 1713 on 15 March 2006.

OTHER POLICIES AND PROGRAMMES RELEVANT TO CLIMATE CHANGE

State ecological program for the period of 1998-2008

National action plan on environmental hygiene. 2000

State program for gems and semiprecious stones processing and sale for the period 2001-2005. Approved 2001.

State program to develop specially protected territories for the period 2005-2015. Approved 2005.

Forestry development program for 2006-2015.

National Environmental Action Plan (2006).

State program to study and protect glaciers of the Tajik Republic for the period 2010-2030

State ecological program for the period of 2009-2019.

Program to rehabilitate hydrometeorological stations and hydrometeorological stations in Republic of Tajikistan for the period of 2007-2016.

National action to mitigate consequences of climate change. 2003

National action plans and reports to implement environment protection conventions.

National program to fight tropical diseases (malaria) in RT for 1997 - 2005. 1997

National action plan to protect and rights of children for 2003-2010. 2003

Program and economic innovations in RT agricultural and industrial complex (AIC). 1995.

National state program "Improved soil fertility in RT". 2003.

Program of bee-farming rehabilitation and development in RT for 2006-2010. 2005.

Program of tobacco industry development in RT for 2007-2015. 2006

Programs of social and economic development

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State of state investments, grants and technical aid for 2004-2006. 2006

Program of economic development of RT until 2015. 2004

Program of light industry development in RT for the period of 2006-2015. 2005

Specific development program to introduce renewable sources of energy such as small rivers, sun, wind, biomass, energy of subsoil sources for the period 2007-2015. 2007

Program to develop construction materials production until 2015

Access to drinking water and rational water use

National program "Clean water and sanitary in Tajikistan".2001.

National program of improvement and stabilization of social and ecological situation in the Aral Sea basin (in Republic of Tajikistan). 2001

Program to improve clean water supply to population of Republic of Tajikistan for the period 2008-2020

Program of economic Innovations in RT AIC. 1995

National state program "Improved soil fertility in RT". 2003.

Program of bee-farming rehabilitation and development in RT for 2006-2010. 2005.

Program of tobacco industry development in RT for 2007-2015. 2006

Program of natural disasters and civil defense development in Republic of Tajikistan for the period of 2009-2014http://www.khf.tj/Uploads/zakon_taj/prog1.doc

"[DRR] Action Plan – Tajikistan (Version 1 / August 2008)." As presented at the IDRC Workshop on National Platforms, 23-29 August 2009.

Note: There are other policies and programmes in education, health, energy, industry, agriculture, water resources, and land use that can also be considered to be relevant to climate change and climate change adaptation.

ANNEX 4: ADDITIONAL NOTES ON METHODOLOGY, TOOLS, AND PARTICIPATION

WORKING DEFINITION OF CAPACITY TYPES

- **Systemic Capacity:** This is the highest level of capacity and covers the overall governing system; i.e., laws, policies, programmes, and even broader concepts such as rule of law and the transparency and accountability of government. Examples in climate resiliency could include capacity of the government to develop and implement supportive policies and measures to support adaptation to climate change, or the ability of government to coordinate the many agencies working on climate-related programmes.
- **Organizational Capacity:** This level involves the ability of organizations to carry out their work. It addresses whether organizations have proper funding, staffing (including a sufficient number of employees and the proper profile of employees), and authority to do what they need to do to accomplish a given objective. Examples in climate change adaptation could include whether the organizations involved in collect-

ing climate data have sufficient funding and staffing in order to collect, and analyze their data as well as make the data available to key decision-makers in a format that the decision-makers can use.

- *Individual Capacity*: This element is concerned with whether individuals have sufficient knowledge, awareness, and resources to perform their tasks. An example from climate change adaptation might be whether lecturers in post-secondary educational institutions have appropriate curricula about climate change issues in their language of instruction and whether they have sufficient understanding of the issues to lead discussions in this area.

It should be noted that these levels of capacity should not be confused with levels of government (national, regional, and local), which are also examined.

IDENTIFICATION OF KEY PRIORITY AREAS: SECTORS

Key priority areas were determined in several ways. First, a list of sectoral priorities was drawn up during a day-long consultation with a variety of government and non-governmental stakeholders in June 2011. These priorities were identified as follows:

- Water sector
- Agriculture
- Energy
- Human Health

Second, the project took into account the high-level consultation with policy-makers that was carried out in October of 2010 (Reed, 2011). This consultation included a discussion on key Areas for Improvement (AFIs), which were identified as follows:

- Development of a National Strategy for climate change adaptation
- Leadership in climate change adaptation policy
- Coordination among agencies

A third source of information on priority areas came from a 2010 public opinion survey commissioned by the World Bank. The survey was of 1000 randomly-selected households in Tajikistan and included questions about climate change adaptation (Barbone 2010:15). More than half of all of the households surveyed approved of additional government spending in the following areas:

- *Agriculture*: Improving extension services and providing seeds more resilient to climate extremes (64%)
- *Water/Health*: Providing clean drinking water (63%)
- *Energy*: Investing in increasing availability of electricity (57%)

These results confirmed the priority status of those areas at the local level, which was seen as an effective cross-check, as the two previous consultations primarily involved officials and stakeholders in Dushanbe.

Finally, two other areas were mentioned in the National Development Strategy as national priorities for environmental sustainability: 1) Strengthening institutional capacity on environment; and 2) Addressing issues of natural disasters through prevention and effective natural resources management. (PRS-3 2010: 48).

It should be noted that while the report includes all of the subject areas from the SPCR, its mandate was slightly broader, and it aims to cover all areas identified as priorities by various stakeholders and to provide recommendations that may stretch beyond Phase II into subsequent activities. The prime example of this is the field of human health, which is not an explicit component of Phase II investment projects but was identified by both the stakeholder consultation and by the national public opinion survey as a key issue.

