UNDP Project Document

Governments of Armenia, Azerbaijan, Georgia

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Reducing Transboundary Degradation in the Kura-Aras Basin

The Project will assist the Kura-Aras riparian states to 1) identify the principal threats and root causes of the trans-boundary water resources of the Kura Aras-River Transboundary Basin and 2) develop and implement a sustainable programme of policy, legal and institutional reforms and investments to address these threats. Balancing overuse and conflicting uses of water resources in transboundary surface and groundwater basins is seen as the critical issue in the basin and will be a principal focus of project attention from the very outset of project related activities. The Project will create synergies with and build upon a range of initiatives being undertaken by the countries themselves and those of bi-lateral and multi-lateral donors that have given priority to the Basin.

The long-term development/environmental goal of the project is sustainable development of the Kura-Aras River Basin enhanced through ecosystem-based Integrated Water Resource Management approaches. The project objective is to improve the management of the Kura-Aras River Transboundary Basin through the implementation of a sustainable programme of policy, legal and institutional reforms and investment options using the Trans-boundary Diagnostic Analysis (TDA) and Strategic Action Programme (SAP) process. In order to achieve this objective, the project will update the TDA, support National IWRM plans which will be the base of the SAP, undertake a range of public involvement and awareness activities focusing on trans-boundary activities, and undertake demonstration projects that implement key aspects of the SAP.

During the development of the preliminary TDA, four priority transboundary problems were identified as affecting the Kura-Aras River Basin: 1. variation and reduction of hydrological flow; 2. deterioration of water quality; 3. ecosystem degradation in the river basin; and, 4. increased flooding and bank erosion. The TDA will be revised taking into account key gap filling activities to be undertaken as part of this project and the ongoing activities of the EU funded Kura-Aras Regional Project. The final TDA and National Integrated Water Resource Management planning approaches throughout the basin will serve as the basis for development of the Strategic Action Programme (SAP) as an agreed programme of interventions for region. The TDA will review the potential impacts of climate change on the priority transboundary issues. The SAP will be underpinned by the development of national Kura-Aras Basin IWRM plans in Azerbaijan and Georgia and implementation of the existing IWRM plan in Armenia. The SAP will incorporate a basin vision, water resource quality objectives, targets and interventions in the short and medium term to meet the targets. Key activities which will inform the TDA, National IWRM Plans and the SAP will be the demonstration projects on the establishment of ecological flows and rapid river ecology assessments at key locations in the basin.

This project has been designed in close collaboration with the Kura-Aras Basin countries. It has been developed in coordination with the other major donors, inter alia, European Union, EBRD and USAID, to ensure maximum synergy and minimum overlap between supporting projects.

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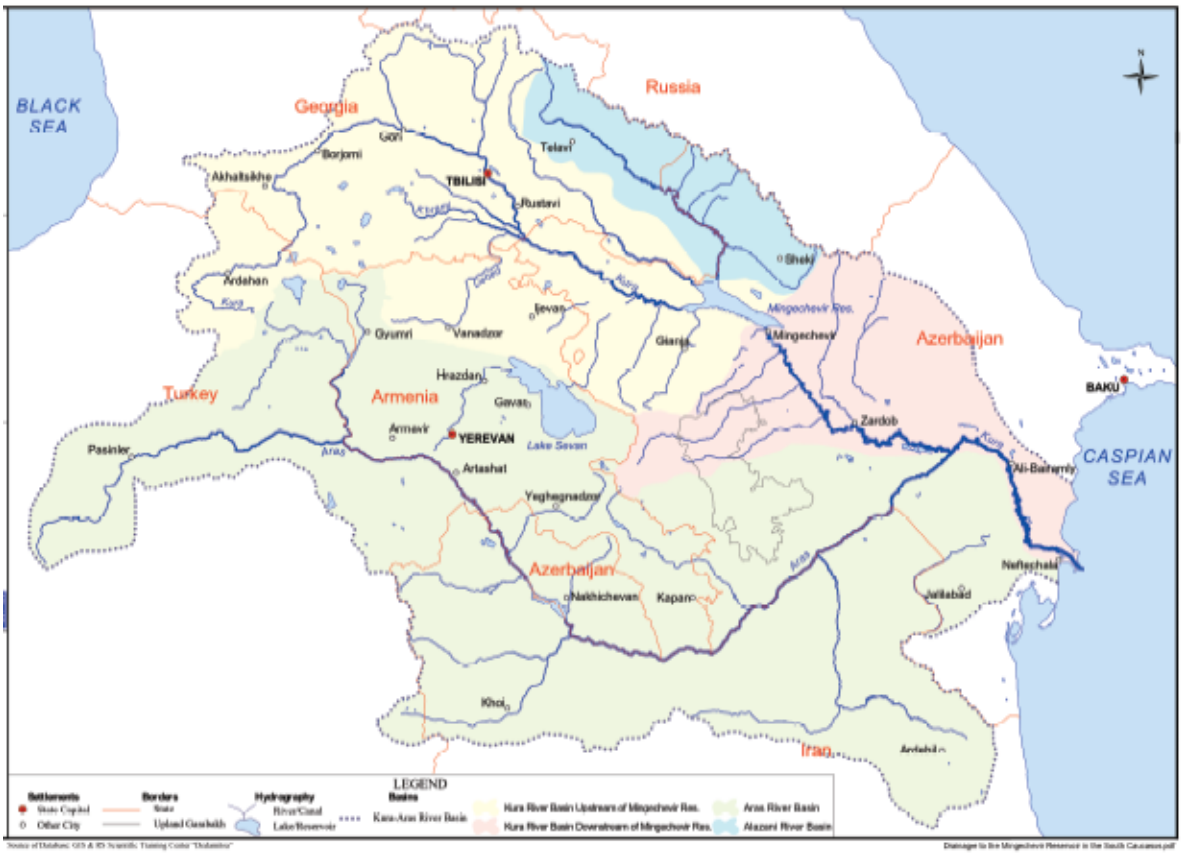
Acronyms

AAWEMA	Agency for Amelioration and Water Economy of the Ministry of Agriculture
AM	Republic of Armenia
ASH	State Hydrometeorological and Monitoring Service of Armenia
AWSC	Armenian Water Supply Company
AZ	Republic of Azerbaijan
BMO	Basin Management Organization
BOD	Biological Oxygen Demand
EU	European Union
CCA	Causal Chain Analysis
CEP	Caspian Environment Programme
CLD	Causal Loop Diagram
CRC	Central Regulatory Commission
CTA	Chief Technical Advisor
DAI	Development Alternatives Inc.
DDD	Dichloro-Diphenyl-Dichloroethane
DDT	Dichloro-Diphenyl-Trichloroethane
DOE	Department of Environment
ENVSEC	Environmental Security Initiative with UNDP, OSCE and other donors
IA	Implementing Agency
IDP	Internally Displaced Person
IR	Islamic Republic of Iran
IW	International Water
IUCN	International Union for the Conservation of Nature and Natural Resources
EIMC	Environmental Impact Monitoring Center
FSU	Former Soviet Union
GEF	Global Environmental Facility
GEO	Republic of Georgia
GDP	Gross Domestic Product
GIWA	Global International Waters Assessment
GNI	Gross National Income
HCH	Hexachlor-Cyclo-Hexane
HMEM	Department of Hydro-Meteorology and Environmental Monitoring
IWRM	Integrated Water Resource Management
LEB	Local Executive Bodies
LM	Local Municipalities
LMIMCS	Laboratory of Management of Integrated Monitoring of Caspian Sea
LMPLSW	Laboratory of Monitoring of Pollution of Land Surface Waters
LNGES	Laboratory of National Geologic Exploration Service
LSG	Local Self-Government
MAC	Maximum Allowable Concentration
MAF	Ministry of Agriculture and Food
MAD	Minimal Allowable Discharges
MED	Ministry of Economic Development
MENR	Ministry of Ecology and Natural Resources
MEPNR	Ministry of Environment Protection and Natural Resources
MF	Ministry of Finances
MFE	Ministry of Fuel and Energy
MH	Ministry of Health
MLHSS	Ministry of Labor, Health and Social Security
MNP	Ministry of Nature Protection
MOE	Ministry of Energy

MTA	Ministry of Territorial Administration
NATO	North Atlantic Treaty Organization
NGO	Non Governmental Organization
NMO	National Meteorological Organization
NSM	Non Structural Measures
NWC	National Water Council of Armenia
O&M	Operation and Maintenance
OSCE	Organization for Security and Cooperation in Europe
PCB	Polychlorinated Biphenyl
POP	Persistent Organic Pollutant
PSRC	Public Services Regulatory Commission of Armenia
RGF	Republican Geological Fund
SHA	Stakeholder Analysis
SAP	Strategic Action Plan
SC	South Caucasus (Armenia, Azerbaijan, Georgia)
SCWS	State Committee on Water Systems
SIDA	Swedish International Development Cooperation Agency
SEI	State Environmental Inspectorate
SHAEI	State Hygiene and Anti-Epidemiological Inspection
STF	Sweage Treatment Facility
TACIS	Technical Aid to the Commonwealth of Independent States
TI	Tax Inspectorate
TTT	Technical Task Team
TDA	Transboundary Diagnostic Analysis
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
QLSA	Qualitative Stakeholder Analysis
QNSA	Quantitative Stakeholder Analysis
WRMA	Water Resources Management Agency
WUA	Water User Association
WWF	Global Conservation Organization/World Wildlife Fund for Nature
YWSC	Yerevan Water Supply Company

Map of the Basin



SECTION I: ELABORATION OF THE NARRATIVE

PART I: Situation Analysis

Project Context

Physical Context

1. The basin of the rivers Kura and Aras covers the territory of Armenia, Azerbaijan, Georgia, Iran, and Turkey. The total area of the Kura-Aras basin is approximately 188,400 km^2, occupying the greater part of the South Caucasus[1]. Table 1.1 shows the distribution amongst the five countries.

Table 1.1: Distribution of the riparian countries in the Kura-Aras River Basin

Country	Total Country Area (1000 km^2)	Area in the Basin (1000 km^2)	% of the country area	% of the basin area
Armenia	29.8	29.8	100.0	15.8
Azerbaijan	86.6	55.1	63.6	29.2
Georgia	69.7	36.4	52.2	19.3
Turkey	771	28.9	3.7	15.3
Iran	1648	38.2	2.3	20.3
Total	**2605.1**	**188.4**	**7.2**	**100.0**

2. The basin spreads over the major part of eastern Georgia; over 60% of Azerbaijan, excluding the northeast of the country and the Lenkoran region; the entire area of Armenia; the northwestern part of Iran and territories of northeast Turkey. A map of the Kura-Aras Basin is shown in Figure 1.1.

3. The Kura is the main water artery of the Caucasus. Its total length is 1,515 km. It originates at a height of 2,740 m in the Anatolian highland of Northeast Turkey in the Gizilgadik mountain range, winding its way through mountainous regions in Turkey, Georgia and Azerbaijan into the Caspian Sea. It is fed by snow (36%), ice melt water from glaciers (14%), underground sources (30%) and rain (20%). The main tributary of the Kura is the Aras.

4. The altitude of the Kura watershed ranges from 4,500 m to the Caspian Sea (-27 m). The flow in the spring flood periods makes up 58-64% of the total annual discharge with 19-22% of the total discharge during the summer-autumn period and 17-20% in winter.

5. The Aras River originates in Erzurum province in eastern Turkey. It flows along the Turkey-Armenia border, the Iran-Armenia border, and the Iran-Azerbaijan border, before flowing into Azerbaijan where it joins the Kura near the Caspian.

6. The Aras divides just before meeting the Kura, and one branch flows directly into the Caspian. The total length of the river is 1,072 km with a total watershed area of 102,000 km^2 (of which 18,740 km^2 relates to Azerbaijan, 22,556 km^2 to Armenia and 60,704 km^2 to Iran and Turkey).

7. The Kura and the Aras contribute about 66% and 34% respectively to the total runoff. There are more than 10,000 rivers in the basin including many small shallow rivers.

[1] South Caucus refers to Georgia, Armenia and Azerbaijan

8. The water regime is characterized by high spring flows from snow melt and low flows during the autumn and winter period. In the plains, the river meanders and the water of the Kura is characterized by high turbidity as the result of mobilization of erosion products along the bank, exacerbated by deforestation and flooding.

Environmental Context

9. The ecosystems of the Kura-Aras basin, similar to the entire Caucasus Ecoregion, are highly diverse and include a broad range of landscapes, from semi-deserts and arid shrublands to mesophylic relic broadleaf forests and alpine grasslands. These ecosystems harbour a variety of plant and animal species representing a mixture of Mediterranean, Eastern European, and Near Eastern floras and faunas, combined with a high proportion of regional endemics (reaching 20-30% of the total species number in certain taxonomic groups).

10. The Caucasus Ecoregion has been identified by Conservation International (CI) as one of the world's 25 biodiversity hotspots due to high species diversity and significantly threatened local ecosystems. The area identified by CI corresponds closely to the Kura-Aras river system. This demonstrates the ecological importance and fragility of this area. Notably, the Aras is home to one of the last natural sturgeon breeding grounds, along the Kura there are important and unique dry-land riparian forests along the Kura, and the delta, where the Aras and Kura rivers flow into Caspian, contains many important wetland sites.

11. Over the last decades, the biodiversity in the basin has been affected by extensive anthropogenic activities. Major impacts on the basin biodiversity include loss of species and habitats. Many flora and fauna species have become endangered or threatened and have been listed in IUCN, former USSR and National Red Books, and recently, the Ecoregional Conservation Plan for the Caucasus (2006). Some species have also become extinct.

12. The major threats to the biodiversity and habitats are: uncontrolled harvesting of flora and fauna, including poaching; habitat destruction as a result of the development of agriculture, industry, tourism and recreation activities, and the development of infrastructure and urbanization etc; and, climate change.

13. Human activities in the second half of the twentieth century have had a drastic effect on the quality and quantity of the water in the rivers. Ranges of factors, including industrial pollution, domestic waste, agricultural pesticides, large-scale irrigation/flood control/hydropower schemes and watershed degradation have affected the basin. All the riparian countries have contributed to this situation. However, as many countries in the region experienced a significant economic decline in the last decade, the stress on water quality in some parts of the river has decreased temporarily. In the future, as the economies in the region grow, and as some industrial activities are restored, a likely scenario is that the threats to the water quality will again grow. Water quantity problems have generally not decreased in the past decades, with increasing droughts and floods. A good example of how mismanagement can cause irreversible damage to the ecosystem is the disappearance of the Tugai forest in the basin. Inefficient upstream irrigation systems used the water needed by forest ecosystems, and consequently they were unable to survive.

14. A number of off-channel and on-channel reservoirs have been constructed for irrigation, drinking water supply, energy generation or regulation of uneven annual flow of rivers in the Kura-Aras river basin that indirectly serve as pollution control mechanisms. Though the reservoirs have a significant role for socio-economic development in the region, in some cases they have had a negative environmental impact through changing the natural hydrological flow of the rivers and the related ecological consequences such as degradation of floodplain forests, reduction of fish stock downstream, bank erosion, etc.

15. The further downstream, the greater the deterioration in water quality and the increase in water quantity challenge. This retrogression downstream is due to increasing levels and aggregation of pollution emissions, increasing demands for water, and the fact that the downstream areas are naturally drier The Kura-Aras Rivers also have an impact on the Caspian Sea. At present, the river is the second largest flowing into the Caspian, providing approximately 10% of the total inflow. It is possible that it provides an even greater share of the Caspian's pollutants[2]. In order to sustainably manage the Caspian Sea, it will be necessary to manage the quality and quantity of the inflow from the Kura-Aras.[3]

Socio-economic Context

16. Social and economic changes within the Kura-Aras Basin have impacted the ecosystem and at the same time changes in environmental conditions have impacted human development trends. The historical socio-economic conditions of the Kura-Aras Basin have largely shaped water use practices that continue to date. These include altering water ways, intensive irrigation schemes and high levels of industrialization. Since 1991 the shift from the Soviet economic system to a more free market system temporarily reduced impacts on river system health, but negative impacts continue. Despite the drastic decline in economic production in Armenia, Azerbaijan and Georgia during the early 1990s, the Kura-Aras River basin remains a region with relatively well developed industry and agriculture.

17. The industrial and agricultural sectors are now recovering, again increasing impacts on the Kura-Aras ecosystem. Concurrently, increased intensity of droughts and flooding events negatively impact socio-economic development in part due to the loss of riparian forests, over all deforestation, and climate change.

18. Since the end of the Soviet Union the human population has experienced changes in demographics movements, transitional economic conditions and more localized social welfare that are reflected in the shifting environmental situation. The increases in urbanization, agricultural irrigation, and industrialization within the basin, contribute to the challenges of managing the health river basin system. The economic data highlights trends in national macro-economic development in the past 15 years in the region, pertaining to water use, development and government investment strategies.

19. The Preliminary TDA estimated population of the Kura-Aras River Basin for 2003 was approximately 13.1 million people, or about 16% of the total population of Armenia,

[2] Until recently, the Volga was by far the largest pollution source. However, economic decline along the Volga has led to major reductions in the pollution load.

[3] The Caspian Sea covers 422,000 km^2 and provides a livelihood for 12 million people in five countries. GEF is providing support for the protection of the Caspian through the Caspian Environment Programme (CEP) with the involvement of the five riparian countries UNDP, World Bank, UNEP and EU-TACIS.

Azerbaijan, Georgia and Islamic Republic of Iran[4]. The average population density in the Kura-Aras Basin is 82 people per km^2. Table 1.2 shows the division between the urban and rural populations and population density in each riparian country.

Table 1.2: Population of the Kura-Aras River Basin (2002-2003)

Country	Population in the basin (mln.)	Urban Population (mln.)	Urban Population (%)	Rural population (mln.)	Rural Population (%)	Population Density (per 1km2)
Armenia	3.2	2.1	65	1.1	34	107
Azerbaijan	4.8	1.7	35	3.1	65	87
Georgia	2.7	1.1	41	1.6	59	74
Iran	2.4[5]	na	na	na	na	63
Total in the Kura-Aras Basin	**13.1**					**82**

20. Migration in the Kura-Aras river basin increased in the last decade of the 20th century, largely determined by the political and socio-economic developments in the region. In Armenia, in 1992 alone, more than 200,000 people left the country and although the level of emigration slowed by the end of 1990s, the negative migration balance continues to affect population growth in the country. Azerbaijan has also experienced substantial migration within and across its borders over the last two decades and many of the internally displaced people (IDP) that make up 10 % of the population are settled in communities along the lower Aras and Kura rivers. Georgia continues to experience increased urbanization and IDPs now make up approximately 5% of the country's population. Within Iran, there has been an increased effort on behalf of the state to develop agricultural settlements within the Aras River Basin that depend on significant irrigation.

21. Throughout the region, the social and economic systems have been in flux since the fall of the USSR, exacerbated by the conflict between Armenia and Azerbaijan. Economic development is uneven throughout the river basin, both between and within countries. Major urban areas are increasingly crowded, and some are thriving, while most rural areas slide further into economic dislocation due to the shift from a centralized economy to a market driven economy.

22. Following the dissolution of the former Soviet Union in the 1990s, the economies of Armenia, Azerbaijan and Georgia experienced dramatic economic decline in large part due to wars and conflict. For example, between 1990 and 1993, the average annual decrease of Gross Domestic Product (GDP) was around 18% in Armenia and 13 % in Azerbaijan. In Georgia, GDP declined by 70-75 % between 1991 and 1994. This was a result of economic dislocation, closing down of state owned industries and development of new land tenure systems for agriculture.

