



# PROJECT IDENTIFICATION FORM (PIF)

**PROJECT TYPE: Full-sized Project**

**THE SPECIAL CLIMATE CHANGE FUND (SCCF)<sup>1</sup>**

**Submission date:** April 28, 2010

**GEFSEC PROJECT ID<sup>2</sup>:**

**GEF AGENCY PROJECT ID: 3929**

**COUNTRY(IES):** Azerbaijan

**PROJECT TITLE:** Integrating climate change risks into water and flood management by vulnerable mountainous communities in the Greater Caucasus region of Azerbaijan

**GEF AGENCY(IES):** UNDP

**OTHER EXECUTING PARTNER(S):** Ministry of Ecology and Natural Resources

**GEF FOCAL AREA:** Climate Change

| INDICATIVE CALENDAR (mm/dd/yy) |                |
|--------------------------------|----------------|
| Milestones                     | Expected Dates |
| Work Program (for FSP)         | June 2010      |
| CEO Endorsement/Approval       | July 2011      |
| Agency Approval Date           | August 2011    |
| Implementation Start           | September 2011 |
| Mid-term Review (if planned)   | April 2014     |
| Project Closing                | October 2016   |

## A. PROJECT FRAMEWORK

| <b>Project Objective:</b> To reduce vulnerability of the communities of the Greater Caucasus region of Azerbaijan to water stress and hazards by improved water and flood management |  |  |  |                                       |    |                                      |    |                      |
|--|--|--|--|---------------------------------------|----|--------------------------------------|----|----------------------|
| Project Components   | Indicate whether Investment, TA, or STA <sup>b</sup> | Expected Outcomes  | Expected Outputs   | Indicative GEF Financing <sup>a</sup> |    | Indicative Co-Financing <sup>a</sup> |    | Total (\$) c = a + b |
|  |  |  |  | (\$) <sup>a</sup>                     | %  | (\$) <sup>b</sup>                    | %  |                      |
| 1. Water and Flood management policy and regulatory frameworks to respond to climate change risks  | TA   | 1. Water and Flood management framework is modified to respond to adaptation needs and improve climate risk management on over 22,067 sq. km <sup>3</sup> of land in highly vulnerable region of Greater Caucasus. | 1.1 a package of modifications in water legislation (code) and related regulations to introduce basin / sub-basin level water management principles that address climate change risks;<br><br>1.2. Developing conjunctive water management model and guidelines for surface and groundwater use to improve rural water supplies in the face of climate change;<br><br>1.3. Land use planning practice introduced that fully accounts for climate change risks from floods and associated mudflows; Regulations in place to enforce flood zoning into the land use. | 480,000                               | 33 | 960,000                              | 67 | 1,440,000            |

<sup>1</sup> This template is for the use of SCCF Adaptation projects only. For other SCCF projects under Technology Transfer, Sectors and Economic Diversification windows, other templates will be provided.

<sup>2</sup> Project ID number will be assigned by GEFSEC. If a PIF has already been submitted, use the same ID number as PIF.

<sup>3</sup> This includes area of 14 regions of Azerbaijan located on the southern slope of the Greater Caucasus

|  |    |  |   |         |    |           |    |           |
|--|----|--|---|---------|----|-----------|----|-----------|
|  |    |  | 1.4. A pilot integrated land use plan/s developed, based on hazard maps, participatory risk assessments and impact scenarios in the target region of the south slopes of the Greater Caucasus;  |         |    |           |    |           |
| 2. Technical capacities to improve climate risk management in the Greater Caucasus | TA | 2. Key institutions have capacities, technical skills, tools and methods to apply advanced climate risk management practices for water stress and flood mitigation | <p>2.1. Soil and water assessment tool (SWAT) introduced for watershed level climate risk assessment and planning;</p> <p>2.2. Hydrometeorological observation capacity strengthened by extending the coverage by automated hydromet stations in the highly hazard prone areas (through the government co-financing);</p> <p>2.3. Based on project generated data, hazard maps are modified to improve flood management as part of the land use planning and management;</p> <p>2.4. Targeted training package designed and delivered for scenario planning and risk assessment for the staff of the Ministry of Ecology and other stakeholders;</p> <p>2.5. Early warning systems improved in being able to timely disseminate information (water stress and flood related) to the local communities through innovative community-based methods, benefiting over 1,000,000 people of the Greater Caucasus region (e.g. local radio for</p> | 840,000 | 29 | 2,100,000 | 71 | 2,940,000 |