IDENTIFICATION OF KEY PRIORITY AREAS: CROSS-CUTTING AREAS

In addition to the sectoral areas identified above, several other cross-cutting areas were identified as important and are also included in this report.

- *Gender*: This issue was identified as an important area for analysis by the Joint Missions formulating the SPCR (SPCR 2010:10) and by the participants in the June 2011 stakeholder consultation.
- *Disaster Risk Reduction*: Disaster risk was identified as a justification for PPCR support in Tajikistan (SPCR 2010: 13) and was confirmed as a priority in the June 2011 stakeholder consultation.
- *Migration*: While migration was not highlighted in the SPCR or the stakeholder workshop, it is addressed in this report because it appeared in the institutional assessment, because it has been highlighted in several publications (most notably Oprunenco et al. 2010: 22-27) and because internal migration and resettlement is closely linked with both disaster response and economic development.
- *Vulnerable Groups*: Poor communities can be especially vulnerable to climate change – especially those concentrated in higher-risk areas. They also tend to have more limited adaptive capacities and are more dependent on climate-sensitive recourses. Similarly, the elderly and children are likely to face more severe consequences related to health impacts, in addition to economic impacts. Finally, the SPCR (SPCR 2010: 4) identifies vulnerable groups as women, youth (particularly young men), and children.
- *Education*: This issue is identified in plans in multiple national policy documents, in the proposal to develop the Third National Communication to the UNFCCC (TNC Proposal 2011:17), and as part of Tajikistan's implementation of Article 6 of the Convention.

DEFINITION OF “CLIMATE CHANGE MAINSTREAMING” AS USED IN THE REPORT

The capacity assessment and gap analysis started from the following question: “Capacity to do what?” The answer – “To mainstream climate change adaptation into society” – can be defined as follows:

Definition: *Mainstreaming climate change adaptation is the iterative process of integrating considerations of climate change adaptation into policy-making, budgeting, implementation and monitoring processes at national, sector and subnational levels. It is a multi-year, multi-stakeholder effort grounded in the contribution of climate change adaptation to human well-being, pro-poor economic growth, and achievement of the MDGs. It entails working with a range of government and non-governmental actors, and other actors in the development field.*

Source: UNDP-UNEP 2011: Section 1.3.

REPORT BOUNDARIES

This report does not cover climate vulnerability or exposure and sensitivity to climate threats, as this topic has been dealt with extensively in previous reports, such as those commissioned by the World Bank and the OSCE (see Fay et al. 2009 and Oprunenco et al. 2010, respectively). Annex 1 also lists a number of other reports that address this topic.

QUESTIONNAIRE FORMAT

QUESTIONS 1

1. Did you or your Ministry (department) participate in the development of ecological strategies, programs, plans, and projects related to climate change?

a) National level; b) regional c) local

2. Who has been involved?

3. Were they realized (fulfilled)?

4. If so, what were the main findings?

5. If not, why?

6. What were the strengths (points) of these projects, strategies, and programs?

7. Which topics have not been covered or insufficiently covered in them?

8. In your opinion, what was not enough clarified?

9. Is there enough capacity to do this? If not, why and what is missing (example: lack of specialists_____, lack of financial resources_____, lack of equipment_____, problems with the structure of the programs, projects, etc_____?)

10. Can you tell please, how many people are working on environmental issues in your department (ministry, agency, etc.)?

_____full time

_____part time

11. Can you tell please, how many people are working on climate change issues in your department (ministry, agency, etc.)?

_____full time

_____part time

12. Did you pass any professional development trainings (on your work) on environmental issues as civil servants? If yes, which?

13. Did you pass any professional development trainings on climate change issues? If yes, which?

14. Did you pass any other trainings related to environmental issues or natural disasters? If yes, what types?

15. From which sources do you mostly receive information about climate change issues?

_____ from more popular media (newspaper, TV)

_____ from meetings

_____ from specific sources (academic journals, websites on climate, mailing lists)

_____ others (describe)

16. In which languages do you receive information on climate change?

_____ Tajik

_____ Russian

_____ other languages (name)

_____ I am not receiving information on climate change

17. Which of the statements is closer to your opinion?

_____ I receive enough information on climate and climate change in order to implement my work more effectively

_____ I prefer to receive more information on climate and climate change in my work

_____ I don't need information on climate and climate change issues to implement my work

18. Your wishes to our project

QUESTIONS 2

1. Did you or your agency ever (took or currently taking part) take part in the development of the Environmental Action Plan?

2. If yes, in which project: a) national, b) regional; c) local?

3. Who was involved?

4. What was your function in this project?

5. Was the action plan implemented?

6. If yes, what were the main results?

7. If not, why so?

8. What were the strengths (points) of the environmental action plan?

9. Which topics have not been covered or insufficiently covered in the action plan?

10. In your opinion, what was the main shortage in the process of the development of the Environmental Action Plan?

11. In your opinion, how such process can be improved?

12. After implementation of such action plans, which improvements (changes) were noticed in socio-economic plans?

13. Is there enough capacity to do this? If not, why and what is missing?

14. Can you tell please, how many people are working on environmental issues in your department (ministry, agency, etc.)?

_____ full time

_____ part time

15. Can you tell please, how many people are working on climate change issues in your department (ministry, agency, etc.)?

_____ full time

_____ part time

16. Have you passed any professional development trainings (on your work) on environmental issues as civil servants? If yes, which?