23. However, economic reforms and political stability in the second half of the 1990s have revived the economies of these countries and they are currently growing rapidly. Between 2000 and 2007 the Gross National Income in Armenia has nearly tripled, increased more than twenty eight times in Azerbaijan and more than doubled in Georgia. While these

[4] For the purpose of analysis this report does not include socio-economic, geographic or other data on Turkish part of the Kura-Aras River Basin

[5] For Iran the data is for 2000.

rates show positive trends the economies of some Basin countries remain in a period of transition with very low per GNI per capita[6] rates. Further, the rates of income distribution are concentrated tightly in urban centers. See Table 1.3 for details.

24. This trend favoring urban populations is notably prevalent in Azerbaijan, which has undergone a drastic increase in revenues due to the development of oil and gas reserves. The oil wealth will improve conditions in Azerbaijan in the coming years.

Table 1.3: National GNI and GNI Per Capita for Kura-Aras Countries 2000 - 2007

Country	2000	2003	2004	2007
GNI (Current US $), billion				
Armenia	2.0	2.9	3.2	5.8
Azerbaijan	5.2	7.0	8.2	28.2
Georgia	3.3	3.9	4.8	7
GNI per capita Current US $)				
Armenia	666	960	1,060	1,920
Azerbaijan	653	866	998	3,335
Georgia	700	860	1,064	1,580

Table 1.4: Economic Sector Development Trends for Kura-Aras Countries 2000-2006

Country	2000	2003	2004	2006
Agriculture, value added (% GDP)[7]				
Armenia	25.5	24.1	23.4	44
Azerbaijan	16.1	12.5	11.0	7.1
Georgia	21.9	20.6	17.8	13
Industry, value added (% of GDP)[8] *including mining*				
Armenia	35.4	37.7	37.1	37
Azerbaijan	36.1	37.2	38.3	57.3
Georgia	22.2	25.6	25.4	25

25. The oil and gas extraction (mostly in Azerbaijan) and its transport are fast growing sectors in the basin. The Kura-Aras river basin is the corridor for the Baku-Tbilisi-Supsa and Baku-Tbilisi-Ceyhan oil and gas pipelines (put in operation in 1999 and 2006, respectively) that could impact the health of the river systems in the event of accidents, however, safeguards have been implemented to mitigate the risks.

26. Agriculture continues to play an important role through out the region, through both commercial and subsistence farming. The shift from collective state farms with assured markets to a free-market based economies for agricultural goods produced on privately owned plots of land have significantly impacted this sector. The high costs of farming

[6] Definition: GNI (Gross National Income formerly GNP) GNI per capita (formerly GNP per capita) is the gross national income, converted to U.S. dollars using the World Bank Atlas method, divided by the midyear population.

[7] Agriculture corresponds to International Standard Industrial Classification (ISIC) divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. Source: World Bank national accounts data, and OECD National Accounts data files.

[8] Industry corresponds to ISIC divisions 10-45 and includes manufacturing (ISIC divisions 15-37). It comprises value added in mining, manufacturing (also reported as a separate subgroup), construction, electricity, water, and gas. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. Source: World Bank national accounts data, and OECD National Accounts data files.

equipment, renovation of irrigation schemes and agricultural chemicals has resulted in a short-term decline in environmental impacts on the river basin. However, this is offset by the decline in the condition of agricultural infrastructure including irrigation channels, and drainage systems has resulted in increased soil salinization, decreased soil fertility, and increased demand for water .

27. On the Aras, pending agricultural schemes in Iran feature high levels of water abstraction for irrigation, which are expected to have significant impacts on the hydrological flows. Additionally, planned hydroelectric dams to be built in partnership between Iran and Armenia (the Meghri hydropower plant), and between Iran and Azerbaijan, (the Khodafarin dam, currently under construction) are also expected to impact the regime.

28. While the economic situation appears to be improving, a healthy functional workforce is needed for economies reach their potential. The health of the population can also be informative about the conditions within and across the region and can be inferred by several major indicators that are readily available. These are infant mortality rates, life expectancy at birth and prevalence of malnourishment. See Table 1.5 for details.

Table 1.5: Social Welfare Indicators in the Kura-Aras Basin for 1990 – 2004

Country	1990	2004	2006
Mortality Rate, infant (per 1,000 live births)			
Armenia	52	29	21
Azerbaijan	23	14	12
Georgia	43	41	28
Life Expectancy at Birth (years)			
Armenia	68	71	72
Azerbaijan	71	72	72
Georgia	70	71	71
Prevalence of Undernourishment (% of population)			
Armenia	52*	29	24
Azerbaijan	34*	10	7
Georgia	44*	13	9

*measured for 1993

29. Between 1990 and 2006, human health indicators have shown very favorable trends throughout the region, which could be interpreted to be indicative of an overall improvement in conditions. It should also be noted that the 1993 measure for malnourishment prevalence shown in Table 1.5, was probably low due to the tremendous social and political changes in Armenia, Azerbaijan, and Georgia during this period.

30. One issue of significant concern is the high rate of infant mortality. As a down stream country relying on the Aras and Kura rivers as the main source of drinking water for this population, infants become very susceptible to water borne illnesses. Further, birth defects due to maternal ingestion of some water borne pollutants can lead to higher rates of infant mortality (please refer to stakeholder analysis for more details on perceptions different stakeholders.)

Legal, Institutional, and Policy Context

31. In the Kura-Aras basin countries virtually all of the water resources are considered to be part of the national wealth, with state agencies charged with their safe-keeping and management of their exploitation. National legislation in the basin countries stipulates the

basic principles of management, utilization and protection of the water resources and water systems. In particular, they specify the principles of: satisfying the essential needs of present and future generations; preserving and increasing the volumes of the water reserves; encouraging effective utilization of water resources for the public benefit; establishing a coordinated and integrated management system of surface and ground water resources; reducing and preventing the pollution of water resources; and reimbursing the expenditure for the cleanup of polluted waters, amongst others. All countries in the region are committed to sustainably managing water resources and this commitment is reflected in national development and environment policies and plans, including MDG-based Poverty Reduction and Development Strategies, and National Environmental Action Programmes. Moreover, these policies and plans give due emphasis to the management and protection of the Kura and Aras rivers and the importance of the IWRM approach in achieving the objectives. Armenia already has a National Action Plans for IWRM underway, Georgia will have one for the Kura and one for the Black Sea basin, and Azerbaijan will develop a national IWRM plans which will cover the Kura, Aras and minor river basins in the north.

32. Each of the countries has a growing non-governmental community and academic sector to complement the work of governmental organisations in this sector. Over the past fourteen years, working with the World Bank and USAID, Armenia has greatly strengthened its water and environmental policy, legislation and planning process based on the IWRM approach and it is now entering into an aggressive investment phase. Striving for approximation to the European Union, Armenia, Azerbaijan and Georgia have signed with the EU the European Neighborhood Policy Action Plans (2006). Under these plans each of the countries is committed ”to identify possibilities with neighboring countries for enhanced regional co-operation, in particular with regard to water issues”.

33. After the collapse of former Soviet Union environmental legislation has undergone significant changes in Armenia, Azerbaijan, and Georgia. Currently in these countries the legal framework is relatively new, innovative and dynamic, and endeavors to be quite comprehensive. A major concern is the coherence and consistency among the many legal documents. The TDA identified areas where there are duplications, gaps and overlaps in the water resource oriented functions of the various government agencies in the Kura-Aras basin countries

34. The European Union (EU) currently supports development and harmonized monitoring capacities of each country based on the EU Water Framework Directive (EU WFD). The project will provide support in the development of river basin management for selected sub-basins in each country in line with the methods used in the EU WFD. This provides the countries with an opportunity to build a stronger understanding of the principles of the EU WFD, should they decide to adopt this method in a more formal manner.

35. Though some progress has been made in water sector governance in the Kura-Aras basin countries, there are still significant deficiencies in terms of legal frameworks, institutional frameworks and law enforcement, including the collection of fees/tariffs, and the implementation of transboundary agreements. Water Codes are the main laws governing water sector in Armenia, Azerbaijan, and Georgia. Prior analysis of the Codes/laws shows that there are some discrepancies and need for improvement.

36. Institutional analysis shows that some of the institutional drawbacks are implications of legal drawbacks. This particularly relates to the fact the there are overlaps, gaps and duplications of functions of various agencies, even within the same ministry. There is a need to clarify the functions of each organization. To avoid duplication and overlapping of the functions with some other state bodies, and to bring current institutions in line with

best practices, the countries may wish to introduce amendments in the relevant legislative acts.

37. There are a number of existing agreements between Armenia, Azerbaijan and Georgia:

- The Memorandum of Understanding between the Ministry of Environment of Georgia and the State Committee of Ecology and Control of Nature Use of the Republic of Azerbaijan (currently the Ministry of Ecology and Natural Resources) on cooperation in the development and implementation of pilot projects for monitoring and assessment of the status of the Kura River basin (1997).
- The agreement between the Governments of Georgia and Azerbaijan on cooperation in Environmental Protection (1997).
- The agreement between the Governments of Georgia and Republic of Armenia on cooperation in Environmental Protection (1997).

38. These agreements are an important step in transboundary water resource management, however additional unified efforts are required. Currently, there is no diplomatic relations between the Republic of Azerbaijan and Republic of Armenia. In order for regional transboundary cooperation be successful the countries need to have the same/similar methodology of water management and common objectives for water quality and ecosystem standards. With this purpose it is very important to develop approved and comparable systems of integrated water resource management in each country of the region, identify common concerns and objectives for each country and develop a regional integrated water resource management strategy based on these common objectives. Each national basin level IWRM planning process will support regional improvements in conditions and management.

39. It should be noted that several national and regional projects related to the environment, and water in particular, have been implemented in the Kura-Aras basin countries, most of which have carried out an assessment of the legal and institutional frameworks to some extent. However, the focus of most projects has been at the national level, and even in those that have undertaken a regional analysis there is a heavy emphasis on the country-level approach with mixed results. In addition to treaties, donors have also been actively promoting regional cooperation in the basin. Several bi-lateral treaties on use of transboundary water resources bind Kura-Aras Basin countries. Armenia, Azerbaijan, and Georgia are also bound by international environmental agreements and conventions. This includes the Helsinski Convention which has been ratified by Azerbaijan, and UNECE is supporting a bilateral agreement between Georgia and Azerbaijan based on the Helsinki Convention.

Threats, underlying and root causes analysis

40. As part of the preparatory phase of this project a preliminary TDA was prepared involving four of the five basin countries. During the TDA development the following priority transboundary issues were identified as variation and reduction in hydrological flow, deterioration of water quality, ecosystem degradation and flooding and bank erosion. Within the preliminary TDA, a Causal Chain Analysis (CCA) was conducted to identify the underlying and root causes of the degraded conditions pertaining to the priority transboundary issues. For each issue the CCA identified impacts, immediate causes, underlying causes and socio-economic, legal and political root causes. The CCA has provided countries with a clear set of anthropogenic causes that can be addressed in order to interrupt the current trajectory of degradation of the water resources in Kura-Aras River basin. These threats, and their underlying and root causes are described below.

Variation and Reduction in Hydrological Flow

41. Variation in hydrological flow has been caused by numerous human interventions including direct water abstraction from surface and groundwater bodies, increased evaporation due to impoundments, urbanization and deforestation. This has significant transboundary consequences and it has been calculated that 40 % of the natural runoff of the Kura and 27 % of the Aras runoff to the Caspian Sea has been lost. Severe water deficit has not occurred in the basin to date and consequently shortages of water have not presented any serious threats to the population. However, population growth and rapid economic development in the basin countries will impose increased pressure on surface and groundwater resources. Climate change could also have a catastrophic impact in the medium and long term with potential scenarios indicating flow variations of 50% as a consequence of increased average temperature and shifts in precipitation. Variation and reduction of flow has already impacted fish species such as sturgeon in the Kura-Aras river basin and affected terrestrial ecosystems such as tugai forests. The construction of new reservoirs is likely to further alter flows. Non-rational use of water is a widely spread practice throughout the basin. Agriculture (and in particular irrigation activities) is the major consumer of water in the basin and water loss (through wastage, leakages and failures), particularly from domestic and municipal water use, is an acute problem for the South Caucasus countries.

42. Recently, the underlying causes was mainly attributed to low capital investments in operation and maintenance (due to alack of finance and historical economic difficulties), a lack of investment in developing new irrigation schemes and water supply systems prior to the mid 2000's, and a lack of a knowledge base of the hydrology and usage of the basin upon which to construct an integrated water resource management and river basin management policy and regulatory framework. This is compounded by the low awareness of the population that currently has little regard for water efficiency and is often careless with its use. Furthermore the lack of an integrated approach in water resources management is a major problem in all the basin countries where ground and surface water are dealt with separately, and land and forest management often fails to take into account management issues relating to water resources. This creates many of the problems outlined above. If present trends of water use are maintained, the impacts on the flow regime will continue to increase. In order to ensure the equitable use of water, coordinated approaches to water management in the basin countries are needed in order to avoid negative consequences in downstream countries occurring due to increased water consumption upstream.

43. For the transboundary problem variation and reduction of hydrological flow in the Kura-Aras Basin, the specific threats are: a shortage of irrigation water resulting in low agricultural production, desertification, and reduced incomes; a shortage of safe drinking water impacting human health; shortage of water for industry causing a decline in economic activity with impacts on hydroelectric energy production; and a shortage of water needed to maintain ecosystem functions.

44. The root causes are mainly anthropogenic activities that will be exacerbated by climatic variation and increased populations and agriculturally based economic development. The water infrastructure has been in very poor condition that results in enormous losses and very low efficiency rates, though improvements to infrastructure have begun in all three countries. There is a lack of reliable information on the water flow trends within the region, and uncoordinated policies and regulation, lack of state revenues dedicated to regionally harmonized improvements and low levels of public awareness and stakeholder involvement in the water management in the region.

Deterioration of Water Quality

45. Deterioration of water quality in the Kura-Aras river basin has significant transboundary consequences in the down stream countries. This can be confirmed by the presence of chemical compounds of anthropogenic origin in the transboundary sections of the basin as well as in bottom sediments of the Kura Delta in the Caspian Sea. Water pollution in the Kura basin comes from a number of land based sources including industrial and mining sites, agricultural lands, households in rural areas and municipalities. Wastewater treatment facilities are absent in many municipalities and enterprises, and are available only in some locations in the Aras basin. Most of the wastewater treatment facilities were built 20-30 years ago and are currently non-operational. The application of fertilizers and pesticides has been significantly reduced in the basin over the last two decades. Furthermore, the usage of persistent chlorine-organic pesticides, such as DDT, hexachlorcyclohexane (HCH) and aldrine, etc has been prohibited in the region. However, recent studies indicate that there is strong evidence that the illegal application of banned chlorinated pesticides in the region is occurring. The unregulated use of fertilizers results in diffuse pollution of both surface and ground water resources. Nutrient loading also comes from direct point source discharges of animal slurry from cattle and pig farms. These incidents have greatest impact in early spring during the snow melt, when waters wash out nitrates and phosphates from previous autumn applications. There is little information that can directly attribute water quality to specific environmental impacts in the Kura-Aras river basin. However, it is likely to be a contributing factor and certainly increases the pressure on already stressed ecosystems. Industrial development and the construction of industrial wastewater treatment facilities are not coordinated. The only exception is enterprises that have local wastewater treatment facilities. However, it should be noted that most of them are currently not operating. Of particular danger are wastewaters from the mining industry and tailing lagoons and dumps.

46. For the transboundary problem deterioration of water quality in the Kura-Aras River Basin, the threats are: risks to public heath through contaminated drinking water and agricultural products with an increase in potential for water borne illnesses; the degradation of aquatic ecosystems; and an anticipated decline in bioresources including fish stocks. The root causes include the lack of a regulatory framework to manage water resource pollution in some riparian counties, including wastewater regulations, industrial pollution controls and agrochemical runoff. A historic lack of financial commitment to addressing these issues, combined with a lack of stakeholder education and understanding about sustainable use approaches, low enforcement of regulations contributed to the low water quality standards across the region.

Ecosystem Degradation

47. Transboundary ecosystem degradation including increased trends of biodiversity loss, deforestation, and land degradation are observed throughout the basin. The decline of species has intensified over the last few decades, due to a large extent by habitat fragmentation and degradation. There has been a remarkable decline in several bird species, small mammals and several plant species. Forest degradation in the Kura-Aras basin has intensified during the last two decades. Boundaries of the mountain forests remained more or less stable until the beginning of the 1990s, but since then, the situation has changed as a result of extensive logging, both illegal and authorized by government institutions. Desertification and land degradation is a critical problem in the Kura-Aras basin. The main forms of degradation are salinization (especially in desert and semi-desert areas) and soil erosion (washing out of fertile soil). The most important reason for land degradation appears to be deforestation and overgrazing. Increased demand on timber for commercial purposes is one of the major drivers of ecosystem degradation.

This includes timber logging for use in the construction business nationally and for export, and has consequently resulted in a reduction in deciduous forest areas. The energy crisis that has taken place during the last decade in the South Caucasus countries has also put great pressure on forests in the basin. The acute energy deficit in some of the countries, accompanied with poverty problems has resulted in excessive logging as the population has been forced to use wood for heating and cooking. The causes are related to weak legislation and regulations, institutional complexities, poor law enforcement and low public awareness on the importance of biodiversity and ecosystem act together with financial constraints to create unfavourable conditions for protecting ecosystem integrity and biodiversity. The absence of integrated water resources management also contributes to this process.

48. For the transboundary problem: ecosystem degradation in the Kura-Aras Basin, the threats a loss of forestry habitats, loss in species and ecosystem integrity, including fish stocks, and desertification and land degradation via salinization and soil erosion. The root causes for this include: deforestation due to lack of reliable energy; non-sustainable fishing and hunting practices stemming for weak enforcement of legislation; overgrazing due to a lack of management of pasturelands combined with a lack of understanding of stakeholders and increased pressures from increased stocks; over use of resources including irrigation waters due to outdated technologies and practices; and absence of coordinated integrated water resource management.

49. The solutions to these transboundary problems are not easily remedied but will require coordinated, collaborative work on behalf of all governments in the Kura-Aras River Basin. The countries have signaled a willingness to address these issues and recognize the importance of doing so as demonstrated through their inputs to the TDA and evidenced in letters of support for the FSP and SAP development.

Stakeholders Analysis Summary

50. A qualitative and quantitative stakeholder analysis (SHA) was conducted in the preparation phase of the project in conjunction with the TDA. The findings of the Stakeholder Analysis (SHA) showed that a majority of stakeholders throughout the region are most concerned about water quality issues. The second highest concern is the reduction in hydrological flows, with concerns about flooding and decline in bio resources being far less immediate concerns. The full TDA stakeholder analysis including the priorities of individual groups and specific concerns and perceptions is presented in Section IV. Based on the findings of the SHA, and significant inputs from the Stakeholder Advisory Group, the Stakeholder Participation plan is outlined in Section IV.