|  |    |  |   |           |    |           |    |           |
|--|----|--|---|-----------|----|-----------|----|-----------|
|  |    |  | rainfed farmers, mobile sms for pastoralists, regular (seasonal) community meetings for both farmers and pastoralists etc);   |           |    |           |    |           |
| 3. Water and Flood management practices demonstrated to lead to community resilience | TA | 3. Community resilience to floods and water stress improved by introducing locally tailored climate risk management practices benefiting over 1,000,000 people on total land area of 22,067 km <sup>2</sup> of the Southern slopes of the Greater Caucasus | <p>3.1. Water user association and other communal management systems strengthened to improve local forecasting and response planning mechanisms to cope with water stress and floods;</p> <p>3.2. local multi-stakeholder committee established to test and introduce participatory and consensus-based land use planning that integrates climate risks (feeding into the national planning; relates to output 1.4);</p> <p>3.3. A pilot land use plan initiated to implement sustainable water and flood management measures on the southern slopes of the Greater Caucasus (e.g. community afforestation scheme on the flood plains; establishing locally controlled and managed flood zones; watershed rehabilitation works etc)</p> <p>3.4. Locally tailored public information campaign implemented to make flood-prone communities aware of flood risks and effective risk management (particular focus will be placed on local enforcement of flood zoning and land use regulations)</p> | 1,120,000 | 23 | 3,700,000 | 77 | 4,820,000 |

|                            |  |           |    |           |    |           |
|----------------------------|--|-----------|----|-----------|----|-----------|
| 8. Project management      |  | 260,000   | 34 | 500,000   | 66 | 760,000   |
| <b>Total project costs</b> |  | 2,700,000 | 27 | 7,260,000 | 73 | 9,960,000 |

<sup>a</sup> List the \$ by project components. The percentage is the share of SCCF and Co-financing respectively to the total amount for the component.

<sup>b</sup> TA = Technical Assistance; STA = Scientific & Technical Analysis

**B. INDICATIVE CO-FINANCING FOR PROJECT BY SOURCE AND BY NAME**  
(in parenthesis) if available, (\$)

| Sources of Co-financing         | Type of Co-financing  | Project   |
|---------------------------------|-----------------------|-----------|
| Project Government Contribution | Unknown at this stage | 7,000,000 |
| GEF Agency(ies)                 | cash                  | 260,000   |
| <b>Total Co-financing</b>       |                       | 7,260,000 |

**C. INDICATIVE FINANCING PLAN SUMMARY FOR THE PROJECT (\$)**

|               | Previous Project Preparation Amount (a) <sup>4</sup> | Project (b) | Total<br>c = a + b | Agency Fee |
|---------------|--|-------------|--------------------|------------|
| GEF financing | 0  | 2,700,000   | 2,700,000          | 270,000    |
| Co-financing  | 0  | 7,260,000   | 7,260,000          |            |
| <b>Total</b>  | 0  | 9,960,000   | 9,960,000          | 270,000    |

**D. FOR MULTI AGENCIES/COUNTRIES (IN \$)<sup>1</sup> N/A**

**PART II: PROJECT JUSTIFICATION**

**A. STATE THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND THE EXPECTED ADAPTATION BENEFITS TO BE DELIVERED:**

1. Azerbaijan is a lower middle-income country with an average annual GDP growth rate of 20% during 2003-2008, led mainly by oil and gas production. Azerbaijan is rich in mineral resources, mainly oil and gas, and also has fertile agricultural land. The oil and gas sector contributes approximately 52.54% of GDP, while agriculture contributes about 5.7 % but provides livelihood to almost half of all households<sup>5</sup>.
2. With about 11.8 % of the population still living in poverty, Azerbaijan needs to improve social services and infrastructure, generate employment, and develop the non-oil economy. Diversified development of the non-oil sector and non-oil export development are critical for the generation of new jobs and the sustainability of the economy. Improved human capital will also be an important ingredient to the country's success. As Azerbaijan's oil sector occupies less than 1% of the labor force, the overwhelming share of employment needs to come from agriculture, non-oil industry, and services.
3. Azerbaijan's rural and agriculture sector had slipped into decline following a period of limited investment for development, operation and maintenance. Rural infrastructure had deteriorated markedly, resulting in reduced access to services, lower agricultural productivity, and a greater risk of flood damage to settlements and crops. Although Azerbaijan is recovering economically due to investment and development of oil and gas reserves, this does not have much impact on rural income levels. Recovery of the agriculture sector, with sustainable water use and environmental protection, requires improved water resources and flood management, especially to alleviate rural poverty. Reoccurring floods result in loss of lives, crops and rural infrastructure. Floods not only threaten settlements but also leave layers of sediments over the agricultural land, seriously diminishing its productivity.
4. Azerbaijan belongs to the world's water stress countries. The SNC estimations show that with projected climate change, water resources will be reduced by 5.7 – 7.7 km<sup>3</sup> or by 23% during 2021-2050. Per capita water availability will fall to 600-500 km<sup>3</sup>. With current deficit of water resources being about 5 km<sup>3</sup>, the additional pressures on water

<sup>4</sup> Include project preparation funds that were previously approved but exclude PPGs that are awaiting for approval.