17. Have you passed any professional development trainings on climate change issues? If yes, which?

18. Have you passed any other trainings related to environmental issues or natural disasters? If yes, what types?

19. From which sources do you mostly receive information about climate change issues?

_____ from more popular media (newspaper, TV)

_____ from meetings

_____ from specific sources (academic journals, websites on climate, mailing lists)

_____ others (describe)

20. In which languages do you receive information on climate change issues?

_____ Tajik

_____ Russian

_____ other languages (name)

_____ I am not receiving information on Climate Change issues

21. Which of the statements is closer to your opinion?

_____ I receive enough information on climate and climate change in order to implement my work more effectively

_____ I prefer to receive more information on climate and climate change in my work

_____ I don't need information on climate and climate change issues to implement my work

22. Your wishes to our project

QUESTIONS 3 – LEVEL OF LOCAL GOVERNMENT, JAMOATS AND COMMUNITIES

1. Did municipal governments (jamoats, communities) conducted activities on environmental issues focusing on climate change: green campaigns, launching small electro power stations, etc.?

2. If yes, which activities?

3. Were you involved in those activities?

4. Were women involved in such activities?

5. Are there ecological NGOs?

6. Which activities they conducted or are intended to conduct?

7. Are you familiar with the concepts of “climate,” “climate change,” “action plan,” “adaptation to climate change?”

8. Have you participated in the development of action plan, etc.? If yes, how have you been involved?
9. Has your life improved after implementation of such project (planning, plan of action, etc.) and how?
10. What are your suggestions for the activities within the context of adaptation to climate change in your territory?
11. In your opinion – what kind of interaction should be among community, jamoats and the government?
12. Were there any attempts to prepare local development plans focusing on adaptation to climate change (environment, agriculture, etc.)?
13. Who was involved in this and what were the results?
14. From which sources do you mostly receive information about climate change issues?
_____ from more popular media (newspaper, TV)
_____ from meetings
_____ from specific sources (academic journals, websites on climate, mailing lists)
_____ others (describe)
15. In which languages do you receive information on climate change issues?
_____ Tajik
_____ Russian
_____ other languages (name)
_____ I am not receiving information on Climate Change issues
16. Which of the statements is closer to your opinion?
_____ I receive enough information on climate and climate change in order to implement my work more effectively
_____ I prefer to receive more information on climate and climate change in my work
_____ I don't need information on climate and climate change issues to implement my work
22. Your wishes to our project

STAKEHOLDER INVOLVEMENT

The following three tables describe stakeholder participation in the data collection process.

Figure 17: Participating Government Agencies

	Government Institution	Form of Participation			
		Interview	Questionnaire	Inception Workshop	Training
1	Parliament of RT	x	x		x
2	The Government of RT		x		x
3	Local Authorities		x		x
4	Committee for Environmental Protection and Forestry	x	x	x	x
5	State Administration for Hydrometeorology	x		x	x
6	Ministry of Agriculture		x	x	x
7	Ministry of Economic Development and Trade	x	x		x
8	Ministry of Energy and Industry	x	x		x
9	Ministry of Health	x	x		
10	Ministry of Education	x		x	x
11	Ministry of Labour and Social Protection		x		
12	Ministry of Land Reclamation and Water Resources		x	x	x
13	Ministry of Finance	x	x		
14	Ministry of Economic Development and Trade	x	x		
15	Academy of Science	x	x		
16	Khujhand State University				x
17	Postgraduate Institute of Continuous Education	x	x		
18	Committee for Emergency Situations and Civil Defence (CoES)	x	x	x	x
19	Tajik Academy of Agricultural Science			x	
20	Research Institute of Crop Husbandry			x	
21	Tajik Agrarian University	x	x	x	
22	Tajik Technical University			x	x
23	Tajik State National University	x		x	x
24	Kurgan Tyube University	x			x
25	Khorog State University				x
26	Strategic Research Center				x
27	Tajik Women Federation				x
28	State Committee for Women and Family				x
29	Community leaders (Jamoats)				x
30	Construction Department of GBAO				x
31	Fergana valley water resource management				x
32	Transportation Department of Kurgan-Tyube				x
33	Land Administration Committee				x
34	Gymnazium "Safina" Sugd Region				x
35	State Supervision Department in Vahdat				x
36	Communal Department Vahdat				x

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In addition to the PPCR implementing agencies (UNDP, the World Bank, Asian Development Bank, and European Bank for Reconstruction and Development), selected Project Implementation Units funded by these agencies, and the PPCR Secretariat, the following organizations were involved in the stocktaking and institutional assessment.

Figure 18: Other Participating Institutions

	Organization	Form of Participation			
		Interview	Project Implementation	Inception Workshop	Training
1	CAREC (NGO)		x	x	
2	Youth Ecological Centre (NGO)		x	x	x
3	Little Earth (NGO)	x		x	
4	Center for Climate Change and Disaster Response (NGO)	x		x	x
5	GIZ	x		x	
6	Oxfam GB	x		x	x
7	ACTED	x		x	
8	PO "Azal"	x		x	
9	Center for Climate Change and Disaster Reduction	x		x	x
10	CAMP Kuhiston	x		x	
11	NGO Noosfera	x		x	
12	NGO "Rushd"				x
13	NGO "Umedi Nek"				x
14	NGO "Mizrob"				x
15	NGO "Bakht"				x
16	Small and Medium Enterprise	x			
17	OO "Zan va Zamin"				x
18	Representatives from 5 National Print Media				x
19	Representatives from 4 local and national radio stations				x
20	Representatives from 3 national channels				x
21	Representatives from 2 online media				x
22	OO "Gender and Development"				x
23	OO "Mir Detey"				x
24	Foundation to support Civil Initiatives	x		x	x
25	German Agro Action				x
26	OO "Durandesh"				x
27	OSCE	x			x
28	Botanic Garden Pamir				x
29	JSC "Nazira" in GBAO				x
30	FOCUS Organization				x
31	Enterprise "Asal Tojikiston" (honey production)				x
32	NGO "Youth of the 21 st Century"	x			
33	Aga Khan Development Network	x			
34	Cooperation for Development (Hamkori Bahri Tarakiyok)	x			
35	NGO "Oftob" (Sun)	x			
36	NGO "Club of Ecological NGOs"	x			