51. In the Kura-Aras River Basin, stakeholders were identified during the TDA Stakeholder Analysis, which included both qualitative and quantitative analysis plus input from a Stakeholder Advisory Group. The stakeholders include those from government agencies and institutions in the following ministries and departments: Ministry of Water, Hydro-meteorology, Natural Resources, Ecology and Environment, Ministry of Industry, Ministry of Emergencies, Ministry of Energy, Ministry of Economy, Ministry of Foreign Affairs, Ministry of Defence, Ministry of Agriculture, Ministry of Forestry, Ministry of Fishery, Ministry of Social Welfare / Public Health, Ministry of Labour, Ministry of Transport and Parliamentary committees for environmental protection. Additionally, regional and municipal administrators were interviewed including: Regional government official, District water management official, Municipal Government and Municipal waste managers, Industrial sectors included Mining industry, Heavy industry, Light industry, Tourism/Recreation

industry, and Agro-industry representatives. Other stakeholders who are critical to the project success include National NGOs, Scientists, Nature preserve staff, farmers, fishermen, pastoralists, community based organization, educator/teacher, students, public health care providers and members of coastal communities, plus press and media, international funding Institutions, and bilateral development agency. Their involvement in the project is outlined in the Section IV.

Baseline Analysis

52. Within the region, there is a high level of technical ability and awareness of the need for integrated water resource management is a prime concern within the governments in the region pertaining to development, security and regional cooperation. The countries signaled their willingness to cooperate throughout and the preparatory phase and gave full support for the development of the preliminary TDA and preliminary SAP.

53. The South Caucasus countries continue to emerge from the legacy of Soviet environmental mechanisms that emphasized reporting standards to match regulations rather than actual conditions, and therefore there is a dearth of reliable information prior to 1991. These countries have been working to establish a reliable monitoring methodology approximate to the requirements EU Water Framework Directive. To this end, support has been provided by a large number of donor organizations including USAID, NATO, SIDA, OSCE, and EU. However, the GEF project has been the only project in the region that included inputs from all of the major transboundary countries within the South Caucasus, including Iran. Though they will not be actively involved in the Full Sized Project it is planned that Iran and Turkey shall be kept fully informed about the project's outputs and outcomes and invited to some major regional meetings as observers.

54. The concept of Integrated Water Resource Management (IWRM) is well known throughout the basin and all three countries are developing national IWRM plans under their Johannesburg WSSD commitments, albeit at different rates. IWRM is a systematic process for the sustainable development, allocation and monitoring of water resource use in the context of social, economic and environmental objectives. It is a cross-sectoral policy approach, designed to replace the traditional, fragmented sectoral approach to water resources and management that has led to poor services and unsustainable resource use. IWRM is based on the understanding that water resources are an integral component of the ecosystem, a natural resource, and a social and economic good. Traditionally within the water sector, resource management has been undertaken independently of social and economic objectives and has focused on the interaction between land and water use at the basin level. The increased complexity of the IWRM inter-sectoral approach brings with it many challenges, not least the differing planning units and plans in which the different sectors operate.

55. The national level IWRM efforts are to be commended where appropriate, and this project seeks to strengthen these as needed. Where National IWRM Plans already exist, the project will support studies specific to the Kura Aras River Basin, including improved production strategies to reduce pollution loads as appropriate. It will also facilitate appropriate coordination mechanisms between the countries to ensure that there are collaborative efforts in managing water resources in line with basin-wide priorities. Without this level of collaboration, realization of national level policies will be sub-optimal, as shared resources require shared management.

56. The linkage between water resource management and land use is not fully articulated in any of the basin countries. A lack of capacity and information prevents local communities from making informed management decisions. They lack information on the important parameters like land condition, carrying capacity, land contamination, etc. that would allow the resource users to identify problem areas and make appropriate mitigation decisions. Conservation of biodiversity and preservation of the hydrology pathways, particularly in the riparian areas should be key objectives in any land management plan.

57. The stage is set for further coordinated efforts, which will lead to an improvement in the aquatic ecosystem of the South Caucasus, however, without a global funding mechanism to further support the future work it is likely that this and other efforts may stall, potentially resulting in back sliding and a lack of significant improvements to the river health in the region.

PART II: Strategy

Project Rationale and Policy Conformity

58. The overall long-term objective of this proposed project is to ensure that the quality and quantity of the water throughout the Kura-Aras river system meets the short and long-term requirements for optimum ecosystem function as well as the needs of the communities using the river. A subsidiary objective is to support the ecosystem health the Caspian Sea and improve its water quality.

59. To achieve the overall objectives, the immediate objectives are: to increase national and regional capacities with regard to IWRM in addressing water quality and quantity in the river; to assist development of sustainable financial and institutional coordination arrangements for the management and protection of the river basin; to identify areas for key improvements to water quality/quantity at specific points in the basin; and to promote appropriate reforms to economic sectors causing pollution, water shortages, and habitat degradation. The focus will be on **trans-boundary** issues and compliment the Strategic Objectives of GEF 4, International Waters Strategic Objectives.

60. The project is consistent with the 1st Strategic Objective of the IW Focal Area: to foster international, multi-state cooperation on priority trans-boundary water concerns through more comprehensive, ecosystem-based approaches to management. It furthermore fits with the 3rd Strategic Programme in GEF-4: Balancing overuse and conflicting uses of water resources in trans-boundary surface and groundwater basins. The project aims to assist countries to balance competing water uses between production sectors in a highly stressed river basin under climate change uncertainties, while ensuring water security to support the people's livelihoods and ecological flows to sustain riparian ecosystems. Following integrated basin river management (IRBM) principles, the project will demonstrate and promote the harmonization of policies and activities necessary to effectively address trans-boundary water concerns in the basin.

Project Goal, Outcomes and Outputs/activities

61. The long-term development/environmental goal of the project is sustainable development of the Kura-Aras River Basin enhanced through ecosystem-based Integrated Water Resource Management approaches. The project objective is to improve the management of the Kura-Aras River Transboundary Basin through the implementation of a sustainable programme of policy, legal and institutional reforms and investment options using the Trans-boundary Diagnostic Analysis (TDA) and Strategic Action Programme (SAP) process.

62. The project will play a catalytic role in developing and implementing, through the TDA and SAP process, a sustainable programme of policy, legal and institutional reforms and assist in identifying investments to address them. The Project will support synergies with and build upon a range of initiatives being undertaken by the countries themselves and those of bi-lateral and multi-lateral development partners that have given priority to the Basin. Competing water uses in the context of dwindling and uncertain future supplies and ecosystem health is seen as the critical issue in the basin and will be a principal focus of project attention from the outset.

63. The GEF project will support the countries to approach water resource management issues in an interdisciplinary, multi sectoral manner focusing on harmonized basin wide priorities through the development national Kura Aras Basin IWRM plans and then based on common concerns, the SAP. The project will apply IWRM planning approaches that consider the interrelationships between natural resource systems, biophysical processes

and socio-economic systems. IWRM will take into account factors outside the water sector such as, agriculture and energy uses, and such issues as climate change in a cross-sectoral approach. This expanded approach makes possible a transition to adaptive management strategies for water resources. These IWRM Plans will focus on the Kura Aras Basin at the National Level. These plans may include broader geographic areas, but for the purpose of this project IWRM planning will be done primarily at the basin level.

64. During the preparatory stage the countries have:

- Undertaken a qualitative and quantitative stakeholder analysis to determine stakeholder perceptions and ranking of the priority trans-boundary issues.
- Prepared a draft public involvement and communication strategy
- Confirmed the trans-boundary priority issues and undertaken causal chain analyses to identify immediate, underlying and root causes.
- Developed a preliminary trans-boundary diagnostic analysis (to be further refined during the project implementation), incorporating thematic basin studies undertaken by UNDP-SIDA and the GEF project.
- Agreed on a draft basin vision and water resource quality objectives, corresponding to the priority trans-boundary issues, as the framework for the Strategic Action Programme to be developed.
- Agreed the scope, activities, outputs and outcomes of a demonstration project addressing environmental flows, focusing on river ecology, water conservation in the irrigation sector and range land management.
- Prepared a Full Sized project document for submission to GEF through UNDP.

65. The proposed GEF project on the Kura-Aras River Basin will build upon these achievements and those by other organizations and together with the countries and other partners will undertake the following activities with the resulting outcomes:

- Review and update the Trans-boundary Diagnostic Analysis (TDA), filling critical data gaps through targeted assessments in collaboration with the EU and UNECE/OSCE regional projects, identifying potential short, medium and long-term interventions to address trans-boundary issues and conducting pre-feasibility studies on key interventions;
    - Outcome: Transboundary issues and causes more fully understood through additional analyses and the resulting more comprehensive TDA

- Development of National IWRM Plans with common transboundary concerns as the basis for the Strategic Action Programme (SAP) which will be a regional IWRM plan for the Kura-Aras basin, including the development of a detailed Monitoring and Evaluation framework for SAP implementation and support of implementing institutions at the national level;
    - Outcome: National IWRM plans for the Kura Basin, Regional plans in place to address agreed priority transboundary issues using coordinated IWRM approach; with sustainable financial arrangements agreed for SAP implementation.

- In line with the public involvement strategy, implement selected activities to encourage targeted participation and involvement in basin management and to increase awareness in the critical issue of water conservation in the basin;

- Outcome: Stakeholder involvement in project activities ensured; Public awareness increased on transboundary issues in the basin

- Implementation of demonstration project to show the potential for strengthening integrated water resource management at the national, sub-basin and basin wide scale.
    - Outcome: Reduced risk of water-related conflict through pilot demonstration via the setting of ecological flows and rapid river ecology assessment for the establishment of a database on river ecology status at different seasonal flows, improving baseline information and ecosystem accounting methodologies.

66. The trust forged during the PDF-B phase between the countries and institutions and donor organizations will be built upon in the National IWRM Plans and finalization of the SAP.

67. The five project components are outlined below detailing the activities and outputs. These components are interlinked and intended to both compliment and build on the others to create an over all stronger and more sustainable project in the long term.

68. The components to be conducted within the project are:

1. Completion of Transboundary Diagnostic Analysis
2. Preparation of the National Kura Aras IWRM Plans and Strategic Action Programme (SAP)
3. Basin wide stakeholder involvement activities
4. Conflicting water use demonstration projects
5. Project management

COMPONENT 1: Completion of Transboundary Diagnostic Analysis

69. Within the preparatory phase of the project, a preliminary TDA was conducted to identify and assess the status of the priority trans-boundary issues. The preliminary TDA identified the key information gaps to be addressed in order to better understand and improve the knowledge of the trans-boundary issues. A revised TDA taking into account findings from the UNECE and EU regional projects will be prepared and will provide a mechanism for supporting the National IWRM plans and reaching consensus on common priority SAP interventions. The TDA will be supplemented by strategic studies including the analysis of flood plain forests, landfill/contaminant land impacts, together with baseline studies of the Aras and Kura Rivers to be carried out in close coordination with EU and other donor projects. The revised TDA will include a revised causal chain analysis and pre-feasibility studies of the priority interventions and, where applicable, economic evaluations of possible options.

Activities:

1.1 Information gaps filled for the TDA (water quantity, hydrological flow data, land-based source of pollution, etc.)
1.2 Environmental and Water Resources Status baseline established to inform National IWRM Planning, the TDA process and long-term SAP M&E.
1.3 Final Common transboundary issues prioritized, and immediate and root causes identified

1.4. Final TDA revised and updated
1.5. Final TDA widely disseminated

70. The strategic studies to be undertaken and incorporated into the revised TDA include:

71. A strategic study **on floodplain forests which** will analyze the forest dynamics, create an empirical description of their biodiversity, analyze the social-economic causes of degradation, and develop a model of floodplain forest degradation in the Kura basin and guidelines for conservation, recovery and sustainable use.

72. Extensive logging, both illegal and authorized, seriously affected forest ecosystems in the Kura-Aras river basin. The most vulnerable and rapidly degrading forest ecosystems at present are the floodplain forests. Floodplain areas in the basin are cleared and lands used for agriculture. Moreover, during last decade due energy supply problems in South Caucasus countries cases of timber logging in floodplain tugai forests for firewood drastically increased. Trapping water in reservoirs and changing the natural hydrological flow of rivers also heavily impacted floodplain forest in the Kura basin. Fragmentation of floodplain forests in lower and middle part of the Kura was most likely the reason for the extinction of some large mammals (ungulates and tigers) and decline of the species not directly associated with the forest but using them as temporary habitats. The process of degradation of floodplain forests and associated habitats starts in the basin of Ganikh (Alazan), causing drastic decline of some smaller game species. Floodplain forests not only play a key role in maintenance of the riparian biodiversity but provide other environmental services too. They shape the bed of the rivers and prevent floods. Exiting data is not sufficient for accounting fragmentation rates in the basin. Detailed study of floodplain forests in transboundary regions is required for identification of critical areas, analyzing trends, development of action plans and mobilization of political efforts for resolving specific problems. This study will be linked with the conflicting water use demonstration project on environmental flows and rapid river ecology assessment.

73. A study of **landfill and contaminated land sites** in the flood plain and their impacts at the transboundary sections of the basin. Majority of official and unofficial landfill sites located in the Kura-Aras basin do not meet environmental requirements. Often they are not lined and have simple drainage systems collecting leachate and rainwater, but drainage waters are not treated and may cause contamination of soil, surface and groundwater with heavy metals and toxins. There are also cases of disposing biological and hazardous waste in landfills. In the complete absence of any monitoring it is difficult to judge the extent of the pollution. Therefore, it is very important to develop reliable data for evaluation of environmental impacts of operating landfills and mobilizing efforts for addressing this problem. There are also numerous contaminated land sites in the basin associated with old industrial enterprises which are not recorded or characterized but have significant impact on the well-being of the river basin. Linkages in this study will be sought with current EU funded solid waste management project starting in all south Caucasus countries.

74. The TDA will be revised and updated, including a thorough revision of the Causal Chain Analyses, and identification of a range of short, medium and long term interventions for inclusion in the Strategic Action Program. Priority short-medium term interventions will be subject to pre-feasibility desk studies.

75. The TDA studies will also an economic analysis of the various possible interventions/options which may be used as a decision support tool for the National IWRM Plans and SAP development. Failure to include proper economic analyses can lead to a diminished importance of the project activities in the eyes of the financing sector.

Deliverables:

- Gap-filling studies on floodplain forests, contaminated land sites and water quality surveys
- Revised/updated Causal Chain Analysis;
- Listing of potential SAP interventions;
- Pre-feasibility studies for key interventions.
- Final TDA

Component 2: Preparation of the National IWRM Plans/ and Strategic Action Programme (SAP)

76. The project will provide support to Kura-Aras basin countries in the development of National Integrated Water Resource Management Plans for the Kura Basin. That will enable the countries in the basin to harmonize their IWRM plans into a Strategic Action Programme supporting common IWRM concerns. The culmination of these efforts will be a donors' conference to mobilize commitments to implement activities in the SAP. Where the National IWRM plans do not yet exist the project will assist the countries in their development as a parallel activity, where IWRM plans are being made, additional support will be offered. The development of the SAP will be undertaken in close coordination with the other regional activities.

Activities:

2.1. Institutions established to support the national process for the IWRM Plan development (or enhanced where institutions already exist)
2.2. IWRM Plans formulated and endorsed with linkages to SAP
2.3. Donor conference held to mobilize resources for SAP and IWRM implementation

77. Each of the countries have an interest in developing and enhancing National Integrated Water Resource Management Plans that will bring together multiple sectors to examine, prioritize and harmonize water resource use throughout the national portion of the Kura Aras Basin. The incentive for IWRM for each country is strategic planning to ensure there are sufficient resources for development, human needs and ecosystem functions. IWRM planning uses a comprehensive approach to water resource use, considering demands of multiple users, sectors and conditions to develop optimal use, within variation in climatic conditions.

78. National IWRM Plans that support the SAP is at the heart of this project and will assist the countries to harmonize and unite their national policies and strategies in the Kura-Aras River Basin to serve a common good. The SAP will be under-pinned by the priorities of the National IWRM Plans and will take into account both national and basin wide priorities. The National IRWM Plans will be developed in parallel to ensure consistency and correlation as appropriate; the process is an iterative one beginning with the development of a preliminary SAP and involving a number of revision stages while the countries finalise and endorse their National IWRM Plans through national planning procedures including establishing financing arrangements.

79. National committees for IWRM Plans development and then a basin wide working group for SAP formulation will be formed. The existing preliminary SAP will incorporate the Basin Vision and Water Resource Quality Objectives (WRQOs) developed in the PDF-B stage and for each WRQO a set of targets for the short, medium and long-terms will be

established. A listing of policy, legal, institutional, and investment interventions to meet those targets will be drawn from the work done under the Finalized TDA. It should be noted that the SAP will include many development interventions which are not GEF applicable and alternative funding sources will need to be sought; this is a specific objective of the donor conference.

80. The SAP will enable the riparian states to reach a consensus on priorities, targets, programmes and projects to protect the shared resources of the Kura-Aras river basin. The SAP will include an estimation of the required financial resources and a strategy to mobilize these resources. The SAP will be carefully designed to ensure that it is action-oriented, financially realistic, locally owned, government supported, sustainable, and responsive to the local conditions. Once the SAP and National IWRM Plans are completed and agreed, the project will assist to obtain endorsement of the IWRM Plans and support for the SAP at the highest government level in each basin country.

81. Once the SAP is clearly supported by the countries, the project will organize a donor conference aimed at mobilizing commitments for SAP implementation. A range of international and bi-lateral donors will be invited to consider support for specific aspects or interventions within the SAP, some of which will have been subject to pre-feasibility studies (see component 1). The project will assist the countries in establishing commitments through appropriate memoranda and/or agreements, at national or basin wide level as appropriate.

82. An important element of SAP development will be the creation of a Monitoring and Evaluation framework based on GEF International Waters indicators (process, stress reduction and environmental status). Using this framework the implementation of the SAP will be monitored on an annual basis.

Deliverables:

- Assisted IWRM plan development in Azerbaijan and Georgia, and IWRM plan enhanced in Armenia
- Endorsed National IWRM Plans.
- Strategic Action Programme supported by the governments
- Operational GEF M&E framework for SAP implementation.
- Financial support leveraged for SAP and IWRM Plans implementation

COMPONENT 3: Basin wide stakeholder involvement activities

83. This component will revitalize the stakeholder and public involvement work initiated under the preparatory phase and the UNDP Environmental Governance Component implemented in support the PDF-B. The activities will include support of the Stakeholder Advisory Group and Kura-Aras NGO forum. The Stakeholder Advisory Group will provide input, through reviews, comments and recommendations into the final TDA and SAP development activities within Components 1 and 2, respectively.

84. Within budgetary constraints, the component will support a range of public involvement activities, including awareness raising through social marketing and environmental education. The public involvement activities will be in line with the objectives and targets of the public involvement and communication strategy developed during the preparatory phase (see section IV, part IV)

Activities

3.1 Support to the Kura-Aras NGO and Stakeholder forums
3.2. Targeted awareness raising and education activities

85. In collaboration with other donor organizations, the component will support the activities of the Kura-Aras NGO Forum, initiated under the UNDP Environmental Governance project and with the assistance of the Eurasia Foundation. Since being established the Kura-Aras NGO Forum has developed a mechanism for collaboration among national and regionally active NGOs emphasizing cooperative action and improved civil society involvement in water resource governance. In collaboration with other multi-lateral and bilateral donors, the capacity of the Kura-Aras NGO Forum will be strengthened and it is envisaged that it will be functioning independently by the end of the project.

86. Key stakeholders will be fully involved in project implementation through the Stakeholder Advisory Group. It is recognized that unless a wide array of stakeholders is included in project activities, there is a risk of the project becoming focused on governmental concerns, without taking into account those directly impacted by conditions. The component will support the Stakeholder Advisory Group in reviewing and commenting on all project materials and major products, including the TDA, SAP and as appropriate, National IWRM Plans.