<sup>5</sup> State Statistical Committee of Azerbaijan

resources due to climate change will seriously affect the rural water supply. The region of Greater Caucasus has been identified as particularly vulnerable in this regard. Paradoxically, most of the quality ground waters are formed in foothills of the Greater and Lesser Caucasus and constitute 24 million m<sup>3</sup> (8.8.km<sup>3</sup>) per year. However, currently, only 20% of a total resource has been used. And as SNC suggests, with the view of increasing water deficit, the country will have to increase ground water extraction both for irrigation and fresh water supply needs.

5. Water is unevenly distributed across the seasons and geographic areas in Azerbaijan. Despite an overall trend of rainfall reductions in the country, the mountainous regions of Greater Caucasus experience increasingly prolonged inundations and flash floods during the wet season and extended dry spells during the dry seasons. Variation of water flow may reach 30% between the dry and wet seasons.
6. Climate change does not only impact water availability but also exacerbates frequency and magnitude of local floods. A sustained increase in rainfall has been recorded during winter and spring months leading to floods and mudflows (the latter occurs in the areas subjected to erosion). Major floods occurred in the Greater Caucasus in 1997, 1998, 1999 and 2002. The frequency of mudflows in the region increased from an average of 2 – 4 per year during the baseline period of 1960-90s, to an average of 15-18 per year in the new millennium (SNC, Ministry of Ecology and Natural Resources). At present, the value of assets at risk from flooding is about USD 3.7 billion (Asian Development Bank). Floods and mudflows regularly affect large areas of Azerbaijan, in particular the Kura River and Araz River floodplains (near to and downstream of Sabirabad) and the steep alluvial plains along the tributaries of the Kura and Araz Rivers. The volume of sediments each mudslide brings is between 0.2 and 1.0 million m<sup>3</sup>. Floods in 2003 caused over USD 50 million in losses and damaged over 7,150 private and public buildings. A 100-year flood event would cover 15,000 km<sup>2</sup>, affect 300,000 people, and result in damages of \$396 million.<sup>6</sup>
7. The formation of floods more intensely takes place in the Greater and Lesser Caucasus mountain systems, which occupy half of the country's total land area. The Greater Caucasus that is profoundly affected by meteorological hazards and is characterized by high poverty incidents with over 60% of population having per capita income of \$0.8 per day or less (the official poverty line) and 79% having per capita income of \$1.0 per day or less. On average, an annual damage from floods amount to USD 18-25 million. At the same time, mudflows occur several times during a year and affect almost all parts of the Greater Caucasus. Annually the mudflows wash out over 1 million m<sup>3</sup> of fertile soil impacting land productivity, agricultural systems and resulting in human casualties. Cumulative effect of droughts, floods and mudflows make livelihoods of farmers especially difficult as two or more less productive years in a row make it hard for the farmers to survive.
8. Water availability, as suggested by SNC scenarios, will become increasingly erratic and insecure, and local communities and economies will continue to suffer from water scarcity for essential needs, such as drinking, household needs and agriculture. This coupled with exponentially increasing floods and mudslides will trigger shortfalls in agricultural production, resulting in loss of profits, food insecurity, and market imbalance as prices are pushed up. The trickle-down effect could be further felt in a flow of rural populations migrating to city centers adding to the number of the urban poor.
9. Main root causes of the stated problem lie in current practices of land use and water management. Seasonal nature of water availability in the areas of Greater Caucasus prompt local population to move closer towards the flood plain areas and river banks thus increasing exposure of settlements to flood incidents. Protective zones are not clearly defined or observed. Structural measures that are currently favoured and applied cannot offer long-lasting solutions in the face of climate change. Even though structural measure are needed and have already contributed to improved flood protection, they offer “end-of-pipe” approach rather than sustainable solution to improved water and flood management in the face of exacerbated risks posed by climate change. A complex mosaic of land use in the southern slopes of the Greater Caucasus, ranging from the high altitude summer pastures, bordering with forest belt and agricultural small householder land plots, mainly practicing multicrop rainfed agriculture, requires more complex and integrated approaches to addressing the issues of water stress and flood impacts. The normative condition that the project proposes to establish is to sensitize the water management policies and practices to the long term risks of climate change.
10. The main identified barriers to addressing the above route causes and risks are the following:

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<sup>6</sup> Asian Development Bank, January 2008, *Azerbaijan: Supporting River Basin and Flood Management Planning (Technical Assistance 4301-AZE)*.