Figure 19: Interviewees from the A3 Stocktaking on Training and Awareness- Raising Campaigns

	Name	Institution/Affiliation	Area of focus
1	Alikhon Latifi	Head of Club of Ecological NGO	Dushanbe
2	Timur Idrisov	Director of "Little Earth" NGO	Dushanbe
3	Tatyana Alikhonova	A Network of experts for Sustainable Development	Dushanbe
4	Muhabbat Mahmadalieva	NGO "Zan va Zamin" (Woman and Earth)	Dushanbe
5	Rustam Kalandarov	NGO "Zumrad"	Dushanbe
6	Nodir Hokimov	NGO "Munis"	Hissar
7	Kurbonali Partoev	Director of NGO "Hamkori Bahri Tarakiyot" (Cooperation for Development)	Dushanbe
8	Tatyana Novikova	Coordinator of NGO "Noosphere"	Dushanbe
9	Kayumov Abdukhamid	Director of NGO "Human Ecology"	Dushanbe
10	Ikrom Mamadov	NGO "Youth Group to Protect Environment" (YGPE)	Khujand
11	Toshburi Hotamova	Director of NGO "Hamdilon"	Shartuz
12	Hamza Boboev	Head of Community Development Center in Nasir Khusrav District	Nasir Khusrav District
13	Sharof Yusupov	Head of the PO "Obi Hayot"	Kabodiyon District
14	Rahmon Sodirov	Coordinator of National Association of Dehkan Farmers	Dushanbe
15	Svetlana Jumaeva	Director of Center for Climate Change and Disaster Reduction	Dushanbe
16	Roziya Alieva	Director of CAMP "Kuhiston"	Dushanbe
17	Sergey Nazarov	PO "Azal"	Dushanbe, Ferghana Valley
18	Murod Ergashev	Coordinator of PALM Project	Dushanbe
19	Mavluda Akhmedova	Head of women center "Parastu"	Gissar District
20	Ilhom Rajabov	Head of Climate Change Center, State Administration for Hydrometeorology	Dushanbe
21	Muzafar Shodmonov	Head of Science and International Relations of State Administration for Hydrometeorology	Dushanbe
22	Kurbonjon Kabutov	Head of Renewable Energy Resources in Tajikistan	Dushanbe
23	Tojiniso Nasirova	Deputy Chairwoman of State Committee for Environmental Protection	Dushanbe
24	Umed Karimov	Tajik Academy of Science	Dushanbe
25	Nargiza Usmanova	Programme Associate at the United Nations Development Programme	Dushanbe

ANNEX 5: OVERVIEW OF NATIONAL POLICIES AND STRATEGIES

NATIONAL DEVELOPMENT POLICIES

The National Development Strategy (NDS), which covers the period 2007-2015, does not mention climate variability and climate change explicitly. However, the NDS includes environmental sustainability as a target sector, and it identifies problems that are directly related to climate variability and climate change adaptation.

The NDS is divided into three blocks: The Functional Block, the Production Block, and the Social block (NDS 2006: 8-9). Progress in the three key blocks of the NDS will necessarily lead to improvements in adaptive capacity in Tajikistan.

- In the Functional Block, progress in public administration reform and macroeconomic development will improve the country's capacity to manage and finance climate change adaptation measures.
- In the Production Block, progress in the agro-industrial complex and in the energy sector will improve the country's capacity to address specific climate threats.
- In the Social Block, improvements in the health care system, sanitation, and education will also improve adaptive capacity by allowing the country to better respond to increased health threats and changes in water supply, and by ensuring that a better-educated population will be more aware of climate issues and better trained in key sector

Figure 20: CCA Considerations in the NDS for Selected Topics

Topic	Relationship to CCA
Indicators for parasitic diseases and malaria	Infectious disease will be affected by changes in temperature, and diseases prevention programs should include this consideration in monitoring. Chronic disease, particularly cardiovascular morbidity and mortality, is very likely to increase with climate extremes, particularly among vulnerable groups, but this set of chronic diseases is not monitored under the NDS.
Environmental indicators: safe drinking water	Water quality may be affected by natural disasters; water availability may be reduced by competing uses and may become more expensive as ground water levels decrease and pumping increases.
Share of population using solid fuel (32.2% in 2002)	Potential water shortages due to climate change may reduce options to switch away from solid fuel to hydropower
Problem of high incidence of disease and death of livestock	Some of this morbidity and mortality is likely to be attributable to climate variability (particularly extreme weather events), but it is not clear whether policies and programs will address this cause.
Tajikistan's vast hydropower potential will allow it to increase energy exports in the future and to create major hydropower and industrial-energy complexes (clusters).	Landslides and resultant silting from climate-related disasters may reduce the efficacy of reservoirs and power generation. More extreme temperatures may result in increased demand for heating and cooling (particularly the latter).

Source: NDS 2006: 21, 35, 41, 50

The other key development planning document in Tajikistan is the Poverty Reduction Strategy of Tajikistan (PRS-3), which covers the period 2010 to 2012. The current Poverty Reduction Strategy is an improvement on the National Development Strategy in that it includes specific language on climate change.

Figure 21: Climate Change Language in the PRS-3

F. Climate change

Background information: The impact of climate change on the economy of Tajikistan has already been observed. The rise of temperature and desertification, heavy rains and mudflows, floods in the river basins, severe winds and typhoons can prove the climate change in the country.

Tasks for 2012:

- Strengthening the Centre for Climate Change Studies.
- Developing the norms necessary for adaptation to climate change.
- Rehabilitating mountainous, river banks and desert forests to strengthen foothills and stabilize the water flow process.
- Rehabilitate the networks of snow measurement stations.