87. The component will support specific activities demonstrating how the public can be increasingly involved in water resource management issues. These activities will demonstrate the empowerment of communities to take steps to address water related environmental problems through low cost, high impact activities. These activities will stress replicability and sustainability. These projects will be closely documented and monitored.

88. A series of stakeholder specific training activities will be implemented, intended to raise awareness of the importance of river system health and the impacts of certain stakeholder groups on the environment. The activities will be implemented through the NGO Forum and will include, inter alia:

- Outreach support for public health care providers through development and distribution of information on water borne illnesses, proper methods for potable water treatment, sanitation, and malaria prevention where appropriate;
- Training for farmers and pastoralists on impacts of their activities on the river system, including grazing in floodplains and cultivation of river banks, linked to improved farming methods;
- Including local schools and NGOs in rapid river ecosystem assessment demonstration projects; and
- Outreach to river communities for cleanup of local river banks of solid wastes and to increase awareness of the problems with unregulated dumping.

Deliverables:
- Reports on inputs and recommendations for the stakeholder advisory group
- Reports from NGO Forum activities
- Lessons learned from public involvement
- Stakeholder training exercises conducted and results measured

COMPONENT 4: Conflicting water use demonstrations

89. In order to catalyze activities for the SAP and implement the concept of IWRM regionally, the project will implement a demonstration project in the basin. The project will be designed to be replicable throughout the basin and beyond and will be accompanied by a strong results dissemination programme. The project was selected and developed during the preliminary TDA development and correspond to priority activities identified by the basin countries. The demonstration project is summarized below and the full draft project documents are given in Section IV.

Activities

4.1: Pilot demonstrations setting of ecological flows and rapid river ecosystem assessment at key locations in the Kura-Aras basin to establish bounds for water resource development for each country

90. A demonstration projects of **ecological flows and rapid river ecology assessment** in the Kura-Aras basin will be undertaken, to establish baseline again for setting environmental limits of water resource utilization. Increasing demand on water resources due to accelerated economic activities in the basin is predicted to arise in the next twenty years as the basin countries emerge from economic transition. In addition, extensive deforestation and conflicting water use has affected the hydrological flow regime with significant transboundary consequences. The determination of seasonal ecological flows and overview of river ecology is important for preservation of ecological services in the basin and prevention of further deterioration of water dependant ecosystems. Severe water deficit has not occurred in the basin to date, but negative impacts of variation and reduction of flow on aquatic and terrestrial ecosystems have already been observed, as have extreme flooding evenings. In addition, altered annual distribution of river runoff impacted has impacted migratory fish species and the flooded forest ecosystems (see component 1). A more complete accounting of the river ecosystem is needed throughout the basin, in order to preserve and protect ecological activities, and to establish a baseline for areas impacted by economic development scenarios and climatic changes. The information from this will also support the National IWRM Planning.

91. At least two sites will be selected in each country. Selection of the sites will depend upon the monitoring record, area sensitivity to variation in flow rates, and biological diversity. The project design will be finalized in the first three months in an inception report, which will include a review of state-of-the-art methodologies for using EF, rapid river ecosystem assessment and an appropriate methodology for testing and selection of the pilot sites, based on an agreed set of criteria. The focus will be on charting ecological status of pilot sites in different seasonal flow regimes. The study will undertake a baseline data collection programme; assess the flow variation and anthropogenic related impacts on the river ecosystems; and, design of a long-term monitoring programme to assess the efficacy of any environmental flow and/or other management interventions that have been implemented. The demonstration project will establish three stakeholder advisory forums which will hold regular meetings and inform the project implementation. A socio-economic study of the impact of flow scenarios and ecosystem valuation will be conducted and the results incorporated into the design and implementation of the long-term monitoring programme, IWRM plans and SAP as appropriate.

92. In each country a publication will be drafted that explain the impacts of variation of flows, identification of taxonomy and biodiversity of the river ecology, and explanation of ecosystem functions, including threats from climate change, human impacts and flow regime disruptions. These publications will be in both English and translated into local languages.

93. The demonstration projects will be subject to regularly monitoring and in the final year of project implementation a series of workshops to disseminate the findings from all three demonstration projects will be held at the basin-wide level. Intermediate and final findings from the pilots will be fed into the IWRM/TDA/SAP process.

Deliverables:

- Agreed methodology for setting Ecological Flows and Rapid River Ecosystem Assessments in the Kura-Aras basin.
- Baseline datasets of river ecosystem function, taxonomy and biodiversity at selected sites
- Publication of findings in local languages and English for wide distribution nationally, regionally and internationally.

COMPONENT 5: PROJECT MANAGEMENT

94. The Project Management structure (see Organigram section IV, part III) will build upon the foundations established during the preparatory phase. The Steering committee, and appointed NFPs will continue to function providing continuity. The regional project coordinating unit (PCU) will be established in Tbilisi, with two satellite branches in Baku and Yerevan. The Regional PCU will comprise a full time CTA with a back ground in IWRM and a water Scientific Officer (hydrologist or chemist) and an Economist/Water Resource Planner. There will be an office manager and a part time administrative secretary. All other consultants will be part-time. Wherever appropriate the office will be staffed from experts from the region. The office will be supplied with basic equipment necessary for the functioning of the project, including computers, scanners, copy machines, and other materials as needed and appropriate.

95. Within the establishment of the project management structure, the PCU will have the responsibility of coordinating the inception meeting for the project, and all steering committee meetings. The closer the collaborative the relationship between the PCU and the Steering Committee, the more positive the project outcomes achieved; the onus therefore this lies with the PCU which will be responsible to arranging meetings, providing materials to members prior to the meeting, and delineating a clear set of objectives and sub-objectives to be met within the scope of the project. The Steering Committee will be responsible for providing institutional guidance to the project, as well as oversight of all activities and outcomes.

96. At the national level a National Project Coordinator will be recruited and will be responsible for establishing a national level project presence for each country. The National Coordinating Officer will report to the CTA, and will work closely with the Ministerial officials, the intersectoral committee, the IWRM Planning body, and National Stakeholder Advisory Groups. They will support the TDA, SAP and National IWRM plans, oversee all national level consultants, and be responsible for submission of all national reports to the PCU. The National Coordinating Officers will have a back ground in Water and/or Environmental Management, and capable of managing multiple responsibilities concurrently.

97. The Stakeholder Advisory Group (SHAG) will meet regularly to provide input and support to the project development. The SHAG will convene prior to Steering Committee Meetings to provide feedback, recommendations, comments and critique of the project development. The inputs from the SHAG will be incorporated into the project

development, including the TDA, National IRWM Plans (as appropriate), SAP, demonstration projects and public involvement activities whenever possible.

98. Coordination of donor funding for the project will be managed through the Friends of the Project Group made up on partner donor organizations. This group will meet approximately every 6 months concurrent with the meeting of the project Steering Committee.

99. The management component will coordinate with the implementing agency for the project monitoring and evaluation at the sixth quarter of the project for the mid-term review and the final review. The implementing agency will be responsible for hiring the independent evaluator and who will review project progress against the strategic results framework indicators.

Deliverables:

- Project Coordination Unit (PCU) with satellite offices established
- Stakeholder Advisory Group Input Reports
- Friends of the Programme Coordination reports
- Website created
- Inception and Steering Committee Meeting reports

Project Indicators

100. As noted in the Strategic Results Framework in Section IV, there are a significant number of indicators for this project. The indicators focus on outcomes that lead to improved conditions, through processes and that are reflected in the project. The key project indicators focus on preparation of the TDA and development of the National IWRM Plans and SAP are largely focused on the processes, although there are some environmental status indicators (ESIs) and stress reduction indicators (SRIs) related to the demonstration projects (see SRF).

101. The first indicator is a finalized TDA with the number of studies conducted to fill gaps and number of interventions identified. The sub indicators include: completed TDA with gaps filled for water quantity, hydrological flow data, land-based source of pollution, etc.; the environmental and Water Resources Status baseline; the long-term SAP M&E, to be carried out in close coordination with EU Tacis Kura-Aras project; agreement on final priority TB issues; identified immediate and root causes; the final TDA revised and updated; the number of copies of Final TDA disseminated; and, the number of visitors to webpage with Final TDA.

102. The second indicator is budget commitments at regional and national level to National IWRM plans, and the SAP, agreement on the M&E framework, the number of coordinated policies. The sub indicators include: the percent of National IWRM plans budget committed by governments; the number of Ministries supporting SAP in each country; support for SAP from Steering Committee; the number of P, SR, and ES indicators agreed to within the M&E Framework; the number of donors attending conference held to mobilize resources for SAP and IWRM implementation; and, the amount pledged by donors at conference.

103. The third indicator is the number of Stakeholder groups involved in water resource planning process, the number of Public awareness events or publications; and the range of Stakeholders involved in project activities. The sub indicators include: the number of attendees at the Kura-Aras NGO Forum and number of meetings held; the number of Stakeholder Advisory Group meetings and number of inputs/recommendations at each meeting; number of stakeholder groups represented in the Stakeholder Advisory Group; the number of Communities participating in activities for improved water conditions; and the number of awareness raising and education activities for Stakeholders.

104. The fourth indicator is the number of assessment criteria developed to establish empirical measures for ecological flows and ecosystem assessment at key location for water resources management developed and implemented in the countries. The sub indicators include: Pilot demonstrations for the Kura-Aras basin to establish impacts for water resource development and the number of ecological assessment criteria at key locations in established areas.

Risks and Assumptions

105. There are a number of risks inherent in this project indicative of the region and their acknowledgement enables us to gauge project success.

Risk	Risk rating	Risk Mitigation Measure
Strong and high level government commitment is not sustained	M	Increasing political commitment from the countries towards regional cooperation to manage the natural resources exists manifested in multilateral and bilateral agreements, including bilateral negotiations between Georgia and Azerbaijan on water sharing. The project should ensure good information flow to the political decision makers regarding the economic value and importance of the basin's water resources and the need to manage them in an integrated manner.
Low acceptance of the TDA/National IWRM Plans/SAP/process by the participating governments	M	The basin countries have indicated a willingness to work within the TDA/National IWRM Plan/SAP process and have already prepared a TDA and preliminary SAP; however, it is not clear what level of inter-sectoral coordination is currently on-going. The project will assist the countries to improve coordination at the national level and regional level through the IWRM plans and SAP to ensure political buy-in from all the relevant sectors throughout the TDA/SAP process.
Bi-lateral relations between basin states may impact on project implementation.	M	Relations between Armenia and Azerbaijan remain tense and the project management will have to be constantly sensitive to this issue and consult regularly with the Ministries of Foreign Affairs in both countries
The transboundary priorities vary between countries in the Kura and Aras basins and may hinder SAP agreement	M	During the TDA development the countries of the Aras basin expressed their wish, as a first step to the introduction of IWRM, to focus on water quality issues which are seen as a priority and more problematic than water quantity issues, which are currently dealt on a bilaterally basis through historical agreements. This situation contrast with the situation in the Kura where both sets of issues are critical.

Currently planned interventions will not bring effective results due to adverse effects of Climate Change	M	Project through the TDA/SAP process will assist the riparian countries to the build management flexibility needed to adapt to the most severe climate change scenarios.

106. Concurrently to the risks listed above there are a series of assumed conditions that are requisite for success of the project. Awareness of these assumptions and their potential to destabilize the process if not met strengthens the over all project management.

107. Full support of governments and sectors – it is assumed that the approval by the governments of full support from all sectors including those ministries and agencies that may have competing or alternate strategies for maximizing their own agendas. The reliance on the intersectoral committees as well as the clear requirement for national financial commitments through the National IWRM plans shall be stressed through out the project and will be critical to overcoming the problems posed by this assumption.

108. Acceptance of and reliance on scientific method to define problems in the region – within project, which will more explore the causes of problems impacting river system health, there is an assumed acceptance of and reliance on the scientific methods employed. The high level technical capabilities throughout the region support this acceptance.

109. Continued national and international support and enthusiasm for the project – while there is strong ongoing support for the project at the national and international levels, it is assumed that this will not diminish due to political or economic shifts. However, as this may occur the project priorities and flexibility can adjust without collapsing and continue to function.

Expected global, national and local benefits

110. The global environmental benefits will be achieved through the use of Integrated Water Resources Management (IWRM) planning that have been identified as the answer to balancing competing and conflicting uses of water resources to inform and consider tradeoffs being made in socio-economic development objectives and ecosystem protection. The project will establish an enabling framework for the preservation of transboundary water resources in an extremely political sensitive area facing challenges from reduction of hydrological flow, deterioration of water quality; ecosystem degradation in the river basin; and increased flooding and bank erosion. Additional global benefits will be achieved through the maintenance of the hydrological flows and patterns, and riverine environment that are important in the conservation of natural spawning grounds of the sturgeon and other anadromous fishes of the Caspian Sea, migratory bird species, and other flora and fauna. Through linkages with the well-established Caspian Environment Programme, the Kura-Aras project could serve as a pilot towards broadening of the CEP to a truly basin-wide management framework similar, to what has emerged with GEF assistance in the Danube-Black Sea.

111. The global benefits of this project extend to the preservation of the unique ecosystem of the Caucasus eco-region, increasing political stability through environmental cooperation in a geopolitically sensitive area, and testing activities that can be replicated elsewhere for integrated transboundary water management. The challenge in this project is the development of harmonized policies among nations who are at varying stages of development, with wide ranging priorities pertaining to water use. This situation can be found throughout the world in shared water basins and presents international, regional and local decision makers with a unique set of options ranging between meeting the most

immediate and dire needs to considering long term sustainable actions needed for sustainable water resource utilization. By trialing a number of innovative strategies, as well as employing coordination mechanisms this project will take an array of options into account and will devise a set of realistic activities and objectives that can be met by the participating countries. The lessons learned from this can be translated to many of shared water systems and it is expected that refinement of the strategies will enable this and other projects to develop more fully in the future.

112. National – the national benefits will include an improvement in water quality and water quantity management strategies, monitoring programmes and coordination with neighboring countries. Through prioritized objectives and increased policy harmonization, resources can be combined and will not need to be replicated at the national level alone. Countries can benefit from improved IWRM approaches and through long term sustainable development of water in the region. Benefits will include increase monitoring reliability, decrease impacts of significant flooding damages to infrastructure and economic development, increased activities of public, civil society and stakeholders in addressing water resource management challenges.

113. Local – the local benefits will be improved conditions in water system health, including improved quality and quantity, as well as defined activities that can be undertaken by communities themselves to improve conditions. The local communities within the river basin are aware of challenges created by the status quo pertaining to water management, but lack the skills to empower them to improve their own conditions. By collaborating with civil society, and project staff, the local beneficiaries will gain a sense of control over their local circumstances, increase the ability to address these and learn from other stakeholders in neighboring countries. This opportunity will provide other communities and stakeholders with examples of low cost activities that can be undertaken to improve conditions pertaining to their impacts on and impacts from regional water management issues.

Country Ownership: Country Eligibility and Country Drivenness

114. All countries in the region are committed to sustainably managing water resources and this commitment is reflected in national development and environment policies and plans, including MDG-based Poverty Reduction and Development Strategies, and National Environmental Action Programmes. Moreover, these policies and plans give due emphasis to the management and protection of the Kura and Aras rivers and the importance of the IWRM approach in achieving the objectives. Each of the countries has a growing non-governmental community and academic sector to complement the work of governmental organisations in this sector. Over the past ten years, working with the World Bank and USAID, Armenia has greatly strengthened its water and environmental policy, legislation and planning process based on the IWRM approach and it is now entering into an aggressive investment phase. The other Caucasus countries would like to develop similar programmes and both Azerbaijan and Georgia have requested assistance from UNDP in the development of National IWRM plans as a first stage. Armenia, Azerbaijan and Georgia have signed with the EU the European Neighborhood Policy Action Plans (2006). Under these plans each of the countries is committed ”to identify possibilities with neighboring countries for enhanced regional co-operation, in particular with regard to water issues”. Under Individual Partnership Action Plans with NATO the countries have committed to participate with their neighbors in the Science for Peace project on transboundary impact of pollution on the environment. The three countries are also committed to approximation to the EU Water Framework Directive and its potential future implementation.

115. Also, the South Caucasus countries participate intensively in:

- The EU Transboundary River Management Phase II for the Kura River Basin – Armenia, Georgia, Azerbaijan, which is building capacity in water resource monitoring and management among all countries in line with the methodologies of the EU Water Framework Directive;
- the EU Water Initiative EECCA (Eastern Europe, Caucasus and Central Asia) Component, which seeks to improve the management of water resources in the EECCA region (Eastern Europe, Caucasus and Central Asia) through a partnership established between EU and the EECCA countries at the World Summit for Sustainable Development in 2002;
- the Global Water Partnership, a working partnership among all those involved in water management: government agencies, public institutions, private companies, professional organizations, multilateral development agencies and others committed to the Dublin-Rio principles consisting of a partnership created by the World Bank,;
- and, the Environment and Security Initiative (ENVSEC) in which UNDP, http://www.unep.ch/roe/UNEP, OSCE, NATO, UNECE and REC have joined forces in ENVSEC to offer countries their combined pool of expertise and resources towards the aim of peacefully resolving the overriding political, economic and social concerns of our time, including mechanisms to address the links between the natural environment and human security.

Project Linkages to National Priorities, Action Plans, and Programs:

116. All countries in the region are committed to sustainably managing water resources and this commitment is reflected in national development and environment policies and plans, including Poverty Reduction and Development Strategies, Millennium Development Goals, National Environmental Action Programmes. Moreover, these policies and plans give due emphasis to the management and protection of the Kura and Aras rivers. Each participating country has also established legal and institutional frameworks for managing water resources, the mandates of which cover the Kura-Aras river basin. Finally, each of the countries has a growing non-governmental community and academic sector to complement the work of governmental organisations in this sector.

Sub-Regional Level Policies and Cooperation

117. The Kura-Aras basin countries recognize the importance of transboundary cooperation and are trying to address priority transboundary issues with neighbouring countries. Following the break-up of the former Soviet Union, the existing mechanisms for cooperation, joint water management, and information sharing in the region has deteriorated, although there are still a number of bilateral agreements that continue to function, particularly between the Islamic Republic of Iran and its neighbours. Though most of the treaties were adopted by the former Soviet Union, Armenia, Azerbaijan and Georgia consider themselves to be successor states of the Union and are thus bound by them.

118. An agreement exists between Armenia and Iran on the joint utilization of the frontier parts of the Aras River for irrigation, power generation and domestic use. This agreement from 1957 provides the legal foundation for the current preparatory work for the joint development of two hydropower plants on the Aras River. An agreement also exists between Iran and Azerbaijan, which distributes the use of the transboundary River Aras in equal proportions.

119. Before the break-up of the Soviet Union, water issues within the Soviet Union were dealt with centrally through decisions adopted amongst ministers of the Soviet states. Accordingly, decisions and agreements were made between Armenia and Georgia on the use of the Debed River and between Armenia and Azerbaijan on the use of the Arpa, Bargushad, Aghstafa and Tovuz rivers. These decisions and agreements have generally been accepted by the former Soviet States and honored in practice to date.

120. Bilateral co-operation agreements were developed between Armenia and Georgia and between Azerbaijan and Georgia and were signed in 1998. Since then, there have been a growing number of inter-country initiatives in the environmental field at project, technical and bilateral levels. In 1997, the Georgian Ministry of Environment, with the support of the EU TACIS Programme, took the initiative to promote cooperation on a range of environmental issues in the region.