- The current, sector-oriented system of water management is inflexible to accommodate competing demands of water users and insensitive to the forthcoming risks posed by the climate change;
  - Current investments in structural measures for flood protection do not consider the long term implications of climate change. Therefore, the design of protection infrastructure overlooks climate change related limitations posed on such measures;
  - Land use policies and planning do not consider water and flood management in an integrated framework that can steer inappropriate developments away from the areas of high risk;
  - There is limited knowledge of available adaptation technologies, in particular water and land use regulation and management modalities that will make the highly exposed assets and populations resilient to climatic stressors.
11. The proposed project will address these barriers by developing capacity to integrate climate change risks into the water and flood management policy and regulatory framework. Since the existing water policy framework is a broad area with a diversity of users, the priority focus will be placed on rainfed farming and pastoral water use as the nature of the issue dictates in the target region. Water and flood management are closely intertwined areas in the Greater Caucasus region of Azerbaijan. Therefore, the project will favour the policy and local management options that will benefit to climate risk reduction at both ends (water shortage and stress, on the one hand and floods, on the other). The project will develop capacities of local communities and communal organizations to more effectively withstand to current and anticipated climate change risks through improved water and flood management.
  12. The **goal** of the project is to sensitize the water management policies to the long term risks of climate change. The **objective** of the proposed project is to reduce vulnerability of the communities of the Greater Caucasus region of Azerbaijan to water stress and hazards by improved water and flood management. As contribution to meeting the objective, the following outcomes will be achieved.
  13. **Outcome 1:** Water and Flood management framework is modified to respond to adaptation needs and improve climate risk management on over 22,067 sq. km of land in highly vulnerable region of the Greater Caucasus
  14. Baseline: Azerbaijan, as a water stressed country with per capita water availability of 1000m<sup>3</sup>, places high priority on water management. As a result of a recent institutional reform, former water committee and the state joint stock company Absheron Su (Absheron Water) has been merged to form the State Joint Stock Company on Amelioration and Water Reserves (– SJSCAWR). This newly formed institution functions as an equivalent to a Ministry of water in the country, mandated to manage water resources, including water infrastructure as well as to identify and undertake flood mitigation and preventive measures. In the current year, AZN 2.5 million (equivalent USD 3.1 million) was allocated to the SJSCAWR for investments in flood protection, mainly through structural measures such as construction of dikes and embankments to protect the population and infrastructure against floods and mudflows. Since the frequency and severity of these events are on increase the Company’s expenditure will most likely be stretched to accommodate additional expenses required for further upgrade of these structures to cope with more severe floods. It is planned that the Government will allocate AZN 234 million (USD 292) for flood prevention measures in the years 2011-2014. This places increasing strain on the state budget that needs to be addressed by applying a combination of non-structural measures that are currently missing or suffer from lack of adequate enforcement. As such, one of the critical recommendations that came out from the ADBs Flood Mitigation initiative (structural measures) was to make a shift from a predominant focus on immediate structural solutions to flooding to policy and institutional reform and capacity building to address longer term effectiveness of flood management in the face of climate change. Essentially, intensity and magnitude of flood occurrence relates to elevation, vegetative cover and land use patterns. The State Committee for Land Resources and Cartography is represented at the sub-national level and is mandated to develop and enforce land use plans in cooperation with local authorities and other line Ministries. However, the capacities to integrate climate hazards in land use decisions are missing. Water Code that governs water management practices in the country dates back 1999 and is not geared towards more advanced practices of integrated water resource management that is to take more basin/sub-basin level of management.
  15. Alternative: The project will help to modify the water code and related legislation that will take up more integrated and basin / sub-basin level of water management approaches. This is to help fully consider the long term climate change related risks of increasing hydrological volatility and oscillations of intensified dry and wet seasons that impose water stress and flood incidents on socially vulnerable communities of rainfed farmers and pastoralists. The project will also introduce innovative conjunctive surface and ground water use. Surface water and groundwater typically have a natural hydrologic connection. Conjunctive water use is an approach that recognizes this connection and tries to utilize it to use the overall water supply more efficiently. This is also a method for coping with water stress during the dry season or drought. Conjunctive use is to supplement limited surface water supplies with groundwater as conjunctive water use

at different spatial and time scales (seasonally etc). At the same time conjunctive water use may elaborate regional water management programs that store large volumes of surface water below ground during normal and high rainfall years and then pump large volumes of groundwater from storage during drought years. Fundamentally, conjunctive approach is using surface water and groundwater together to improve the overall availability and reliability of water. In the context of Azerbaijan, where the use of ground water will become unavoidable, as a result of anticipated water stress, this approach seems to be highly relevant. Total capacity of exploitative underground water reserves is estimated to be 8 to 9 km<sup>3</sup> per year, which may play significant role in sustainable water supply of Azerbaijan. The project will introduce this innovation through putting in place necessary regulatory and management frameworks. The project will introduce and test this approach in the context of the Greater Caucasus. The project will also develop and introduce flood zoning regulations to restrict uncontrolled development in sensitive catchment and river bank areas. This will be done by facilitating the local community participation in flood management to improve vigilance in implementation of the regulation.