While climate change adaptation is not mentioned directly in the body of the PRS-3, it is listed in the related matrix (PRS-3 2010: 78). As in the case of the National Development Strategy, the Poverty Reduction Strategy prioritizes several issues that are directly related to climate change and adaptation.

For example, the document identifies key government plans to implement measures in the *agriculture, land use, and water sectors* (PRS-3 2010: 31). These include the implementation of four key programmes in land and water management infrastructure³⁷. They also include a mix of policy measures with unspecified policy support (supporting the establishment of Water User Associations, improving the land certificate market) and specific technical interventions that are also not identified in the strategy with a particular program (developing new land including irrigation systems, providing farmers with seeds and fertilizers, introducing crop rotation). Finally, the strategy mentions plans to study the introduction of river basin management principles and coordinated management mechanisms.

In the area of *environmental management*, the Poverty Reduction Strategy also mentions priorities highly relevant to climate resiliency. Specifically, it states that “it is necessary to implement the Environment Protection Concept of the Republic of Tajikistan” (PRS-3 2010: 48).

In the area of *disaster prevention*, the strategy identifies specific tasks for action by 2012: 1) Planting trees on foothills and areas subject to natural disasters; and 2) Strengthening the banks of major rivers (PRS-3 2010: 52). Specific indicators in the areas of environmental management and disaster prevention include the following:

- Strengthening the Centre for Climate Change Studies:³⁸ The Committee for Environmental Protection and Forestry, the Ministry of Economic Development and Trade, and other agencies are listed with a funding target of USD 12.5 million
- A 10% expansion in the area of the country planted with trees (riverbanks, deserts, foothills). The Committee for Environmental Protection is tasked with this, and the funding target is set at USD 9.7 million; and
- The protection of riverbanks in Khatlon province. The Committee for Environmental Protection and Forestry, the Asian Development Bank, and others are tasked with this, and a USD 28.5 million funding target is set (Source: PRS-3 2010: 52).

37 “On the rehabilitation of irrigation and drainage systems, water development facilities and on-farm water pumps in the Republic of Tajikistan for 2010–2014,” “On the rehabilitation of arable lands of the Republic of Tajikistan and their inclusion into the agricultural turnover for 2010–2014,” “On the improvement of the reclamation situation of agricultural arable lands of the Republic of Tajikistan for 2010–2014” and “On the rehabilitation of high-pressure pipes in water pumps for 2010–2015.”

38 This language refers to the Climate Change and Ozone Centre (Russian translation: Центр по изучению изменения климата и озонового слоя), which is housed at the State Agency for Hydrometeorology.

To summarize: while the Poverty Reduction Strategy represents an advancement by explicitly mentioning climate change issues and by acknowledging potential climate-related issues that affect water resource management, both the National Development Strategy and the Poverty Reduction Strategy have the following gaps:

- Neither strategy clearly links climate change and climate change adaptation explicitly to production sectors
- Even in the Poverty Reduction Strategy, discussion of climate change issues is almost exclusively limited to the environmental management sector
- The strategies fail to note or include climate change adaptation considerations in proposed sectoral measures and targets, even when these targets are directly affected by climate variability and climate change.
- There are a shortage of indicators in climate-sensitive areas for the planned activities
- Mechanisms, enforcement, and monitoring are unclear

ECONOMIC/SECTORAL DEVELOPMENT POLICIES

Climate change and climate change adaptation issues are not currently mentioned in any sectoral concepts or programs in the priority sectors identified in this report. At the same time, there are a number of sectoral issues that are closely linked to climate change (see Error! Reference source not found.Error! Reference source not found. above) where the relationship to climate change must be made explicit.

ENVIRONMENTAL POLICIES

The Government of Tajikistan has developed documents on environmental policy. In 1994, the Law on Environment Protection was adopted as the legal basis for environmental protection, followed by the State Ecological Program (1996) and the State Program on Ecological Education (1997). In the previous decade, a number of action plans on environment protection were adopted, including National Action Plan against desertification, Action Plan of Biodiversity Protection and Rational Use, Action Plan on Mitigations of the Climate Change and Public Health, supported by the Law on Ecological Expertise.

The *National Action Plan of the Republic of Tajikistan (NAP) on climate change mitigation*, approved by the Government of the Republic of Tajikistan (#259, 6 June, 2003) identifies priorities and directions undertaken by the Republic of Tajikistan against climate change, therefore, founding the basis for planning and policy making at all state levels.

The Environmental Protection Concept

The *Environmental Protection Concept* for Tajikistan (until the year 2015), which was approved in 2009, is the current document that provides guidance on environmental activities in the country.

The Environment Protection Concept (EPC) of the Republic of Tajikistan was approved by the RT Government Decree on December 31, 2008 №645.

Main goal of the Environment Protection claims the “...the provision of favorable status of environment as necessary condition for the improvement of population life and health in Tajikistan”

Among the other principles of the Concept (para 2) *on climate change and adaptations to climate change* (CC and ACC), the following is of special importance:

- Introduce environment protection aspects in the other spheres of policy and economy;
- Create and improve state environmental monitoring as the sources of true data on environment, and create national information system with the following objectives:
- The outmost information coverage of environment protection services in ecological control and environmental monitoring;

- Operational use to assessing environmental situation and decision-making;
- Provide state management organs, research, scientific and public organizations with true environmental data;
- Introduce relevant technical, economic and organizational decisions;
- Engage general public and movements into environment protection; state support to public organizations involved in environmental issues and public health.
- Development and improvement of the exchange system by scientific-technical information, introduction of technical and organizational-economic decisions in field of environment protection.