121. Armenia, Azerbaijan and Georgia have signed with the EU the European Neighborhood Policy Action Plans (2006). Under these plans each of the countries is committed "to identify possibilities with neighboring countries for enhanced regional co-operation, in particular with regard to water issues". Under Individual Partnership Action Plans with NATO the countries have committed to participate with their neighbors in the Science for Peace project on Environmental Impact of Pollutants in a Trans-Boundary Context objective of conducting an assessment of trans-boundary impact on environmental pollution in a regional context.

122. Also, the countries participate intensively in the EU Water Initiative EECCA Component, a partnership that seeks to improve the management of water resources in the EECCA region (Eastern Europe, Caucasus and Central Asia) to support a partnership established between EU and the EECCA countries at the World Summit for Sustainable Development in 2002; the Global Water Partnership, a working partnership among all those involved in water management: government agencies, public institutions, private companies, professional organizations, multilateral development agencies and others committed to the Dublin-Rio principles consisting of a partnership created by the World Bank, the United Nations Development Program (UNDP) and the Swedish International Development Agency (SIDA) in 1996; and, the Environment and Security Initiative (ENVSEC) in which UNDP, http://www.unep.ch/roe/UNEP, OSCE, NATO, UNECE and REC have joined forces in the Environment and Security (ENVSEC) Initiative to offer countries their combined pool of expertise and resources towards the aim of peacefully resolving the overriding political, economic and social concerns of our time, including mechanisms to address the links between the natural environment and human security.

123. In addition to the bilateral agreements, international environmental treaties and conventions also bind Armenia, Azerbaijan, and Georgia. Other Agreements listed in Section IV, Part 1 show that there are several conventions that all four countries have signed and ratified, which can be considered a good basis for transboundary cooperation.

Sustainability

124. This project will be sustained through the support mechanisms that are being incorporated in its development. This will serve to provide an incentive to countries to continue and bolster support of the project, as gains are realized. The project will be based on national ownership of the priorities is highlighted in the National IWRM and SAP initiatives. The project will work with the countries in developing a financial strategy for the sustainability of the SAP. Within the IWRM plans and the SAP there will

be built-in monitoring and evaluation mechanisms which will allow the countries to track future implementation at national and regional levels. These systems will also allow countries to more accurately adapt their plans to current socio-economic conditions and national priorities. The adoption of national IWRM plans, and support for the SAP by the national Governments at the highest level will be major objective in ensuring project sustainability alongside support for their implementation by the international community at the donor conference.

Replicability and innovation

125. The project is designed to be replicated at multiple levels. At the national level, the development of National IWRM plans, with the strengthening of interministerial and stakeholder dialogue, will increase economic and political support for the SAP development and implementation. At the international level, focusing on common concerns and focusing on transboundary water issues to strengthen national and regional water governance will serve as a model for other transboundary water projects in similar politically sensitive regions. The components within this project stress the importance of common national priorities as the foundation building regional policy harmonization. At the local level, the public participation and stakeholder involvement activities will be supported initially by the project, but with ultimately communities themselves taking responsibility to maintain and replicate the project outputs and outcomes.

PART III: Management Arrangements

126. There will be a small PCU based in Tbilisi, with an international CTA and international/regional experts, a Scientific Officer and an Economist/ Water Resource Planner. All other technical staff will be national - maximum staffing of the PCU will be five persons. In each capital there will be a National Project Coordinator who will report to the CTA and National Focal Point. Satellite offices will be established in Baku and Yerevan.

127. The lead UNDP country office will be Georgia and the United Nations Office for Project Services in Copenhagen will be the Executing Agency. In order to accord proper acknowledgement to GEF for providing funding, a GEF logo will appear on all relevant GEF project publications. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgment to GEF.

PART IV: Monitoring and Evaluation Plan and Budget

131. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures by the project team and the UNDP-GEF Regional Coordinating Unite (RCU) in Bratislava. The Strategic Results Framework Matrix provides impact and outcome indicators for project implementation along with their corresponding means of verification. The M&E plan includes: inception report, project implementation reviews, quarterly operational reports, a mid-term and final evaluation, etc. Annex 6 outlines indicative cost estimates related to M&E activities. The project's Monitoring and Evaluation Plan will be presented and finalized at the Project's Inception Meeting following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

Project Inception Phase

132. A Project Inception Workshop will be conducted with the full project team, relevant government counterparts, co-financing partners, the RCU, as well as UNDP-CO and GEF (HQs) as appropriate. A fundamental objective of this Inception Workshop will be to assist the project team to understand and take ownership of the project's goals and objectives, as well as finalize preparation of the project's first annual work plan on the basis of the project's strategic results framework (SRF) matrix. This will include reviewing the SRF (indicators, means of verification, assumptions), imparting additional detail as needed, and on the basis of this exercise finalize the Annual Work Plan (AWP) with precise and measurable performance indicators, and in a manner consistent with the expected outcomes for the project. Additionally, the purpose and objective of the Inception Workshop (IW) will be to: (i) introduce project staff with the UNDP-GEF *expanded team* which will support the project during its implementation, namely OPS and responsible RCU staff; (ii) detail the roles, support services and complementary responsibilities of OPS and RCU staff vis à vis the project team; (iii) provide a detailed overview of UNDP-GEF reporting and monitoring and evaluation (M&E) requirements, with particular emphasis on the Annual Project Implementation Reviews (PIRs) and related documentation, as well as mid-term and final evaluations. Equally, the IW will provide an opportunity to inform the project team on UNDP project related budgetary planning, budget reviews, and mandatory budget rephasings. The IW will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff and decision-making structures will be discussed again, as needed in order to clarify for all, each party's responsibilities during the project's implementation phase.

Monitoring responsibilities and events

133. A detailed schedule of project reviews meetings will be developed by the project management, in consultation with project implementation partners and stakeholder representatives and incorporated in the Project Inception Report. Such a schedule will include: (i) tentative time frames for Steering Committee Meetings, or other relevant advisory and/or coordination mechanisms and (ii) project related Monitoring and Evaluation activities.

134. Day to day monitoring of implementation progress will be the responsibility of the Project Manager based on the project's Annual Work Plan and its indicators. The Project Team will inform UNDP of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion. The Project Manager will fine-tune the progress and performance/impact indicators of the project in consultation with the full project team at the Inception Workshop with support from the RCU. Specific targets for the first year implementation progress indicators together with their means of verification will be developed at this Workshop. These will be used to assess whether implementation is proceeding at the intended pace and in the right direction and will form part of the Annual Work Plan. The local implementing agencies will also take part in the Inception Workshop in which a common vision of overall project goals will be established. Targets and indicators for subsequent years would be defined annually as part of the internal evaluation and planning processes undertaken by the project team.

135. Periodic monitoring of implementation progress will be undertaken by the RCU through quarterly telephone meetings with the project local implementation group, or more frequently as deemed necessary. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities. The RCU will conduct yearly visits to projects that have field sites, or more often based on an agreed upon scheduled to be detailed in the project's Inception Report/Annual Work Plan to assess first hand project progress. Any other member of the Steering Committee can also accompany, as decided by the PSC. A Field Visit Report will be prepared by the RCU and circulated no less than one month after the visit to the project team, all PSC members, and UNDP-GEF.

136. Annual Monitoring will be ensured by means of the project Steering Committee (PSC) meetings[9] being the highest policy-level meeting of the parties directly involved in the implementation of a project. PSC meetings will be held at least once every year. The first such meeting will be held within the first twelve months of the start of full implementation. The project implementation team will prepare a harmonized Annual Project Report and Project Implementation Review (APR/PIR) and submit it to UNDP-CO and the UNDP-GEF regional office at least two weeks prior to the PSC for review and comments. The APR/PIR will be used as one of the basic documents for discussions in the PSC meeting. The project proponent will present the APR to the SC, highlighting policy issues and recommendations for the decision of the PSC members. The project proponent also informs the participants of any agreement reached by stakeholders during the APR/PIR preparation on how to resolve operational issues. Separate reviews of each project component may also be conducted if necessary.

Project Monitoring Reporting

137. The Project Manager in conjunction with the UNDP-GEF extended team will be responsible for the preparation and submission of the following reports that form part of the monitoring process.

138. A Project Inception Report will be prepared immediately following the Inception Workshop. It will include a detailed First Year Work Plan divided in quarterly time frames detailing the activities and progress indicators that will guide implementation during the first year of the project. This Work Plan would include the dates of specific field visits, support missions from the RCU or consultants, as well as time frames for meetings of the project's decision making structures. The Report will also include the detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame. The Inception Report will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may effect project implementation. When finalized the report will be circulated to project counterparts who will be given a period of one calendar month in which to respond with comments or queries. Prior to this circulation of the IR, the RCU will review the document.

139. The APR/PIR is an annual monitoring process mandated by the GEF[10]. It has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. It also forms a part of UNDP's central oversight, monitoring and project management, as well as represents a key issue for the discussion at the Steering Committee meetings. Once the project has been under implementation for a year, an APR/PIR must be completed by the RCU together with the project implementation team, including GEF International Waters Annual Project Performance Results template.. The APR/PIR can be prepared any time during the year (July-

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9 A SCM mechanism as such is similar to the Tripartite Review (TPR) formally required for the UNDP/GEF projects, and differs from the latter only in the composition of the review panel, which, in case of the SC, is broader that that of the TPR.

10 The GEF M&E Unit provides the scope and content of the PIR. In light of the similarities of both APR (standard UNDP requirement) and PIR (GEF format), UNDP/GEF has prepared a harmonized format - an APR/PIR

June) and ideally prior to the SCM. The APR/PIR should then be discussed at the SCM so that the result would be an APR/PIR that has been agreed upon by the project, the executing agency, and the key stakeholders. The individual APR/PIRs are collected, reviewed and analysed by the RCs prior to sending them to the focal area clusters at the UNDP/GEF headquarters.

140. Quarterly Progress reports: Short reports outlining main updates in project progress will be provided quarterly to the RCU by the project team based upon a standard format to be provided by UNDP-GEF.

141. As and when called for by UNDP, UNDP-GEF or the Implementing Partner, the project team will prepare Specific Thematic Reports, focusing on specific issues or areas of activity. The request for a Thematic Report will be provided to the project team in written form by UNDP and will clearly state the issue or activities that need to be reported on. These reports can be used as a form of lessons learnt exercise, specific oversight in key areas, or as troubleshooting exercises to evaluate and overcome obstacles and difficulties encountered. UNDP is requested to minimize its requests for Thematic Reports, and when such are necessary will allow reasonable timeframes for their preparation by the project team.

142. During the last three months of the project the project team will prepare the Project Terminal Report. This comprehensive report will summarize all activities, achievements and outputs of the Project, lessons learnt, objectives met, or not achieved, structures and systems implemented, etc. and will be the definitive statement of the Project's activities during its lifetime. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the Project's activities.

Independent Evaluation

143. The project will be subjected to at least two independent external evaluations as follows:

144. An independent Mid-Term Evaluation will be undertaken at the mid of the third year of implementation. The Mid-Term Evaluation will determine progress being made towards the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the PCU based on guidance from the Regional Coordinating Unit and UNDP-GEF.

145. An independent Final Evaluation will take place three months prior to the terminal Steering Committee meeting, and will focus on the same issues as the mid-term evaluation. The final evaluation will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities. The Terms of Reference for this evaluation will be prepared by the PCU based on guidance from the RCU and UNDP-GEF.

Audit Clause

146. The project will be audited in accordance with UNDP Financial Regulations and Rules and Audit policies.

TABLE H-1: INDICATIVE MONITORING AND EVALUATION WORK PLAN AND CORRESPONDING BUDGET

Table - Project Monitoring and Evaluation Plan and Budget

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project staff time*	Time frame
Inception Workshop & associated arrangements	▪ Project Manager ▪ UNDP CO ▪ UNDP GEF	**Budget US$** *Excluding project staff time*	Within first two months of project start up
Inception Report	▪ Project Team ▪ UNDP CO ▪ Consultancy support if needed	Indicative cost: 10,000	Immediately following IW
Measurement of Means of Verification for Project Purpose Indicators	▪ Project Manager will oversee the hiring for specific studies and institutions, delegate responsibilities to relevant team members, and ▪ Ensure hiring outside experts if deemed necessary	Indicative cost 5,000 (stakeholder consultations, consultancy translation)	Start, mid and end of project
Measurement of Means of Verification for Project Progress and Performance (measured on an annual basis)	▪ Oversight by Project GEF Technical Advisor and Project Manager ▪ Measurements by regional field officers and local IAs	To be finalized in Inception Phase and Workshop. Indicative cost None	Annually prior to APR/PIR and to the definition of annual work plans
APR/PIR, IW RT, GEF 4IW Tracking Tool.	▪ Project Team ▪ UNDP-CO ▪ UNDP-GEF	To be determined as part of the Annual Work Plan's preparation. Indicative cost None	Annually
Steering Committee Meetings and relevant meeting proceedings (minutes)	▪ Project Manager ▪ UNDP CO	Indicative cost: None	Following Project IW and subsequently at least once a year
Quarterly status reports	▪ Project team	Indicative cost: 30,000 (travel costs for relevant project stakeholders)	To be determined by Project team and UNDP CO
Technical reports	▪ Project team ▪ Hired consultants as needed	Indicative cost: None	To be determined by Project Team and UNDP-CO
Project Publications (e.g. technical manuals, field guides)	▪ Project team ▪ Hired consultants as needed	Indicative cost: None	To be determined by Project Team and UNDP-CO
Mid-term External Evaluation	▪ Project team ▪ UNDP- CO ▪ UNDP-GEF RCU ▪ External Consultants (i.e. evaluation team)	Indicative cost: None	At the mid-point of project implementation.

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project staff time*	Time frame
Final External Evaluation	▪ Project team, ▪ UNDP-CO ▪ UNDP-GEF RCU ▪ External Consultants (i.e. evaluation team)	Indicative cost: 10,000	At the end of project implementation
Terminal Report	▪ Project team ▪ UNDP-CO ▪ External Consultant	Indicative cost: 15,000	At least one month before the end of the project
Lessons learned	▪ Project team ▪ UNDP-GEF RCU (suggested formats for documenting best practices, etc)	Indicative cost: None	Yearly
Audit	▪ UNDP-CO ▪ Project team	Indicative cost: 3,000	Yearly
Visits to field sites (UNDP staff travel to be charged to IA fees)	▪ UNDP Country Office ▪ UNDP-GEF RCU (as appropriate) ▪ Government representatives	Indicative cost: 18,000 (average $6000 per year)	Yearly
TOTAL INDICATIVE COST Excluding project team staff time and UNDP staff and travel expenses		Indicative cost: 9,000 (average one visit per year)	
		US$ 100,000	

Learning and Knowledge Sharing

128. Results from the project will be disseminated within and beyond the project intervention zone through a number of existing information sharing networks and forums. In addition:

129. The project will participate, as relevant and appropriate, in UNDP/GEF sponsored networks, organized for Senior Personnel working on projects that share common characteristics. UNDP/GEF, IW:LEARN etc. have established a number of networks, such as IWRM, lake and river basin management, Integrated Ecosystem Management, eco-tourism, co-management, etc, that will largely function on the basis of an electronic platform. Additionally the project will contribute to IW:LEARN experience note preparation, website and participation of the Project CTA and (2) country representatives in IW Conferences. Approximately 1% of the project budget will be spent on IW:LEARN activities.

130. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned.

131. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Identifying and analyzing lessons learned is an on- going process, and the need to communicate such lessons as one of the project's central contributions is a requirement to be delivered not less frequently than once every 12 months. UNDP/GEF shall provide a format and assist the project team in categorizing, documenting and reporting on lessons learned. To this end a percentage of project resources will need to be allocated for these activities

PART V: Legal Context

132. For all three participating countries, Armenia, Azerbaijan and Georgia, this Project Document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement (SBAA) between these governments and the United Nations Development Programme, signed by the parties previously. The host countries' implementing agencies shall, for the purpose of the SBAA, refer to the governments' cooperating agencies described in that Agreement. .

133. The UNDP Resident Representative in Georgia is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by the UNDP-GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

134. Revision of, or addition to, any of the annexes to the Project Document;

135. Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;

136. Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and

137. Inclusion of additional annexes and attachments only as set out here in this Project Document

SECTION II: STRATEGIC RESULTS FRAMEWORK

Project Strategy	Indicator	Base line	Target *Unless otherwise states these are targets for Project completion*	Means of Verification	Assumption
Goal: The overall goal of the Project is to contribute to improved management of the Kura-Aras River Basin's trans-boundary water resources through Integrated Water Resource Management (IWRM) approaches that remediate threats and root causes.					
Purpose (Objective): To create an enabling framework for the long-term, sustainable integrated management of the Kura-Aras River Basin following IWRM principles	1. Finalized TDA with the number of studies conducted to fill gaps and number of interventions identified	The preliminary TDA conducted during the preparatory stage, is based on desk studies produced by the GEF team. This work has identified a number of knowledge gaps to be filled, some of which will be addressed by GEF in the full size project, including water quantity, hydrological flow data, land-based source of pollution, etc.	Completed TDA with at least 4 gaps filled on water quantity, hydrological flow data, land-based source of pollution, and river biodiversity. Identification of at least 10 short, medium and long term interventions and pre-feasibility studies of priority interventions identified from TDA	• 4 Gap filling assessments on water quantity, hydrological flow data, land-based source of pollution and biodiversity • Updated and revised TDA endorsed by the countries. • Revised CCA • Pre-feasibility studies • TDA disseminated widely	• Willingness of countries and stakeholders to accept objective findings of the TDA
	2. Budget commitments at national level to IWRM Plans and regional SAP Number of agreed points in M&E framework Number of common and collaborative	At present there is no regional basin wide management through which a regional IWRM approach can be applied. The donor supported attempts to bring together the countries to discuss potential collaborative mechanisms have so far been of limited success. Support for national level IWRM policies will provide the foundation for an eventual regional strategy. Each country is moving towards	Amount from national budgets (total intersectoral) and donors allocated to support IWRM plans and SAP activities as appropriate Commitment to National Monitoring and Evaluation Framework in place	• Strengthened National IWRM plans agreed be each country • Provisions for National IWRM Plans budgets committed to by governments • Financial support sources for IWRM and common policies	• Appropriateness of recommendations based on TDA • Political will to introduce IWRM approach and to support plans • Technical capacity exists in the responsible planning authorities to develop the IWRM plans

Project Strategy	Indicator	Base line	Target *Unless otherwise states these are targets for Project completion*	Means of Verification	Assumption
	policies	development of IWRM plans, but at different rates. There are no common IWRM policies at the regional level to date.	At least 4 common national IWRM policies from between all countries	identified • Regional SAP supported by countries strengthening common IWRM Strategies SAP M & E framework agreed	
	3. Number of Stakeholder groups involved in water resource planning process Number of Public awareness events or publications. Number of Stakeholders involved in project activities;	There is a little or no high level, multi stakeholder involvement in the water resource planning process, at the heart of the IWRM approach. There is a lack of general knowledge regarding the water resource issues and a clear need for public awareness raising and targeted education programmes.	At least 12 stakeholder groups involved in IWRM planning. At least 15 Public awareness events each year, etc At least 2 NGO Forum Meetings held	• Stakeholder Advisory Group meeting regularly • NGO Forum Meetings regularly and regionally strengthened • Education and public awareness raising activities	• Stakeholder available and willing to participate and effectiveness of awareness raising campaigns • Ongoing cooperation among NGOs
	4. Number of decision support assessments criteria for water resources management *identified* *Ecological flows- rapid assessment of river ecology at*	There is not sufficient information for establishing integrated water resource management within the basin at the national or regional level. Information on ecological flows and river ecosystems is incomplete for sustainable IWRM planning. All three countries are becoming familiar with the methodology of the EU	Assessments on ecological flows and river system ecology information status conducted in each country.	• Reports from assessment projects • Common basin-wide methodology employed for measuring ecological flows • Demonstrated use of assessments in decision making process	• There is sufficient allocation of national experts to support assessments • Ability of national consultants to access sensitive sites for ecological assessments.