16. **Outcome 2:** Key institutions have capacities, technical skills, tools and methods to apply advanced climate risk management practices for water stress and flood mitigation.
17. **Baseline:** Ministry of Ecology and Natural Resources is a key agency for water protection that has limited technical capacity for monitoring and control on the ground as well as lacks the tools and methods for uptaking key recommendations of the SNC in water sector. Skills and methods to undertake locally tailored climate risk assessments and prepare set of enforceable regulations for more climate sensitive water and flood management practices are missing. In order to address some of the pressing technical capacity gaps, the Ministry has recently established the Training Centre for its key technical personnel. However, the capacities are missing to design well targeted training programmes to improve the knowledge base and adaptive capacity that is urgently required. The Ministry has been investing in upgrading the Hydrometeorological observation system by establishing new automated hydro-meteorological stations, particularly in the hazard prone region of the Greater Caucasus. Up to date 7 hydro-met stations have been automated, with an average investment of AZN 20,000 per station in equipment and software. However, online transfer of data from the stations to the Hydromet is not operating in full scope due to limitations in the telecommunication system<sup>7</sup>. Even though the early warning system is being put in place to rely on this newly installed infrastructure, the Hydromet department of the Ministry still suffers from the required technical expertise to operationalise the EWS and undertake a rigorous data processing and analysis for improved climate risk assessment and proactive / anticipatory response and adaptation planning. Timeliness and accessibility of the early warning at local level requires a special attention that is not addressed by the currently operational information system.
18. **Alternative:** The project will improve the technical capacity and knowledge base for climate risk management and a long term adaptation planning for water use and management. It will do so by introduction of advanced tools and methods to establish the process of planning that is scientifically sound and evidence-based. One such example would be the Soil and Water Assessment Tool (SWAT). SWAT was developed to predict the impact of land management practices on water, sediment and agricultural chemicals yields in large complex watersheds with varying soils, land use and management conditions over long periods of time. SWAT is a continuation of nearly 30 years of modeling efforts conducted by USDA-ARS<sup>8</sup>. SWAT has gained international acceptance as a robust interdisciplinary watershed modeling tool and now is easily accessible through free open source interface. SWAT was used to quantify the impacts of climate change for five different watersheds in Europe and a suite of nine models including SWAT were successfully tested in 17 different European watersheds. This experience will be transmitted to Azerbaijan, namely to the Ministry of Ecology and its department of Hydrometeorology. The project will also help the Ministry of Ecology and other relevant institutions to improve their hydromet coverage in a hazard prone Greater Caucasus region and improve an overall observation capacity; climate information storage, processing, analysis and dissemination protocols will be put in place. The project will design and deliver the training programme to the government personnel on climate risk assessment methods; and scenario based planning for water sector.
19. **Outcome 3:** Community resilience to floods and water stress improved by introducing locally tailored climate risk management practices benefiting over 1,000,000 people on total land area of 22,067 km<sup>2</sup> of the Southern slopes of the Greater Caucasus.

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<sup>7</sup> The automated meteo station represent one single box, it is procured as one unit. The model is called Wisava. Stations presently have to use land line, not the mobile networks and this complicates online transfer of data (Ministry of Ecology and Natural Resources, 2010),

<sup>8</sup> United States Department of Agriculture – Agricultural Research Service.