The economic mechanism mentioned in EPC of RT to ensure environment protection includes next points related to CC and ACC:

- fee-for-use of natural resources for all types of resources, including discharges, and dumps into environment of pollutants and wastes depositing, including radioactive and chemical;
- state support to businesses and organizations involved in natural resources economy, energy-saving, household and industrial wastes production, use and utilization;
- apply international standards to create the system of international management;
- apply environmental management systems as part of general management and administration for optimization of management in order to prevent negative environmental impacts;
- Achieve to energy and resources saving aimed at environment protection activities and reduction of natural disasters.
- Scientific support with the objective in field of protection and rational use of nature environment to develop the scientific knowledge on ecological basis of sustainable development, revealing of new environmental risks caused by society development as well as by natural processes.

Participate in dealing with regional and global ecological problems including:

- protection and rational use of land and water resources;
- preserve the natural and ecological integrity of glaciers and monitoring of high-altitude lakes;
- reduce formation and dissemination of all types of wastes, including monitoring over their storage;
- develop the system of state ecological monitoring;
- prevent anthropogenic climate change and ozone layer protection;
- protect biodiversity, ensure forests protection and reafforestation;
- develop and improve the system of the protected territories of different type and designation;

Paragraph 5 of EPC reads “Environmental situation and environmental security aggravates “due to excessive anthropogenic load onto landscapes and biological diversity. Of special concern are frequented natural disasters related primarily, to climate change, random trees felling located in hard-to-access and hard-to-restore mountain forests, cultivation of mountain slopes. Such a situation is not conducive to ensuring environmental safety being one of the key components of national security”

The document also indicates that environmental safety supports implementation of the state policy in environment protection and rational nature use based on:

- reduced risk of natural and technogenic catastrophes;
- reduced risk of global climate and environment change;
- ensure rational use of natural resources;
- optimal use of mineral and energy resources;
- improved living standards and public health;
- reduced formation of wastes and their optimal utilization and storage;
- optimal allocation of production capacities with account to environmental capacity parameters;
- ensure food security and quality of food;
- improved state management system of ecological safety.

In the chapter covering ecological education and its structure the following aspects appear as the weakest and problematic:

- state officials of all levels and businessmen training and education on the issues of environmental sustainability;
- introduce in state educational standards of high school and higher education (by specialties) the basics of resources-saving entrepreneurship;

The chapter covering land resources reads that the main reason for degradation and depletion of land and, as a result, reduced adaptively to climate change is the weakly controlled land use practices which “often ignores actual potential, productivity and other factors that limit the use of land resources”.

It also notes that the air pollution is one of the most serious problems for public health and environment pollution. One of the reasons is low level of qualification of personnel servicing gas-and dust arresters at industries, the use of outdated technologies and equipment.

Another source of ambient air pollution is the exhaust gases from transport which make up more than 70% of aggregate ambient air pollution, and the absence of automated ambient air monitoring stations in the areas with the highest vehicle traffic load;

- violations of transportation and storage of toxic cargoes and chemical reagents designed to the use in agriculture and industries. This tells of the lacking potential to dealing with these problems.

The agricultural –anthropogenic systems in the country located “in all natural zones, with their increased number over the decades, and exposed to the absence of adequate management. This has led to the reduction of the fertile soil, salination, water logging, flooding and land slides”.

The forestry is the key component of the natural resources potential of the country, and as the Concept tells, “occupies its special place in fighting desertification and biodiversity protection”, therefore, is of incredible importance in adaptation to climate change.

Among the other problems, special attention is paid to the increased number of natural disasters and the weakened information potential.

Chapter 8 of the Concept, among the other issues, discloses the negative impact of climate change onto public health of people residing in high-altitude ecological systems.

Of the problems hampering achievement of ecological sustainability, the Chapter 11 reads of the institutional potential:

- Weakened process of public ecological education;

Therefore, of the priorities, as it is stated in Chapter 12, the following can be highlighted as related indirectly and directly to CC and ACC issues:

- improved institutional potential on environment to ensure ecological sustainability;
- dealing with natural disasters by their forecasting and effective use of natural resources;
- develop the uninterrupted system of ecological education of population

The Environmental Action Plan

In January 2010, the government approved an Action Plan on implementing the Concept for the period 2010-2012. The next Action Plan for 2012-2015 is to be developed next year.

The action plan mentions climate change adaptation only in the context of applied scientific research (Task 8.1). While it does not contain any measures labeled as climate change adaptation measures,

the Action Plan does support tree planting and strengthening steep slopes (Task 3.1), which will promote adaptation if implemented.

The more general field of climate change is not included in action plan measures, and climate change is not a subject that is mentioned under Task 4.2, which is supposed to develop specialized educational materials for both children and adults on selected environmental topics, although the more general Task 4.1 calls for the development of a National Action Plan on Education for Sustainable Development.

The Law on Environment

The Law on Environmental Protection was approved by the Decision of the Parliament on July 21, 2011, № 208. Definitions and terms related to climate change and adaptation are not directly mentioned in the Law. However, some articles or provisions in this or that way are related to climate change and adaptation

The Law, “is aimed at sustainable social and economic development, ensure the rights of people to healthy and favorable environment, prevention of negative impact of economic and other activity onto environment, rational use of natural resources and ecological safety.”

Relevant articles include Article 3 on the sphere of application of this Law, “regulation of relationships between society and environment that arise during economic and to the activity related to environmental impacts in Republic of Tajikistan.”

Article 4 formulates state policy in the sphere of environment protection which is implemented by creating the appropriate system, and by creating the objectives, such as “protection of people’s rights to healthy and favorable environment.”