Project Strategy	Indicator	Base line	Target *Unless otherwise states these are targets for Project completion*	Means of Verification	Assumption
	sensitive sites	WFD and the IWRM approach. Gaps in information pertaining to ecological conditions information limit full implementation of IWRM. The countries need approaches they can use to establish objectives and goals for water resource development and which can be utilized over the medium to long terms.		• Lesson learned reports • Results replicated in other parts of the basin and in the wider region.	
Outcome 1: Completion of Transboundary Diagnostic Analysis	1.1. Completed TDA with gaps filled for water quantity, hydrological flow data, land-based source of pollution, etc.	There was agreement on the priority transboundary issues relating to water resource management in the river basin but there remain a number of empirical information gaps to be filled before a complete picture can be formed. The project parties will need to reaffirm these, as they pertain to national IWRM priorities. The donor component projects will address these knowledge gaps, with GEF investigating issues of water flow data, land-based source of pollution, and impacts of climate change..	TDA based on: Assessment of water quantity variation by season and flow regimes with baseline and 2-5 year increments Study of flood plain forests Study on landfills and contaminated land sites Study of anticipated climate change scenario impacts at the national and regional levels pertaining to water resources.	• Assessment report of the gaps and relevant information regarding their impact on the IWRM planning system • Study and assessment reports	• Results from the gap filling activities depend on access to reliable information • National IWRM priorities include priority transboundary issues
	1.2 Environmental and Water Resources Status baselines established Development of SAP	The preliminary TDA was not able to establish a firm baseline for environmental conditions and water resource statuses, required to implement IWRM at the national levels and with regards to common	3 sets of commonly accepted baselines for environmental and water resource status 2, 5, 10 and 20 year for SAP activities including M&E	• Assessment reports for water resources and environmental status • M&E guidelines based on assessments	• Common IWRM priorities sufficient for priorities for SAP • Assessment methodologies

Project Strategy	Indicator	Base line	Target *Unless otherwise states these are targets for Project completion*	Means of Verification	Assumption
	priorities, to be carried out in close coordination with national IRWM teams and other regional projects	regional issues. These will be critical to monitor and evaluate the progress of the SAP. Common baselines will provide the benchmark for progress to be gauged and to enable all countries to reach consensus on what priority actions are needed in the basin, for the SAP and other partner projects including the EU Kura-project, bilateral and national efforts.			acceptable by all countries
	1.3 Number of parties in agreement on common priority Transboundary issues Identified immediate and root causes	The preliminary TDA undertaken during the preparatory stage did not identify the longer-term interventions to be incorporated into the SAP. These will be part of the IWRM Planning Process at the national level and linked into regional priorities where they are common to National Priorities. This requires revised Causal Chain Analyses. This work will be a precursor to SAP as part of the National IWRM Plan development.	3 countries and all Steering Committee Members in agreement on final priority transboundary issues 3 Immediate and 3 root causes of each priority issue identified Set of alternatives interventions for each priority issue	• Revised TDA document containing the results from gap filling studies and revised Causal Chain Analyses • List of potential interventions in the short, medium and long term to address each of the transboundary issues • Economic assessment report for alternative interventions • Pre feasibility studies for key interventions	• Regional agreement on the findings of the TDA and listings of priority interventions
	1.4. Final TDA revised and updated	The preliminary TDA has information gaps and requires revision and updating prior to	Government and Steering Committee approval of Final TDA	• TDA Document Finalized • Final TDA on-line	• Final TDA acceptable to all countries and Steering Committee

Project Strategy	Indicator	Base line	Target *Unless otherwise states these are targets for Project completion*	Means of Verification	Assumption
		dissemination. This activity will result in a document that accurately reflects the current conditions in the basin, and serve as the baseline for actions of the SAP.	At least 15 recommendations for the SAP translated into regional languages.	and accessible to public for comments • Final TDA presented to the Steering Committee	• Updated information available
	1.5. Number of copies of Final TDA disseminated Number of visitors to webpage with Final TDA	As evidenced in the SHA, there is currently a generalized low awareness among stakeholders regarding the priority transboundary issues in the basin and how the issues inter-relate, as well as how these common issues can be viewed collaboratively by all basin states.	At least 50 copies of the TDA in local languages shared with at least 20 different stakeholder groups, in either electronic or paper format At least 20 hits on website with Final TDA	• TDA finalized and endorsed by Steering Committee • TDA in easy access format prepared and disseminated • Newspaper articles, radio and TV programmes featuring the TDA findings in local languages	• Relevance and accessibility of information to stakeholders
Outcome 2: Preparation of the National IWRM Plans and Strategic Action Programme (SAP)	2.1 Percent of National IWRM plans budget to be committed by governments	Currently, each country is developing their own individual and independent water resource use plans without collaboration with others in the basin. At the national level there is a need to develop plans for IWRM that spans sectors and includes priorities of government and other stakeholders, including environmental sustainability. The common issues addressed in these IWRM plans that have transboundary implications should be highlighted. The common issues in these plans should be supported and can be	At least 50% of budget for National IWRM Plans activities committed to by governments within the next national budget cycle following project completion.	• National IWRM plans establish • Letters of endorsement from government • Work plans for implementation of national plans	• Harmonization of plans across the region without resorting to lowest common denominator • Ability of governments to incorporate plans into existing budgets • Willingness of stakeholders to support the National IWRM Action Plans.

Project Strategy	Indicator	Base line	Target *Unless otherwise states these are targets for Project completion*	Means of Verification	Assumption
		harmonized in through the regional SAP.			
	2.2 Number of Ministries supporting SAP in each country Percent Support for SAP from Steering Committee	Across the Caucasus there are competing water uses drawing on the Kura-Aras River basin resources which may increase tensions if not collectively addressed. An initial Basin Vision and preliminary SAP was developed under the PDF-B phase of the project, but the final agreement was not decided and targets and activities not agreed. National IWRM Plans are needed to solidify the planning process. The movement to address common concerns has started, however a final full SAP formulation and support can strengthen the and provide partner organizations with a clear set of regional priorities for investments.	At least 3 Ministries in each country supporting the SAP 100% support for SAP by Steering Committee	• SAP supported by the national governments • Final IWRM plans approved by appropriate national planning authorities • GEF M&E Framework included in the final SAP	• Ability to reach agreement on priority actions needed • Ability to link National IWRM plans to SAP • Ability to reach targets set within the SAP
	2.3 Number of P, SR, and ES indicators agreed to within the M&E Framework	N/A	At least 12 agreed indicators for the M&E Framework	• Detailed M&E framework incorporated into the SAP. • Agreed set of P, SR and ES indicators	• The is a management framework in place to undertake the SAP implementation assessments
	2.4 Number of donors attending conference held to mobilize resources for SAP and IWRM Plan implementation	There have been multiple donor projects assisting the Kura-Aras Basin states with development of transboundary water resources workplan and efforts have been	At least 5 International and bilateral organizations attending donors conference At least 20% of project	• Donor conference minutes, project monitoring reports and files • Financial support	• Continued donor and national commitment to implementing relevant national and regional activities.

Project Strategy	Indicator	Base line	Target *Unless otherwise states these are targets for Project completion*	Means of Verification	Assumption
	Amount pledged by donors as a result conference	undertaken to ensure the minimum of duplication of effort and maximum synergy. These efforts will continue throughout the project.	budgets pledged by donors within 3 months of donor conference	leveraged for SAP and IWRM implementation	
Outcome 3: Basin wide stakeholder involvement activities	3.1 Number of attendees at the Kura-Aras NGO Forum and number of meetings held NGO Forum Representative Attendance at Steering Committee Meeting Number of Stakeholder Advisory Group meetings and number of inputs/recommendations at each meeting Number of stakeholder groups represented in the Stakeholder Advisory Group	There are currently limited facilities at the basin wide level for consultation and involvement of stakeholders. Earlier efforts towards the development of a basin-wide NGO Forum showed promise, and included participation from NGOs throughout the basin and inter-donor coordination. Ongoing support for this collaborative forum is needed in order to strengthen civil society collaboration across the basin. This strategy includes reconvening the Stakeholder Advisory Group and creation of national stakeholders forums to provide input and advice to the TDA finalization, SAP development and creation of national IWRM plans in line with the EU Kura Project and Aarhus Convention. Additionally these groups will provide input into the M&E strategy for the SAP implementation.	At least 2 NGO Forum Meetings with at least 21 participants at each meeting At least 1 Steering Committee meeting with NGO Forum representative attending At least 3 Stakeholder Advisory Group Meetings held and at least 10 comments/recommendations in from each meeting At least 10 stakeholder groups represented in the Stakeholder Advisory Group	• Adopted and operational NGO Forum Charter with clear funding sources sought independently • Stakeholder Advisory Group roster • Stakeholder Advisory Group meeting minutes and recommendations	• Diversity of Stakeholder Advisory Group and NGO Forum to reflect broad array of stakeholders within the basin • National stakeholder forum are representative of stakeholders in the basin
	3.2. Number of awareness raising and	The current level of awareness of water conservation is stakeholder	At least 15 public awareness raising events each year	• Basin-wide campaign strategy to	• Support and political

Project Strategy	Indicator	Base line	Target *Unless otherwise states these are targets for Project completion*	Means of Verification	Assumption
	education activities for Stakeholders Number of Communities participating in activities for improved water conditions	group specific and sectorally focused. Stakeholders are eager for more information about conservation measures across the basin including how to improve water quality	At least 3 stakeholder group educational outreach activities conducted	engage stakeholders in all sectors • Stakeholder education and training exercises conducted and results measured	commitment from the basin government for the aims and objectives of the campaign • Ability of activities to reach and impact targeted groups
Outcome 4: Demonstration Projects on conflicting water use	4.1 Pilot demonstrations for the Kura-Aras basin to assess conditions for integrated water resource management development. Number of assessment criteria for ecological flows at key locations in established	The assessment of ecological flows and classification of the river are sensitive since it has a direct bearing on the water resources available. The existing procedures for establishing ecological flows were developed during the Soviet period and do not reflect modern environmental protection standards. In addition, ecological flows need to take account of the seasonal variations and flooding events, necessary for wetland inundation, fish migration and river bed cleansing. A basin-wide rapid assessment and criteria for ecological flows the countries are a key element in defining the long-term IWRM and a vision for the basin.	3 sets criteria for setting ecological flows agreed 3 sets of ecological flow assessment methods agreed	▪ Common assessment methodology for setting Ecological Flows in the Kura-Aras river basin.	• The ecological value of the river is recognized when establishing levels of protection • The governments willing to allow rapid assessment teams access to ecologically sensitive sites • There is sufficient time to assess the ecological variation in flows across seasons
Outcome 5: Effective project management	5.1 Number of full time staff in Project	N/A	3 full time staff hired within three months of project commencement.	• Local administration staff appointed	• Availability of qualified staff

Project Strategy	Indicator	Base line	Target *Unless otherwise states these are targets for Project completion*	Means of Verification	Assumption
	Coordination Unit Appointment of National Project Coordinators in each country			• Filing and accounting systems set up and bank account opened. • Web-site updated regularly • Number of web-sites hits	• Website accessible to all users
	5.2 Number of meetings of the Stakeholder Advisory Group	Current institutional mechanisms for multiple stakeholder group input into project activities are not active, though initial inputs from a stakeholder advisory group into the PFD-B were deemed very useful to project development	3 meetings of Stakeholder Advisory Group within 3 years	• Stakeholder Advisory Group Input Reports	• Representative Stakeholders recruited • Value of inputs for practicality and cost effectiveness
	5.3 Number of Friends of the Project (FoP) representatives at group meetings	Complex donor activities and priorities in the region should be addressed through a roundtable donors meeting to increase projects synchronization	4 Donor initiatives harmonized at the national and regional level	• FoP meeting minutes • Support of SAP components by FoP members	• Willingness of relevant organizations to dedicate staff time to meetings and support activities
	5.4 Inception meeting and number of Steering Committee meetings held	N/A	Inception meeting held within 3 months of project start At least 1 Steering Committee Meeting held every year	• Steering Committee reports • UNDP Progress reports measured against inception report	

SECTION III: Total Budget and Work Plan

Kura-Aras River Basin Total Budget and Work Plan

Award ID:	00051122
Award Title:	Reducing Transboundary Degradation in the Kura-Aras basin
Business Unit:	GEO10
Project Title:	Reducing Transboundary Degradation in the Kura-Aras basin
Project ID: PIMS no. 2272	00063506
Implementing Partner (Executing Agency)	UNOPS

GEF Component/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Total (USD)	See Budget Note:
Component 1: Completion of Transboundary Diagnostic Analysis	**UNOPS**	**62000**	**GEF**	71200	International Consultants	90,000	100,000		190,000	1
				71300	Local Consultants	75,000	65,000		140,000	2
				72100	Contractual services – company	70,000	70,000		140,000	3
				72200	Equipment					
				74500	Miscellaneous		20,000		20,000	4
				71600	Travel	15,000	15,000		30,000	5
					sub-total GEF	**250,000**	**270,000**		**520,000**	
					Total Outcome 1	250,000	270,000		520,000	
Component 2: Preparation of National IWRM Plans and Strategic Action Program	**UNOPS**	**62000**	**GEF**	71200	International Consultants	145,000	140,000	60,000	345,000	6
				71300	Local Consultants	200,000	345,000	60,000	605,000	7
				72100	Contractual services – companies					
				72200	Equipment					
				74500	Miscellaneous	15,000	15,000	30,000	60,000	8
				71600	Travel	70,000	70,000	30,000	170,000	9
					sub-total GEF	**430,000**	**570,000**	**180,000**	**1,180,000**	
					Total Outcome 2	430,000	570,000	180,000	1,180,000	
Component 3: Basin Wide stakeholder	**UNOPS**			71200	International Consultants	10,000	10,000	10,000	30,000	10
				71300	Local Consultants	25,000	30,000	30,000	85,000	11

GEF Component/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Total (USD)	See Budget Note:
Involvement Activities				72100	Contractual services – companies					
				72200	Equipment					
				74500	Miscellaneous	10,000	20,000	10,000	40,000	12
				71600	Travel	15,000	15,000	15,000	45,000	13
					sub-total GEF	**60,000**	**75,000**	**65,000**	**200,000**	
					Total Outcome 3	60,000	75,000	65,000	200,000	
Component 4: Conflicting water use demonstrations	**UNOPS**	**62000**	**GEF**	71200	International Consultants	90,000	50,000	30,000	170,000	14
				71300	Local Consultants	180,000	180,000	60,000	420,000	15
				72100	Contractual services – companies					
				72200	Equipment	40,000	10,000	10,000	60,000	16
				74500	Miscellaneous			30,000	30,000	17
				71600	Travel	30,000	15,000	15,000	60,000	18
					sub-total	**340,000**	**255,000**	**145,000**	**740,000**	
					Total Outcome 4	340,000	255,000	145,000	740,000	
PROJECT MANAGEMENT	**UNOPS**	**62000**	**GEF**	71200	International Consultants	35,000	35,000	25,000	95,000	19
				71300	Local Consultants	30,000	30,000	30,000	90,000	20
				71600	Travel	10,000	10,000	10,000	30,000	21
				72200	Equipment					
				72500	Office Supplies	5,000	5,000	5,000	15,000	22
				74500	Miscellaneous expenses	10,000	10,000	10,000	30,000	23
					sub-total	**90,000**	**90,000**	**80,000**	**260,000**	
					Total Management	90,000	90,000	80,000	260,000	
					PROJECT TOTAL	1,200,000	1,230,000	470,000	2,900,000	

Budget notes:

1. *63 staff-weeks of international consultants (including 15% of CTA, 30% of Scientific Officer and 30% of Economist/Water Resource Planner) to work on Activities 2.1 Gap Analysis, 2.2 Environmental baseline and 2.3/2.4 TDA Revision and update*

2. *140 staff-weeks of a pool national consultants working on the TDA Technical Task Group, CCA, and interventions and prefeasibility studies.*
3. *Contracts for floodplain forest study ($65k), contaminated land sites ($75k)*
4. *Translation, printing and production costs of final TDA*
5. *Includes:*
    a. *Travel costs for three TDA meetings (CCA meeting, interventions and review of pre-feasibility studies and TDA finalization)*
6. *115 staff- weeks of international consultants including 50% of CTA, 10% Scientific Officer, and 60% of Economist/Water Resource Planner to support Activities 3.1 Formulation of National IWRM plans and 3.2 Formulation of SAP .A TDA/SAP expert will be hired to facilitate the TDA/SAP process including vision and WREQO formulation, target setting and drafting of final document (10 wks) and a IWRM expert to guide the national plans(23 weeks) .*
7. *605 staff-weeks of national consultants to coordinate and formulate the IWRM plans and the SAP and attend key SAP meetings*
8. *Costs of IWRM plan production and SAP distribution.*
9. *Includes:*
    a. *Travel costs for three IWRM planning meetings in each country*
    b. *Travel costs for four SAP meetings (Vision and WRQOs, Preliminary SAP and integration of National IWRM Priorities, draft SAP and M&E framework and final SAP)*
10. *10 staff-weeks of international consultant to assist with support of the NGO forum and establishment of the public involvement/ social marketing projects*
11. *85 staff-weeks of a pool of national consultants to work on Activity 3.2 targeted awareness raising campaign including social marketing campaign, NGO Forum, public education projects.*
12. *Costs of promotional materials for Activities in 3.2 and NGO forum meetings*
13. *Including:*
    a. *Travel costs for six NGO forum meetings, and social marketing campaign training*
14. *56 staff-weeks of international consultants including 10% of CTA, 60% of Scientific Officer 10% of Economist/Water Resource Planner*
15. *420 staff weeks for national consultants and national experts to implement rapid river ecology assessments and oversee monitoring of flow rates, draft national reports and final national report*
16. *Purchasing of equipment for monitoring and river ecology assessment to be used within national laboratories*
17. *Cost of promotional materials for dissemination of pilot project results*
18. *Includes:*
    a. *Travel costs for pilot project inception meetings (3)*
    b. *Travel costs to assessment sites (as needed)*
    c. *Travel costs for final dissemination meeting (1)*
19. *32 staff-weeks of international consultants (25% of CTA)*
20. *90 staff-weeks of national consultants including office manager and part-time administrative assistant*
21. *Travel of CTA on project management related business including attendance at IW conference in 2011*
22. *Office supplies*
23. *Includes IW:Learn activities*