20. **Baseline:** Given the priority assigned to water and flood management in Azerbaijan there has been series of interventions by the donor community to support on going efforts of the government in this area. As such, during the past five years, ADB helped to invest over \$23 million into the flood mitigation, largely through implementing the structural measures (building dams, dikes and embankments). As a result, considerable improvements have been observed in flood mitigation. However, these mitigation measures will become largely insufficient for coping with increasing magnitude and intensity of floods in the face of climate change. For example, dikes have already been raised since the last major flood in May 2003, but how much longer it will be possible to keep up. The government has made some progressive steps in improving water governance practices, especially by establishing the water user associations. These important local institutions have limited capacity and experience to adopt a forward looking water use and management approaches. Notwithstanding a declared acceptance of Integrated Water Resource Management principles by the government, the multi-stakeholder approaches to water and land use decisions have not been practiced yet. This comes as particularly important at the local, sub-national level where the enforcement might be precluded by uncoordinated and often conflicting decisions. As such, one of the root causes of raising vulnerability and costs of damage from floods is increasing exposure, resultant from encroaching of development towards the floodplains. In the absence of more stringent regulations for flood zoning as part of the land use planning this trends won't be possible to reverse. Effective long term water decisions will only be possible by exercising a multi-stakeholder engagement, especially participation of local communities and community groups, such as farmers and water users.
21. **Alternative:** The project will work closely with regional authorities, municipalities, local representatives of the line ministries and local community groups (farmers, water user associations etc) to undertake risk / hazard mapping and design an integrated land use plan for the pilot area (to be determined during the PPG phase) of the Greater Caucasus region that will take a bottom-up, multi-stakeholder, consensus-based approach. As part of the process the project will identify and initiate some of the priority water and flood management measures (e.g. community afforestation scheme on the flood plains; establishing locally controlled and managed flood zones; watershed rehabilitation works etc). These measures should not turn into a one time exercise but rather explore the options for incentives (through municipal job creation or loan / insurance repayment schemes) whereby the local population is systematically engaged in water and flood management solutions on the ground. The project will roll out a direct campaign to make water stress and flood-prone communities aware of water stress and flood risks and means of effective risk management. Particular focus will be placed on local enforcement of flood zoning and land use regulations and watershed protection.

**B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL/REGIONAL PRIORITIES/PLANS:**

22. The project is fully in line with the latest findings and adaptation priorities underlined by the Second National Communication. Water is featured as the top adaptation priority in the section of V&A. Realizing the magnitude and urgency of the issue the government has undertaken number of measures to address the water stress and hydrological hazards. State Programme on Socio-Economic Development of Regions is a development framework of all economic zones of Azerbaijan. In case of the Greater Caucasus region, which covers two economic zones – Sheki-Zagatala and High Shirvan, key actions include: improvement of drinking water supply, development of agricultural sector, creation of new jobs and flood protection measures. In this context, rural water supply constitutes the worst socio-economic indicator for the region and the country, at large. Rural population with access to safe water reaches 59% only (ADB, Country Strategy and Programme Update, January, 2006). Hence, the particular attention to the water sector by the government and the donor community in the country. Support to adaptation measures is part of the long-term State Programme on Poverty Reduction and Sustainable Development covering 2008-2015. The State Programme on Development of Hydrometeorology envisages strengthening capacities for monitoring, hydrological forecasting and warning systems, and water resources assessment for improved water resources management. The existing development framework, which does not consider the long-term implications of climate change, nonetheless provides favourable baseline conditions for the SCCF funded project to advance policies and implement suit of on the ground measures for addressing adaptation needs in water and flood management

**C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH SCCF ELIGIBILITY CRITERIA AND PRIORITIES:**

23. The project proposal has been developed with guidance from the *Adaptation Policy Frameworks for Climate Change*<sup>9</sup> and the Special Climate Change Fund (SCCF) of the GEF<sup>10</sup>. The GEF project will position itself strategically by

<sup>9</sup> Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measures. UNDP, GEF. September 2004.

<sup>10</sup> GEF Assistance to Address Adaptation. GEF/C.23/Inf.8/Rev.1, prepared for GEF Council. May 19-21 2004.



building on current baseline activities and introducing the policy change and innovative management of the existing water management systems in the rural mountainous regions of Azerbaijan. As a result, the communities and rural water supply at large will become more resilient to climate change impacts. Following the SCCF guidance the adaptation measures to be considered will involve changes to the management of the existing system of water and flood management both at upstream policy and on-the ground communal management levels. The response measures in response to water stress and accelerated intra and inter-seasonal flooding will include improved water policies and regulations, including innovative conjunctive ground and surface water management solutions and mediation of water availability to the communities. The project will sensitize land use planning in the target region to the climate risks so that it serves as a vehicle for improved water basin and watershed management as well as for a reduction in flood risks. Effective land use planning can steer inappropriate development away from areas at high risk of flooding, create storage for flood water for drier seasons and reestablish natural floodplain areas for improved water and flood management. The project will also develop the current coping capacity of the local population through introducing short and long-term forecasting and water use planning at local level and improving communal water and flood management practices overall.