Of the main principles of the Law (article 5), the following activities are also related:

- Priority to protect people’s life and health and rights to favorable environment;
- Protection and rational use of environment with the purpose of the improved living standards, favorable environment for work and recreation of people;
- Presumption of threat to ecology of any planned economic and other activity;
- Mandatory participation of state organs, public and other non-commercial organizations and individuals in their activities on environment protection;
- Protection of rights of everyone to receiving true information on environmental situation, public participation in decision making, rights to favorable environment in accordance with the law of Republic of Tajikistan;
- Imminence of responsibility for violations of environment protection law;
- Organize and develop the system of ecological education and ecological culture;
- International cooperation.

Articles 9, 10 and 11 of the Law regulate the aspects related to the powers of authorized organs, local authorized organs, local authorities and rights and obligations of people in the sphere of environment protection; monitoring, data collection and public informing on environment, coordination of activities of organizations in this sphere and international cooperation.

From the standpoint of climate change adaptation, articles 23, 25, 32, 33, and 35 (on environmental impact norms, norms of anthropogenic load, sanitary and protection zones, environmental impact assessments, norms and environmental quality standards) are all important. It is also worth mentioning articles 45 and 46, which cover ecological requirements in agriculture and forestry during planning, design and implementation of amelioration works, requirements to energy facilities where they prescribe the need in measures to “maximally protect land, forests, mineral resources deposits, settlements, monuments of nature, history and culture, effective protection of fish reserves, fertile soil layer... inadmissibility of negative impact on environment.”

Articles of the Law regulating responses to environmental disasters (articles 55, 57,59) are important and urgent for implementation and require relevant readiness potential.

Other important articles regulate information flows on environment (article 60) and state environment monitoring activities (article 65), which are aimed at "...observing the environment, including environment in the areas of allocation of sources of anthropogenic impact onto environment," and also "... preventive activities planning to prevent, divert and/or reduce consequences of their negative impact...to develop forecasts of social and economic development and decision making."

The issues of capacity building and scientific basis for decision-making in the environmental sphere, and therefore, such decisions meaningful to climate change adaptation are regulated by article 75 on ecological education, and by article 76 on scientific research in the sphere of environment.

Laws and Policies on Environmental Education

The need for climate change education and raising awareness was first highlighted in the *National Action Plan* of the Republic of Tajikistan for climate change mitigation (NAP), highlighting the possible measures of the governmental and non-governmental organizations to improve the services on education and raising awareness on issues related to climate change. Section 11.8.3. of the NAP is entitled "Enhancement of the education system and training," and it states, "The key factor in the improvement of climate change coverage in the education system is the preparation and retraining of school and high schools teachers, and inclusion in the appropriate educational curriculum aspects of climate change, i.e. anthropogenic impacts on the climatic system and their consequences for natural resources, the economy and the population." (NAP 2003: 175). The Action Plan identifies measures that include the development of educational materials and curricula, teacher training, climate change and climate modeling courses at the post-secondary level, education materials on climate change for students receiving pre-professional training at universities, and materials for continuing education.

National legal frameworks on environmental education are also reflected in the State Program on Ecological Education and Awareness for 1998-2008³⁹ (approved by the GoT in 1997), Country Concept of the sustainable development (approved by the GoT in 2007) and Concept of the environmental protection (approved by the GoT in 2008). However, these programs do not sufficiently reflect the issue of climate change and the need for education and raising awareness or the concept of its mainstreaming to the regular education curricula.

The legislative base for environmental education in general is supported by two laws. The first, the Law on Environmental Education (2010), identifies the jurisdiction of the Government, local authorities, and local NGOs in environmental education, and it also mentions inter-departmental coordination on the issue. The second, the Law on Environmental Information (2011) establishes a foundation for the provision of environmental information in Tajikistan and is supposed to ensure people and legal entities access to complete, reliable and timely environmental information. Currently, climate change education is not specifically supported in environmental education laws and policies.

Adaptation-Related Policies

Finally, it should be noted that there is currently no national policy to address climate change adaptation (e.g. a concept, action plan, or program), and adaptation-related issues are largely absent from development and sectoral planning. When they are included (as in the PRS-3), they are isolated into environmental considerations without broader analysis of impacts on human development.

Planned Legislation

An *Environmental Legal Code* will be developed over the next 24 months, and the gaps mentioned above must be addressed if it is to effectively support climate change policies and programs.

³⁹ The new draft Programme on environmental education for 2010-2015 considering three main Rio Conventions is prepared within the UNDP/GEF project on environmental learning (pers. com. Usmanova 2011)

ANNEX 6: ADDITIONAL INFORMATION -- EDUCATION AND AWARENESS

Figure 22: Selected Materials on Climate Change and Adaptation Available in Tajikistan

Title	Source	Type of Material
Interesting Ecology (2007)	Youth Ecological Center	Book for secondary school and university students, highlighting climate change issues
Everything about the Issue of Climate Change (2011)	Youth Ecological Center	Publication with basic information on causes and consequences of climate change
Global Warming (2011)	Youth Ecological Center	Publication for schoolchildren with basic information on causes and consequences of climate change
Climate Change (2007)	Youth Ecological Center	Brochure including national and international climate issues
Adaptation to Climate Change (2010)	Youth Ecological Center	Brochure with national and international examples (in Russian and Tajik)
Recommendations for dekhon farms on adaptation to climate change (2010)	Youth Ecological Center	Brochure (in Russian and Tajik)
Best Practices on Climate Change Adaptation (2011)	Youth Ecological Center	Brochure (in Russian and Tajik)
Nature Protection	Committee for environmental protection under the GoT	Magazine
Environment for Future Generations (2005)	CAREC	Manual that includes information on climate; approved for use in schools by Ministry of Education
Climate Change Training Module (2009)	Youth Ecological Center, CAREC, Little Earth	Training Module for secondary and post-secondary teachers (piloted with 60 teachers)
Green Pack (2011)	CAREC	Training manuals, visual aids, educational videos, and other supporting materials on 22 environmental topics, including climate change.
Climate change posters and videos (2005)	CAREC working group on environmental education	Five thematic posters and videos for secondary and post-secondary audiences (in Russian and Tajik)
Climate Change Training Modules for Teachers and Civil Servants	Post-Graduate Institute for Continuing Education, State Polytechnical University	Training on environmental issues including climate change and climate change adaptation