** Approximately 276 International Consultants weeks and 1340 National Consultant Weeks at current average rates*

Quarterly work plan	Kura –Aras															
	Full Sized Project Timeline															
	Q4 2010	Q1 2011	Q2	Q3	Q4	Q1 2012	Q2	Q3	Q4	Q1 2013	Q2	Q3	Q4	Q1 2014	Q2	Q3
Activity																
Component 1 – Completion of the TDA																
1.1 TDA Gap Filling																
Gap analysis																
Hydrological flow record review																
Refinement of climatic change scenarios																
Land-based source assessments																
1.2 Environmental and Water Resources baseline established																
Strategic study of Floodplain forests																
Study of landfill and contaminated land fill sites																
1.3 Final TB issues prioritized and immediate and root causes identified																
TB issues confirmed and prioritized																
Detailed Causal Chain Analysis																
1.4 Final TDA revised and updated																
Identification of short, medium and long term interventions																
Pre-feasibilty studies of priority interventions																
1.5 Final TDA widely disseminated																
Component 2 – Preparation of National IWRM plans and SAP																
2.2 National IWRM plans																
Development of draft National IWRM plans developed																
Finalise and endorse national IWRM plans																
2.1 Development of SAP																
Vision and WRQOs confirmed																
Draft SAP in line with IWRM plans																
Draft SAP developed including targets and interventions																
Disseminate results																
Finalise and support SAP																
2.3 Develop M&E framework for SAP implementation																
2.4 Donors Conference													*			

	Q4 2008	Q1 2009	Q2	Q3	Q4	Q1 2010	Q2	Q3	Q4	Q1 2011	Q2	Q3	Q4	Q1 2012	Q2	Q3
Component 3 – Basin wide stakeholder and Involvement activities																
3.1 Support to the Kura-Aras NGO and Stakeholder forums																
3.2 Targeted awareness raising and educational activities																
Outreach and training programmes for key stakeholders																
Component 4 – Conflicting water Use Demonstrations																
4.1 – Environmental Low Flows and Rapid Assessment																
Inception Report																
Stakeholder consultation																
Final project design																
Application of environmental flows methodology and rapid ecology assessments																
Baseline assessment																
Design and implementation of long-term monitoring programme, including M&E framework																
Monitor and disseminate results																
Component 5 – Project Management																
5.1 Establish and maintain PCU																
5.2 Establish and maintain Friends of the Project Group					*		*		*		*		*			
5.3 Inception report and Steering Committee meetings					*				*				*			

SECTION IV: ADDITIONAL INFORMATION

PART I: Other agreements

Endorsement Letters

საქართველოს გარემოს დაცვისა და
ბუნებრივი რესურსების სამინისტრო
MINISTRY OF ENVIRONMENT OF GEORGIA

0171, თბილისი, კოსტავას ქ. 68ა, ტელ: 36-45-41, ფაქსი: 94-34-20/33-39-52

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Fax:(+995 32) 943 420/ 333 952, E-mail: geoairdept@caucasus.net

"13" 08 2004
№ 10-07/949

To: Mr. Lance Clark
UNDP Resident Representative in Georgia

RE: Endorsement of the project proposal "Reducing Trans-boundary Degradation of the Kura-Aras River Basin"

Dear Mr. Clark,

In response to your letter concerning UNDP Multicomponent Regional Water Initiative "Reducing Trans-boundary Degradation of the Kura Aras River Basin", I am pleased to submit to you endorsement letter of Mr. Malkhaz Adeishvili, Head of the Projects Coordination Department, who acts as the National Operational Focal Point of the GEF. Attached are also comments that we have to the project proposal.

Please accept the assurance of my highest consideration.

Zaal Lomtadze

Deputy Minister

RECEIVED ON
16 08. 2004
NUMBER 14913

10/07/04
12.08.2004

To: Mr. Lance Clark
UNDP Resident Representative in Georgia

RE: Endorsement of the project proposal "Reducing Trans-boundary Degradation of the Kura-Aras River Basin"

Dear Mr. Clark,

In my capacity of the GEF National Operational Focal Point in Georgia, I have the honour to endorse submission for GEF PDF B funding of the project proposal "*Reducing Trans-boundary Degradation of the Kura-Aras River Basin* ". However, we would like to provide few comments to the project proposal responding to which, we think, would improve the project document, facilitate the process of its endorsement by participant countries and its effective implementation.

We believe that successful implementation of the project will facilitate arresting the ongoing degradation of Kura-Aras river basin ecosystems through effective cooperation among the countries located in the basin and donor communities.

I would like to avail myself of this opportunity to express gratitude to the UNDP for assisting Georgia in addressing global and local environmental issues.

Sincerely,

Malkhaz Adeishvili
GEF National Operational Focal Point
Head, Department of Projects Coordination
Ministry of Environment Protection and Natural Resources

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ՆԱԽԱՐԱՐ
MINISTER

REPUBLIC OF ARMENIA
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1-02/2015
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#20983

To: Ms. Lise Grande
UN Resident Coordinator
UNDP Resident Representative

Dear Ms. Grande,

In my capacity of the GEF Operational Focal Point for Armenia I would like to confirm the importance of the regional project "Reducing Trans-boundary Degradation of the Kura-Araks River Basin" for the country in the context of priorities in environmental sector at national and regional levels and to endorse the PDF B Proposal Request to GEF through UNDP as GEF Implementing Agency.

I am looking forward to the results of successful implementation of the project and continued fruitful cooperation established between the UNDP Office in Armenia and the Ministry.

Sincerely yours,

Vardan Ayvazyan

UNDP ARMENIA
DATE 17 12 2004
FILE GEF-03/12

AZƏRBAYCAN RESPUBLİKASI
EKOLOGİYA VƏ TƏBİİ SƏRVƏTLƏR
NAZİRLİYİ

MİNİSTRY OF ECOLOGY
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№ 4/264-01

"13" 02 2009

Yannick Glemarec
Executive Coordinator
United Nations Development Programme
Global Environment Facility (GEF)
304 East 45th Street, 9th Floor
New York, N.Y. 10017, USA

RE: Reducing Transboundary Degradation in the Kura-Aras basin

Dear Mr Glemarec,

In reference to the above project and in my capacity as GEF Operational Focal Point, I would like to endorse this project which will greatly benefit the countries that share resources in the Kura- Aras River basin.

The approval of the GEF grant for USD 2.9 million for implementation of the project is greatly welcomed and I therefore endorse the co-financing pledge as stipulated in the project document.

The Ministry of Ecology and Natural Resources of the Republic of Azerbaijan endorses in-kind co-financing amount of 191,000 for outcomes of the project.

Further to this, I am pleased to endorse the co-financing amount of 270,000 to the Kura –Aras for the outcome of the project Completion of Transboundary Diagnostic Analysis, in the form of national funded projects listed in the annex to this letter.

We look forward to the start of this project and would like to take this opportunity to reassure the GEF of our active participation which is necessary to ensure a successful project

Yours faithfully,

Hussein Bagirov
Minister of Ecology and Natural Resources
GEF Operational Focal Point

CC: Mr. Robert Watkins
UNDP Georgia Resident Representative & Principal Project Representative

Dr. Vladimir Mamaev
UNDP/GEF Portfolio Manager for International Waters

International Environmental Agreements, which the Kura-Aras Basin Countries are Party to (R – Ratified; S – Signed; NS – Not Signed)

Name of Convention	Date	Status in Armenia	Status in Azerbaijan	Status in Georgia	Status in Iran
Roma Convention on Plant Protection	1951	**NS**	**R**	**NS**	**NS**
Ramsar Convention on Wetlands of International Importance	1971	**S**	**R**	**R**	**R**
Convention on the International Fund Establishment for Compensation of Oil Pollution Damage	1971	**NS**	**NS**	**R**	**NS**
Paris Convention for the Protection of World Cultural and Natural Heritage	1972	**R**	**R**	**NS**	**R**
International Convention for the Prevention of Pollution from Ships	1972	**NS**	**R**	**R**	**NS**
Convention on International Trade in Endangered Species of Wild Fauna and Flora	1973	**NS**	**R**	**R**	**R**
Geneva Convention on Prohibition of Military or Any Use of Environmental Modification Techniques	1977	**R**	**NS**	**NS**	**NS**
Geneva Convention on Long-range Transboundary Air Pollution	1979	**R**	**R**	**R**	**NS**
Bonn Convention on the Protection of Migratory Species of Wild Animals	1979	**NS**	**R**	**R**	**R**
Bern Convention on the Conservation of European Fauna	1979	**R**	**R**	**NS**	**NS**
Vienna Convention for the Protection of Ozone Layer	1985	**R**	**R**	**R**	**R**
Montreal Protocol on Substances Depleting the Ozone Layer	1987	**R**	**R**	**R**	**R**
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	1989	**R**	**R**	**R**	**R**
Espoo Convention on Environmental Impact Assessment in Transboundary Context	1991	**R**	**R**	**NS**	**NS**
Rio Convention on Biological Diversity	1992	**R**	**R**	**R**	**R**
Framework Convention on Climate Change	1992	**R**	**R**	**R**	**R**
Convention on the Transboundary Effects of Industrial Accidents	1992	**R**	**R**	**NS**	**NS**
Protocol on Water and Health of Helsinki Convention on Protection and Use of Transboundary Watercourses and International Lakes	1992	**S**	**R**	**S**	**NS**
Helsinki Convention on Protection and Use of Transboundary Watercourses and International Lakes	1992	**NS**	**R**	**NS**	**NS**
London Convention on Civil Liability for Oil Pollution Damage	1992	**NS**	**R**	**R**	**NS**
Bucharest Convention on the Pollution of Black Sea and Other Issue	1992	**NS**	**NS**	**R**	**NS**

Convention on the Protection of Black Sea Against Pollution	1993	**NS**	**NS**	**R**	**NS**
Paris Convention on Combating Desertification	1994	**R**	**R**	**R**	**R**
Kyoto Protocol of UN Framework Convention on Climate Change	1997	**R**	**R**	**R**	**R**
Aarhus Convention on Access to Public Information, Public Participation in Decision-making and Access to Justice in Environmental Matters	1998	**R**	**R**	**R**	**NS**
Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemical and Pesticides in International Trade	1998	**S**	**R**	**NS**	**R**
Stockholm Convention on Persistent Organic Pollutants	2001	**S**	**R**	**R**	**R**

Note: S – Singed; R – Ratified; NS – Not Signed

List of affiliated projects

138. A list of affiliated projects is given below in the table below. Coordination efforts between these initiatives supporting the sustainable management of the basin have been advanced and will be enhanced throughout the project implementation. During the project preparation and implementation the coordination efforts will be realized among the major donor partners through the creation of a 'Friends of the Project' group that will met every six months and has enabled the parties avoid duplication of effort and maximize synergy. Particular efforts have been made to coordinate with the EU regional water programmes. UNECE, UNDP, OSCE, ADB and bilateral initiative. Additionally, the project will be linked to the rehabilitation of the anadromous fisheries of the Caspian Sea that is being supported by GEF under the new proposed Caspian Environment Programme.

139. The project will work closely with the major IFIs in the region, in particular the WB, ADB, and EBRD, to assist countries to make strategic investments in support of the National IWRM Plans, and the SAP implementation. During project preparation there will be close coordination with the WB, ADB, and EBRD to ensure the project is inline with and complementary to the organizations country strategies; WB, ADB and EBRD will be invited to be members of the Kura-Aras Friends of the Project group and will be invited onto the Steering Committee. In the Kura-Aras basin the WB's ten year restructuring programming of the water sector in Armenia is particularly impressive and is seen as a model by the other Caucasus states. EBRD has an extensive portfolio of major water projects in the region including the Baku Water Project and Lake Sevan Environment Project, funded by a mix of loans and grants worth 50 million euros. EBRD also has a pipeline of waste water treatment projects worth 70 million euros identified for the Kura-Aras basin. ADB is investing in significant infrastructure rehabilitation and will be fostering climate change impact adaptation in the region which will have significant implications for project linkages.

140. The full-size project in conjunction with its sister project the Caspian Environment Programme (CEP) project is committed to work to create a mechanism similar to the Danube Black Task Force (DABLAS) for the whole Caspian Sea basin to encourage strategic investments in the environment and water sectors. The highly successful DABLAS which was set up in 2001 and provides a platform for cooperation between the countries, IFIs, bilateral donors, regional and international organizations, has been one of the driving forces behind GEF's Danube/Black Sea pollution reduction investment programme. The project has already approached the EBRD and EU with a proposal for the establishment of a Caspian Task Force and its linkage with CEP SAP implementation

and the Kura-Aras SAP development. Finally the project is designed to ensure close cooperation with other GEF projects in the region, in particular, the Caspian Environment Programme and will explore the potential for expanding the IWRM approach in the wider Caspian basin.

List of affiliated projects table

Project Name	Period	Donor	Budget	Project objectives and activities
Water Management in the South Caucasus (Armenia, Azerbaijan, Georgia)	2000-2004	USAID	4.0 mln. USD.	The project goal was to increase the dialogue for sustainable water management between representatives in Georgia, Armenia, and Azerbaijan in the riparian states of the South Caucasus, and to encourage bilateral actions on the sustainable use of natural resources. The general activities include support to the appropriate agencies in each country for: Monitoring, data exchange, and training Integrated river basin planning in bilateral pilot areas, and Institutional framework for addressing water policy issues in the region. Specific activities included: Integrated river basin planning in the Khrami-Debed basin; Water policy studies; Development of hydrological and water quality databases; Rehabilitation of hydrological posts, construction of meteorological stations, Establishment of river basin councils; Establishment of data exchange mechanism between the countries; Implementation of small grant program for NGOs; Training of specialists of key governmental agencies. For More information see: http://chiqui.dai.com/wateriqc/
South Caucasus Water Program (Armenia, Azerbaijan, Georgia)	2005-2008 Completed	USAID	$ 4.2 mln.	Goal of this project is to increase regional cooperation in the management of shared water resources that is effective and sustainable. The project specific objectives and activities include: Strengthening the institutional framework and capacity for trans-boundary basin management and increase technical understanding on key topics. Developing the scientific and analytical capacity needed to turn data into information, and promote its use for management. Strengthening civil society participation to achieve stewardship and measurable social, economic, and environmental results. Promoting regional, international discussion and cooperation amongst Armenia, Azerbaijan and Georgia on the issues surrounding regional water management, that is critical in the contest of the southern Caucasus. For more information see: http://www.scaucasuswater.org/
Joint River Management Programme on Monitoring and Assessment of Water Quality on Transboundary Rivers (Armenia, Azerbaijan, Georgia)	2002-2003.	EU/TACIS	€ 4mln.	This project covered four rivers, including Kura. The overall objective of this Project was to support the prevention, control and reduction of adverse trans-boundary pollution impact caused by the quality of the four rivers selected for the Project. Although the focus was strongly on monitoring, the project addressed related legislative, institutional, economic and financial issues. The main results of the project included: Training of the staff Development of water quality monitoring strategy Sampling and water quality analysis Preparation of reports on early warning systems Promotion of transboundary cooperation
Reducing Transboundary Degradation in the Kura-Aras Basin (Armenia,	2003-2005	UNDP, SIDA	0.6 mln USD	Identification of institutional needs for proper management of water resources in the basin Identification of technical needs for integrated water resources management and planning in the basin

Project Name	Period	Donor	Budget	Project objectives and activities
Azerbaijan, Georgia)				Promotion of sustainable water resources management
Science for Peace Program - South Caucasus River Monitoring (Armenia, Azerbaijan, Georgia)	2002-up	NATO/ OSCE	NA	General Objectives of this programme is to establish the social and technical infrastructure for an international, cooperative, transboundaryr River water quality and quantity monitoring, data sharing and watershed management system among the Republics of Armenia, Azerbaijan and Georgia. Specific objectives of the programme are: Increase technical capabilities (monitoring, analytical and communications) among partner countries Cooperatively establish standard sampling, analysis and data management techniques for all partner countries Establish data, GIS and model sharing system accessible to all partners via WWW Establish social framework (i.e., annual international meetings) for whole-watershed management This system is being developed cooperatively with scientists from Armenia, Azerbaijan, Georgia, US, Belgium and Norway. For more information see: http://www.kura-araks-natosfp.org/
Trans-boundary cooperation for hazard prevention in the Kura-river basin. (Armenia, Azerbaijan, Georgia)	2003-2006	The Federal Environm ental Agency of Germany (UBA).	400 000€	In this study risk assessment and investigation on feasibilty were conducted for the Kura river basin, where cooperation in hazard prevention between the South Caucasian Countries Georgia, Armenia and Azerbaijan was prepared and supported. Main objective was to find out the risks and uncertainty and specially the following general conditions for the project: Development of industrial hazard prevention system; Development of early warning model Inventory and assessment of potential polluters Development of appropriate safety measures for the polluters Development of early warning system in the Kura basin Gradual increase of safety level to allow integrated of the South Caucasus countries into the European Economic Zone; Support to more efficient management of water resources in the South Caucasus For more information see: http://www.kura-araks-natosfp.org/
Critical Ecosystem Partnership Fund (Armenia, Azerbaijan, Georgia, Iran)	2005-2008	GEF	8.4 mln USD	Implemented through WWF Caucasus Office. CEPF's strategy focuses on the conservation of globally threatened species, priority sites and conservation corridors by providing funding and technical assistance for the scientific community and civil society groups to: Help preserve the diversity of life and healthy ecosystems as essential components of stable and thriving societies. Undertake initiatives that will also contribute to poverty alleviation and economic prosperity. The Caucasus area covers territory in Georgia, Armenia, Azerbaijan, Russia, Turkey and Iran. Within this region, CEPF is interested in supporting initiatives in 5 target conservation corridors: Greater Caucasus, Caspian, West Lesser Caucasus, East Lesser Caucasus and Hyrcan. For more information see: http://www.panda.org/about_wwf/where_we_work/asia_pacific/our_solutions/caucasus/projects/english/index.cfm

Project Name	Period	Donor	Budget	Project objectives and activities
REC Caucasus Water Program (Armenia, Azerbaijan, Georgia)	2001-up	EU, USA		Being established by the Governments of the three Caucasus countries, guided by the needs of its beneficiaries and other stakeholder groups, and based on the requirements of international environmental policies, such as the Environment for Europe Process, EU Water Initiative, the EECCA (Eastern Europe, the Caucasus and Central Asia) Strategy, and the European Neighbourhood Policy, the Water Programme aims at strengthened cooperation and coordination between the various stakeholders of the three countries of the region for integrated management of transboundary water resources. REC Caucasus plans to achieve it through: Calling and facilitating a dialogue between concerned parties on transboundary water resources management; Fostering public participation in water related decision-making processes trough an increased awareness, information and knowledge of the stakeholders and public in water related issues; Assisting the Governments of Armenia, Azerbaijan and Georgia in their initiatives towards integrated management of transboundary water resources. For more information see: http://www.rec-caucasus.org/
Support to the Trans-boundary Management of the Kura River Basin. (Armenia, Azerbaijan, Georgia)	2007-2010.	EU TACIS	$ 5 mln.	The project lays on two main pillars: the EU Water Initiative EECCA component and the EU Water Framework Directive. The overall objective is to improve the water quality of the Kura river.Specific objectives of the project will be: To establish transnational organisational monitoring structures and systems of information management needed for integrated water resources management in the long term; To establish a transboundart hazard management system in the Kura river basin to prevent and control accidental pollution and to minimize contamination of the river from such accidents. Outputs will include the following: Runoff and water quality information will be put in GIS based data. National GIS systems will be merged in a transnational information system; Computerized Kara's catchments area modeling will be developed to establish an inventory of existing water abstractions, to model the runoff, the water balance and the flood plains. Capacity building including the training of national experts Hazard prevention systems will be set up; Contingency plan will be developed for Kura basin. Monitoring stations will be integrated in the transboundary warning and alarm system;
Water Governance in the Western EECCA Countries http://www.wgw.org.ua	2008-2010	EU TACIS	3 mln USD	The main objective of the project was to contribute to the reduction of pollution, to fair sharing and effective use of scarce water resources, to the improvement of the quality of shared water resources, such as trans-boundary rivers. The main results of the project included: Improved inter-state collaboration on IWRM, especially acceptance of exchange and compatibility of information. Beneficiary country agreements concerning the quality status of water bodies and the emission limit values to be applied to each. National legislation adopted at the relevant level (parliament, government or ministry) that enable the practical implementation of the standards and norms identified and agreed.