#### **D. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:**

24. The proposed project will build on the lessons of recently completed initiatives of high relevance and coordinate with related projects and programmes through advisory group that the project will establish as part of its implementation structure. In this regard the following initiatives come out as relevant:
25. Completed and on-going initiatives:
26. Regional “Disaster Prevention in the South Caucasus” Project covered Armenia and Azerbaijan, with the total budget of 2.5 million Euro allocated by the German Ministry for Emergency Situations. The project component implemented in Azerbaijan was managed by GTZ in cooperation with the Ministry for Emergency Situations. The project focused on Sheki Zagatala regions of the Greater Caucasus and addressed institutional roles in emergency response communication at all levels; The programme was finalised in 2008 and was a single most important programme to support newly established Ministry that is responsible for post-desaster response and coordination of recovery efforts.
27. ADB Flood Mitigation Project supporting flood protection schemes, through a \$23 million loan, with bulk of funding spent on the physical infrastructure component. One of the lessons learnt from the project was the need to put greater emphasis on institutional reform and capacity building to address longer –term planning and management issues related to flood management;
28. EU Water Initiative EECCA (Eastern Europe, Caucasus and Central Asia) component seeks to promote Integrated Water Resources Management. UNECE is conducting National Policy Dialogues to identify issues, define priorities and establish plans of action in the water sector. The NPD in Azerbaijan will strive to identify possible partners and funding opportunities that may be complementing the proposed project;
29. Upcoming initiatives: A regional project on development and implementation of International and Regional Flash Flood Guidance and Early Warning Systems covering 8 countries in the Black Sea and Middle East Regions (Armenia, Azerbaijan, Bulgaria, Georgia, Turkey, Iraq, Syria and Iran). The five –year project will represent partnership between WMO, USAID and Hydrologic Research Centre., in collaboration with the hydromet and disaster management agencies. The project approach will entail development of infrastructure first on a global scale to then support the development of regional implementations of technology, training, protocols and procedures to address the issues of mitigating the impacts of flash floods. EC also plans to provide 2 million Euro for a regional project that is to enhance disaster risk management in Armenia, Georgia and Azerbaijan.
30. In order to avoid duplication of efforts and maximize synergy with the above listed initiatives, the project will support a technical advisory group including representatives of the donor agencies involved in the water sector. The group will convene regularly to share information, provide inputs, including lessons learnt, and overall advice on the project direction. During the PPG the project might consider to conclude MoU for more formalized cooperation with the WMO/USAID regional initiative that might have country presence in Azerbaijan

#### **E. DESCRIBE ADDITIONAL COST REASONING:**

31. Azerbaijan stands at a critical juncture. On the one hand, the size of the economy may experience steady growth in the years to come, as various oil sector investments begin to bear fruit. On the other, poverty rates remain high and economic opportunities are unevenly spread. Azerbaijan must contend with its post-Soviet legacy—collapse of the

industrial base, deterioration of physical infrastructure and social services, and lingering environmental damage. Outdated legislation and regulations restrict the innovation in the water management sector that is critical to the water stressed, largely arid and semi arid country. Without the GEF support the country will continue to apply rigidly sectorial approaches to water management, overlooking important additional stress factors posed by climate change. Despite the significant investments (both current and upcoming) into the water infrastructure, mainly irrigation system (30% of agricultural land is irrigated) and flood protection structures, improvements in water management practices are not duly addressed. Non-structural, institutional and regulatory reforms are essential for developing more flexible and climate resilient water sector that ensures equitable and uninterrupted water supply, especially to the most vulnerable. Without this additional support, innovative and more cost-effective measures of water management (conjunctive surface and ground water management) or anticipatory flood protections (hazard mapping as part of the land use regulations) won't be known or applied postponing important early actions for a long term adaptation, necessary for the safety and sustainability of the livelihoods in the poorest mountainous parts of the country.

**F. INDICATE THE RISK THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND OUTLINE RISK MITIGATION MEASURES:**

| Risk   | Risk rating | Risk mitigation strategy   |
|--|-------------|--|
| Local communities in Sheki-Zagatala and High Shirvan regions are not supportive of proposed adaptation measures as they might view them in conflict with their livelihood development priorities                                     | Medium      | The project will put specific emphasis on putting in place a legitimate mechanism for active participation of local communities in the identification and implementation of adaptation measures.<br>The project will also roll-out a awareness raising campaign targeted at flood-prone communities. |
| Mandate for various aspects of water and flood management is spread among several government ministries leading to institutional overlap that may create conflict between state entities and affect project management arrangements. | Medium      | The project will clarify institutional mandates with the supra-ministerial authorities at the preparatory stage and design project management arrangements to align with mandates and responsibilities of key state institutions involved in water and flood management.                             |

**G. DESCRIBE, IF POSSIBLE, THE EXPECTED COST-EFFECTIVENESS OF THE PROJECT:**

32. The proposed project strategy is considered cost-effective in as much as it introduces the soft, policy measures as well as non-structural on-the-ground risk management and adaptation measures by improving the water resource and flood management practices that offer greater flexibility and resilience to multiple water users, including the most vulnerable communities. This approach is much more cost-effective compared to infrastructure driven, structural protective measures supported and advocated by other institutions. Cost-effectiveness of the project will be further detailed during the PPG phase.