Figure 23: Capacity-building Trainings for the Media on Climate Change

Training	Responsible Organization	Date
Training on Climate Change	Dushanbe Media Resource Center with YEC	2008
Training on "Communication skills: Climate change"	UNESCO in partnership with the Central Asia Regional Eco Center's Office in Tajikistan	2009
Journalism and climate change training	Public Organization "Homa"	2010
Ways for improving the reporting skills on natural environment, climate change and biodiversity	"Tajikistan – XXI Century" independent school of journalism	2010
Monthly seminars to inform journalists about protecting the natural environment	New Club of Eco Journalists which has been set up on the basis of the Environment Protection Committee under the Government of Tajikistan	2011
Climate Change Adaptation Training for Journalists	PPCR Phase 1 Component A3	2011

ANNEX 7: SCOPE OF WORK

Project Outcomes and Outputs for PPCR Phase I Components A1 and A3

Source: SPCR, page 42

A1: TAJIKISTAN'S CLIMATE CHANGE INSTITUTIONAL ARRANGEMENTS AND CAPACITY NEEDS

Expected Outputs: Assessment of Tajikistan's institutional, technical and human capacity at the national and local levels to mainstream climate change considerations in key policy areas, with particular focus on the requirements for taking forward the SPCR

Expected Outcomes: Improved understanding of current arrangements to develop adaptation responses and take forward the activities that will emerge from the SPCR, as well as a road map for strengthening the ability of GoT to include the likely impacts of climate change into future national policies and programmes.

COMPONENT A3: RAISING AWARENESS OF CLIMATE CHANGE IN TAJIKISTAN

Expected Outputs: Initial awareness raising events on climate change impacts, vulnerabilities and adaptation for policy makers and other stakeholders and training of trainers for future awareness raising activities

Expected Outcomes: Enhanced understanding of Tajikistan's vulnerabilities and increased sustainability of national and local development plans and PPCR activities. Enhanced ability to exercise influence internationally and leverage funds.

ANNEX 8: DESCRIPTION OF PHASE II PROJECT AS DEPICTED IN THE SPCR

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, youth, 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 (Review of Tajikistan's Climate Change Institutional Arrangements and Capacity Needs) and A3 (Raising Awareness of Climate Change in Tajikistan) 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.

A communication strategy and a detailed public education and outreach programme will be developed building on the findings of the relevant Phase 1 activities. A significant effort will be devoted to create a pool of 'climate change trainers' that can meet Tajikistan's capacity building needs in the long-term and beyond the duration of PPCR activities.

Potential activities on capacity building include:

- Public education and outreach programme geared towards improving decision-making, encouraging policy changes, strengthening information access and data resources for key stakeholders, disseminating PPCR information, and fostering public awareness about the potential impacts of climate change in a variety of public groups, including decision-makers, children, women, youth, civil society and the media;

- Support to national efforts to develop a National Climate Change Adaptation Strategy and Action Plan. The preparation of this strategy will commence at the earliest practical opportunity drawing, among other things, on the various PPCR outputs, and will define a long term strategic plan of action;
- Programme of seminars, workshops and training modules on:
 - climate change vulnerability, impacts and adaptation
 - the international climate change regime and support on climate change negotiations, country position papers and submissions to the UNFCCC;
 - sustainable development and climate change
 - local governance and climate change
 - climate and disaster resilience in mountainous communities
 - how to access international financing on climate change (Global Environmental Facilities, Adaptation Fund, Green Climate Fund and others)
- Training of trainers on tools and methodology to assess climate risks and vulnerability, and develop coping strategies at the community, sub-national and national level
- High-level dialogue/ international conferences to raise awareness amongst the international community of the challenges that Tajikistan and other mountainous developing countries face because of climate change; - PPCR and climate adaptation coordination and dissemination events;
- Establish information clearing house/knowledge management platforms;
- Develop and disseminate targeted knowledge products.

Target audiences for capacity building and awareness raising will include:

- Government Officials, Departments/Agencies: negotiators, decision makers, policy analysts, technical staff;
- Local decision makers: rural communities, municipalities and provinces;
- Private sector, small and medium enterprises, state companies;
- Representatives of professional federations, unions and non-governmental organizations;
- Vulnerable groups including women, children, youth, remote communities;
- Educational institutions, including school and academia.

Capacity building activities will have a strong focus on gender issues associated with climate change. Women are particularly vulnerable to climate change because of their limited access to resources and information, and limited participation in decision-making processes. On the other hand, women are the repository of traditional knowledge and coping strategies that can contribute significantly to the design of robust disaster reduction and adaptation responses. Gender equity and equality will be promoted in all capacity building and awareness raising activities and high participation of women will be encouraged. Issues of gender and climate will form integral part of the information and training materials, and will be reflected in the knowledge products.

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.

At a capacity self-assessment workshop conducted in October 2010, participants included a broad spectrum of stakeholders. These stakeholders identified multiple areas for improvement (AFIs) for institutional strengthening. It is envisaged that the Secretariat, building on this and other awareness raising and institutional assessment work during Phase 1, will programme further Technical Assistance and capacity development inputs to address these AFIs during Phase 2. Government will ensure that these capacity development inputs are aligned with inputs being provided through the MDBs' technical work-streams, and that any capacity developments do not duplicate any provision through other Government or bilateral programmes. 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.