**H. JUSTIFY THE COMPARATIVE ADVANTAGE OF GEF AGENCY:**

33. Disaster risk management is prominent in the present framework documents for UNDP's involvement in the country. The Common Country Assessment and Country Analysis for Azerbaijan highlight the significant negative impacts of natural disasters upon the economy and society. They emphasize the need to assist the Government in shifting its approach from disaster response to disaster risk management. The UNDP has a particular advantage in the area of disaster preparedness and response because it was leading the country's disaster management team and has extensive experience and expertise in implementing and coordinating multi-sector emergency response and disaster reduction programmes within the region and worldwide. The upcoming UNDAF for 2011-2015 highlights the need to strengthen the enabling environment and build capacities. Disaster risk reduction is emphasized as a cross-cutting issue to be addressed in strengthening economic development, social development, and governance

**PART III: APPROVAL/ENDORSEMENT BY OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)**

**A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT:**

| <b>NAME</b>          | <b>POSITION</b> | <b>MINISTRY</b>                           | <b>DATE</b>    |
|----------------------|-----------------|---|----------------|
| Mr. Husseyn Baghirov | Minister        | Ministry of Ecology and Natural Resources | April 28, 2010 |

ENDORSEMENT LETTER

**AZƏRBAYCAN RESPUBLİKASI  
EKOLOGIYA VƏ TƏBİİ SƏRVƏTLƏR  
NAZİRLİYİ**



**MINISTRY OF ECOLOGY  
AND NATURAL RESOURCES OF  
REPUBLIC OF AZERBAIJAN**

*Az1073 Azərbaycan, Bakı, B.Ağayev Küç. 100A*

*B.Aghayev Str. 100A, Az1073 Baku, Azerbaijan*

*Tel: (99412) 492-59-07, Faks (99412) 492-59-07*

*Tel: (99412) 492-59-07, Fax (99412) 492-59-07*

No 4/850-01-08

" 28 " 04 2019

**To: Yannick Glemarec  
GEF Executive Coordinator  
UNDP**

Subject: *Endorsement for Project "Integrating climate change risks into water and flood management by vulnerable mountainous communities in the Greater Caucasus region of Azerbaijan".*

In my capacity as GEF Operational Focal Point for the Republic of Azerbaijan, I confirm that the above project proposal (a) is in accordance with the government's national priorities and the commitments made by Azerbaijan under the relevant global environmental conventions and (b) has been discussed with relevant stakeholders, including UNFCCC focal point, in accordance with GEF's policy on public involvement.

Accordingly, I am pleased to endorse the preparation of the above project proposal with the support of UNDP. If approved, the proposal will be prepared and implemented by relevant national authorities.

Further, I request UNDP to provide a copy of the project document for information of this office before it is submitted to the GEF Secretariat for CEO endorsement.

I understand that the total SCCF financing being requested for this project is \$3,080,000 inclusive of project preparation grant (PPG) and Agency fee (10%) to UNDP for project cycle management services associated with this project.

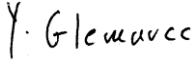
| GEF Agency                 | Focal Area     | Country Name/Global | (in \$)             |          |          |           |
|----------------------------|----------------|---------------------|---------------------|----------|----------|-----------|
|                            |                |                     | Project Preparation | Project  | Fee      | Total     |
| UNDP                       | Climate Change | Azerbaijan          | 100,000             | 2,700,00 | 2,800,00 | 3,080,000 |
| <b>TOTAL GEF RESOURCES</b> |                |                     | 100,000             | 2,700,00 | 2,800,00 | 3,080,000 |

Sincerely,

Hussein Baghirov

Minister of Ecology and Natural Resources  
GEF Operational Focal Point

**B. AGENCY(IES) CERTIFICATION**

| This request has been prepared in accordance with SCCF policies and procedures and meets the SCCF criteria for project identification and preparation. |   |                |                              |                     |                          |
|--|---|----------------|------------------------------|---------------------|--------------------------|
| Agency Coordinator,<br>Agency name   | Signature   | Date           | Project<br>Contact<br>Person | Telephone           | Email Address            |
| Yannick Glemarec<br>Executive<br>Coordinator<br>UNDP/GEF   |  | April 28, 2010 | Keti<br>Chachibaia           | +421 2<br>59337 422 | keti.chachibaia@undp.org |