Project Name	Period	Donor	Budget	Project objectives and activities
				Institutional and procedural changes adopted that help to ensure the application of the texts on the ground. Effective operational procedures established for water quality and quantity management Includes: Armenia, Azerbaijan, Georgia, Ukraine, Moldova, Belarus
Fostering dialogue between Riparian States for Development and Establishment of Initial Legal and Institutional Frameworks for increased Cooperation and Joint Management of the Kura Araks River Basin http://europeandcis.undp.org/home/show/3689D09B-F203-1EE9-BC2CBAD9C7F551CB	2007-2010	UNDP/GEF/ ENVSEC	$ 128,944	-Explore options for the development of legal and institutional framework - Initiating a dialogue on possible management options between the riparian states: * Formation of the Kura Araks Environmental programme under a UN umbrella * Closely coordination of the project with the UNECE activities -Despite the project is not finalised yet, it faces number of political problems such as : * The refusal of the Republic of Iran and Turkey to be involved into the project * Unclear position of Azerbaijan an Armenia concerning involvement into some of the proposed in the framework of the project optional initiatives
Implementation of the UNECE Water Convention and development of an agreement on the management of transboundary watercourses shared by Georgia and Azerbaijan	2009-2010	UNECE/ OSCE	€ 80 000	The objective of this project is to support Georgia to ratify and implement the UNECE Water Convention and to strengthen transboundary water cooperation between Azerbaijan and Georgia.
REC Caucasus " Creation of Enabling Environment for Integrated Management of the Kura-Aras Transboundary Rivers Basin **" Program (Armenia, Azerbaijan, Georgia)**	2010	EU, USA		The overall goal of the project is Creation of Enabling Environment for Integrated Management of the Kura-Aras Transboundary Rivers Basin. The project is focused on: Elaboration of a Road Map on sustainable management of the Kura-Aras river basin through introduction of the EU Water Directives as outlined in the National Action Plans of European Neighbourhood Policy, and, also, adoption of the National Road Maps by the participating countries. The Road Maps will assist the governments to coordinate ongoing and planned projects on the national and regional levels. In addition, they will help to direct donor's efforts and funds towards country priorities within the frames of the existing legislations, but with view to the regional needs. Assessment of the works undertaken by the water projects on Kura-Aras starting from 2000 on the basis of the adopted Road Maps. Establishment of the Regional Coordination Body, which will meet annually and based on the Road Map, will assess the progress made for sustainable management of the Kura-Aras river basin in light of introduction of EU Water Directives.

Project Name	Period	Donor	Budget	Project objectives and activities
				For more information see: http://www.rec-caucasus.org/
Regional Climate Change Impacts Study for the South Caucasus Region	2009-2010	UNDP/OSCE	$148000	The overall goal of the project is to contribute to the reduction of climate change risks in the South Caucasus region. The immediate objective of the project is to improve understanding of South Caucasus countries on regional climate change impact and enhance cooperation among them to address common climate change concerns. The project will bring together leading national experts, engaged in preparation of second national communications under UNFCCC, to undertake technical discussions which will help to decrease uncertainties with predicting potential climate change risks (probabilities, magnitude, timeframe of occurrence, and geographic spread). These consultations will help in adjusting climate change scenarios taking into account a regional perspective; in identifying potential needs for common/coordinated adaptation solutions in the context of transboundary geographic areas or shared biophysical systems (such as Kura-Aras); and in assessing the viability and proposing ways to improve cooperation and exchange of data / information and expertise in the area of climate risk management.
Water Resources Management of Agroecosystems in South Caucasus (Armenia, Azerbaijan, Georgia)	2007-2010 (on going)	NATO	S218000	Applying new irrigation technologies in this region Preparing review of irrigation methods in South Caucasus Countries Implementation of drip irrigation methodology in South Caucasus Countries
Village Development Planning (VDP) Focus Water (between Azerbaijan and Georgia)	2010-2011	Swiss FDFA Research programme on Environment and security	40000$	Definition of a case study watershed Establishment of village based task forces for the conduction of micro-projects and for the elaboration of toolkits
Armenia				
Integrated Water Resources Management Project	1999-2001	WB	1.0 mln USD	Assessment of water resources Structural reforms Introduction of integrated water resources management principles and Basin planning Calculation of water supply and demand Modeling of water balance Development of guidelines for water resources management strategy
Rehabilitation of Lake Sevan's Ecological Equilibrium	1995-1998	WB, UNDP	485.000 USD	The overall objective of the project was development of Lake Sevan management plan to incorporate and prioritize economic, social and environmental issues. The main results included: Studies on rehabilitation of ecological equilibrium of Lake Sevan, Development of Lake Sevan action plan.
Municipal Development	1998-2005	WB	31.55	The overall objective of the project was to improve drinking water system of Yerevan through

Project Name	Period	Donor	Budget	Project objectives and activities
Project			million USD	improved management system of Yerevan Water and Sewerage company. The main result of the project included improvement of water supply system in Yerevan and involvement of private operator in the management of company
Preparation to Municipal Water Supply and Wastewater Removal Project	2001-2004	WB	1.32 mln USD	Preparatory works for "Municipal water supply and wastewater removal" project Water supply and wastewater collection systems of major cities (except Yerevan) in Armenia
Sustainable Water Resources Management Project	2001-2005	USAID	4.0 mln USD	Support to development of the new Water Code, draft National Water Policy and Water Resources Fee Strategy Rehabilitation of water quality monitoring laboratory in Yerevan, and provision of equipment Training of the staff of key counterpart organizations Strengthening of institutional framework for water management Rehabilitation of water quantity and quality monitoring stations Development of local capacity Grant program for NGOs
Irrigation Development Project	1994-2001	WB	52 million USD	1) support the rehabilitation of critical irrigation structures, by upgrading primary canal structures, and sections in deficient state, but critical for the effective operation of major irrigation water conveyance infrastructure systems. Aqueducts, and often siphon structures will undergo rehabilitation works, while specifically, the Armavir irrigation scheme will be improved, by expanding river intake schemes, the main conveyance canal, and secondary canal, and will include construction of sediment control facilities; 2) support the conversion from pump, to gravity irrigation, to reduce the reliance on high-cost energy-intensive irrigation, for those cases where clear technical, and economic viability can de demonstrated; and, 3) create conditions for effective operations, and maintenance (O&M) of the irrigation infrastructure through institutional strengthening, by supporting appropriate institutional reforms.
Irrigation Development Proejct, Phase 2	2001-2007	WB	31 million USD	Increased efficiency of irrigation Financial rehabilitation of companies supplying water for irrigation Involvement of water users in the management process Decentralization of the systems' operation and maintenance functions
Improvement of Internal Water Network of Multi-apartment buildings in Yerevan City	2003-2006	JICA	2 mln. USD	Increasing the role of condominiums in water supply quality and safety issues Effective management of the internal water network of multi-apartment buildings, Installation of water meters in socially vulnerable familites, Decreasing water loss in the internal network of multi-apartment buildings
Irrigation Dam Safety Project	1999-2008	WB	30.3 million USD	Dam Safety Project aims to protect the population and the socio-economic infrastructure downstream of the dams facing the highest risk of failure. This project has two main components. The first component supports repair work on primary irrigation dams including design and supervision, field tests, civil works, hydraulic steel structures. Rehabilitation consists of upstream protection works, spillway structural repairs, leakage reduction, and irrigation/bottom outlet repair. The second component prepares, operates, and supervises dam safety plans for operation and maintenance and an emergency preparedness plan; finances dam safety site installations, which include instruments and monitoring devices and early warning systems; strengthens the capacity of the Dam Maintenance Enterprise; and supports safety investigations into all remaining dams in

Project Name	Period	Donor	Budget	Project objectives and activities
				Armenia.
Rehabilitation of Water Supply and Wastewater Removal Systems in Armavir	2003-2006	KFW	€ 15 mln.	Improvement of technical condition of water supply system and environmental performance, financial rehabilitation of the company Water supply and wastewater removal systems of Armavir region
Program for Institutional and Regulatory Strengthening of Water Management in Armenia	2004-2009	USAID	7.2 million USD	Establishment of more effective legal and regulatory framework Support to establishment of the National Water Council Support to development of the State Water Cadastre Information System Support to institutional development and strengthening of water basin management organizations Support to monitoring infrastructure and programs, including rehabilitation of underground water resources monitoring Capacity building for the Public Services Regulatory Commission
Dam Safety Project, Stage 2	2004-2009	WB	7.5 million USD	Rehabilitation of 47 dams of ameliorative importance for Armenia, improvement of roads adjacent to 16 dams, and preparation for emergency situations dams
Municipal Water Supply and Wastewater Removal Project	2004-2009	WB	1.32 million USD	Improvement of Armenian Water Supply and Sewerage company's quality of service provision, including improvement operational performance and financial rehabilitation
Rehabilitation of Water Supply and Wastewater Removal Systems in Lori	2005-2008	KFW	11.4 million Euro	Rehabilitation of water supply and wastewater removal systems of Vanadzor city and 16 settlements in Lori region
Rehabilitation of Water Supply and Wastewater Removal Systems in Shirak	2005-2008	KFW	14.59 million Euro	Rehabilitation of water supply and wastewater removal systems of Gyumri city and 53 settlements located near the main canal in Shirak region
Water Supply and Wastewater Removal Project for Yerevan	2006-2011	WB	22 million USD	Development of management, operation and maintenance of Yerevan city drinking water system
Study for Improvement of Rural Water Supply and Discharge in the Republic of Armenia	2006-2009	JICA	0.6 million USD	To formulate an improvement plan for the water supply systems; the plan mainly consists of rehabilitation of the existing facilities and improvement of the operation and maintenance mechanisms; To transfer knowledge of the plan formulation to the Armenian counterparts through participation in the Study process.
Armenia Irrigation Development Additional Financing	2007-2009	WB	5 million USD	Provision of additional funds for rehabilitation of Armenia's tertiary canals
Armenia Lake Sevan Basin Environmental Project	2007-2011	EBRD	12.5 million EURO	To improve wastewater treatment for five municipalities discharging wastewater into the Lake Sevan catchment basin. The operation will: build small wastewater treatment plants and rehabilitate wastewater networks in Gavar, Vardenis and Marduni; and, rehabilitate the wastewater networks in Sevan and Jermuk. The objective is to enable mechanical and enhanced aeration treatment of wastewaters discharged by the participating towns.
Water Supply and Sanitation Sector Project	2008-2011	ADB	45 million USD	Improved access to safe, reliable and sustainable water supply and sanitation services in about 16 project towns and up to 125 project villages managed on commercial principles and environmentally sound practices.

Project Name	Period	Donor	Budget	Project objectives and activities
Millennium Challenge Corporation - Armenia "Improved Irrigation" Compact	2006-2011	US Government	146 million USD	The Compact also includes a $146 million project to increase the productivity of approximately 250,000 farm households (34% of which are headed by women) through improved water supply, higher yields, higher-value crops, and a more competitive agricultural sector. This project consists of two activities: An infrastructure activity that aims to increase the amount of land under irrigation by 40% and will improve efficiency by converting from pump to gravity-fed irrigation, reducing water losses and improving drainage; and A water-to-market activity that will improve the efficiency of water delivery to farmers and boost farm productivity and profitability through technical assistance and credit support.
Azerbaijan				
(Azerbaijan Flood Impact and Prevention Project)		ADB	22 mln. USD	The project envisages construction of bank protection for 27 rivers in the Kura basin with higher risk of mudflows. ADB also has allocated funds (500 000 USD) for Assisting the Agency of Melioration and Water Economy of Azerbaijan in Planning of River Basins and Floods in Azerbaijan. This project will develop recommendations and short-term and long-term measures for river basins and floods management in Azerbaijan.
Technical Assistance to the Republic of Azerbaijan For Preparing the Urban Water Supply and Sanitation Project (Azerbaijan)	2001-2003	ADB	0.5 mln	The main objectives of the TA are to (i) analyze the WSS sector in secondary towns in Azerbaijan; and (ii) identify and prepare an investment project to rehabilitate WSS services and provide institutional restructuring for these in selected towns for possible ADB funding. The level and quality of WSS services will be determined with the respective communities, and project preparation will seek to establish conditions for the sustainable development of these services.
Urban Water Supply and Sanitation (Azerbaijan)	2005-up	ADB; AZ Govt.	ADB 30.0 mln. USD AZ Govt. 9.9 mln USD	The project objective is to improve the quality, reliability, and sustainability of WSS services in the towns of Agdash, Goychay, and Nakhchivan. For more information see: http://www.adb.org/Documents/RRPs/AZE/rrp-aze-35087.pdf
Flood Mitigation Project In the Republic of Azerbaijan	2004-up	ADB	22.7 mll. USD.	The investment project is a multidimensional one, proposing interventions for protection of settlements, agricultural lands, and infrastructure from recurring floods. These measures include structural as well as non-structural interventions. The Project covers the areas which get devastated by floods in the hill torrents and rivers of the Republic of Azerbaijan. These areas lie in and the exclave of Nakhchivan, the north-west in the Greater Caucasus, the south-west close to the border of Russia, and south-east near Iran. The structural measures comprise the least-cost feasible solution to protect settlements, agricultural areas, and/or important infrastructure. These structures have been designed against flood with average occurrence of once in 50 years. The proposed measures will protect five major towns and 43 villages, covering 76,790 hectares (ha) area and inhabited by 215,250 persons in 12 districts. The Project includes the following components: (i) Structural Measures; (ii) Nonstructure Measures; (iii) Disaster Preparedness, and (iv) Project Management and Monitoring..
Greater Baku water supply rehabilitation project	2002-2006	WB, GoA	US$ 61.0 M	67, Tbilisi Ave, 370112 Baku, Azerbaijan Republic

Project Name	Period	Donor	Budget	Project objectives and activities
				Contact Person: Oktay Asadov, President Tel: (9412) 300131; Fax: (9412) 983814; E-mail: cdu@azdata.net
Azerbaijan - AARP/Environment Policy and Enforcement for Environment State Program	Under review	WB, GoA	US$ 5.5 M	Aniruddha Dasgupta Title: Lead Urban Planner Tel: (202) 458-4079 Email: adasgupta@worldbank.org
Georgia				
Social Investment Fund of Georgia (SIF)		Gov. Georgia, IDA, EBRD		The Fund is providing financial and technical assistance for: Implementing local investment projects; Appraising local infrastructure investment projects Financing local infrastructure investment projects Implementing micro projects developed by initiative of local self-governments (governments) and population, Developing administration capacity, capacity building for self-government (government) units for managing assets and financial resources, improving accountability of local bodies; Promotion of creation and development of Amelioration Associations. Some of ongoing water supply and sanitation projects funded by the SIF include: - Preparation of Engineering Design for Rehabilitation of City Rustavi Headworks, Water Mains and City Water Supply Networks and Field Supervision - Preparation of Detailed Design for Kutaisi Water Supply - Review/Supervision of Detailed Engineering Designs for Rehabilitation of Sioni and Algeti Dams - Preparation of Detailed Design for Kobuleti Water Supply and Sewage Systems - Preparation of Detailed Design for Rehabilitation of Sioni Dam - Corporate Development Programme for Kobuleti Water Company For more information see: http://www.mdf.org.ge
Irrigation and Drainage Community Development Project	2002-2008	IDA, Gov. Georgia	Total - 32.8 mln. USD. IDA- 27 mln. USD, Gov. Georgia - 5.8 mln.USD.	The Project covers 110,000 ha and envisages implementation of the following activities: Establishment of water users' associations (WUA) and full rehabilitation of irrigation schemes (including main and onfarm infrastructure) on 16,000 ha in Gurjaani, Khashuri, Kareli and Akhaltsikhe districts; Establishment of amelioration associations (water users' and drainage users' associations) and rehabilitation of only onfarm network on 40,000 ha in various districts of Georgia; Establishment of amelioration associations (AAs) on 50,000 ha. For more information see: http://www.mdf.org.ge/english/IR-1.php
Irrigation and Drainage	2006-2008	IDA,	Total -	The aim of the additional IDCDP component is to restore the flood-damaged irrigation and bank

Project Name	Period	Donor	Budget	Project objectives and activities
Community Development Project Additional Financing (Georgia)		Gov. Georgia	16.1 mln USD. IDA -13 mln. USD, Gov. Georgia – 3.1 mln USD	protecting infrastructure. It provides for implementation of the activities as follows: Reconstruction of the flood-damaged irrigation scheme headworks and canals in order to restore the design capacities; Reconstruction of the flood-damaged bank protecting structures for flood protection in accordance with the respective design parameters; Consulting services for designing and construction supervision of reconstruction works. The objective for the reconstruction of flood-damaged infrastructure component is to improve and secure the sustainability of river flood protection works and irrigation headworks and canals, which, if unattended, could lead to increased flooding occurrences and infrastructure damage, and subsequent human life and economic losses. IDA uses its considerable experience with flood emergency projects and introduction of appropriate designs and construction materials to reconstruct sustainable infrastructure that would require minimum maintenance. For more information see: http://www.mdf.org.ge/english/IR-1.php
Regional Infrastructure Development Project	2006-2009	MCG	60 mln. USD	The Government of Georgia has received a $295.3 million grant from the Millennium Challenge Corporation ("MCC") to be managed by Millennium Challenge Georgia Fund ("MCG"). Regional Infrastructure Development (RID) is one of the 5 priority areas of investments from MCG. Regional Infrastructure Development (RID) Project, which aims at improved regional and municipal service delivery intends to provide grants to Eligible Governmental Entities. USD 60 million is allocated to fund regional and municipal physical infrastructure such as: Water supply/sanitation Irrigation/drainage Municipal gasification Road rehabilitation Solid waste treatment Eligible Entities are: Regional government Local government Local self-government Municipal utility Central government (to the extent that it owns assets located in Georgia's regions) The maximum amount allocated to fund each RID Investment Project is 7.0 million USD. For projects with parallel funding MCG funding portion shall not exceed lesser than 35% of total project cost or USD 7,000,000. For more information see: http://www.mcg.ge/?l=1&i=249&i2=0
Kobuleti and Borjomi Water Project	2007-2010	EBRD, MCG, WB, Gov. Georgia,	Total 29 mln. Euro.	The Project objectives are to: rehabilitate and extend the water and wastewater networks, install water meters; construct a reservoir, construct a wastewater treatment plant; and, assist the Kobuleti and Borjomi water companies to implement the project and to improve their financial and operational performance.

Project Name	Period	Donor	Budget	Project objectives and activities
		Local Municipalities	EBRD 3.0 mln Euro	For more information see: http://www.ebrd.com/projects/psd/psd2007/37560.htm
Poti Water Supply Project	2006-2010	EBRD, MCG, SIDA, Europ Aid, Gov. Georgia, Local Municipalities	Total 8 mln Euro EBRD 3.5 mln Euro	The project would consist of a sovereign loan of up to EUR 3.5 million, on-lent to the Poti Water Company to finance improvements in the municipal water supply system by extending is pipeline to a more reliable source. The objective of the project is to enable the City water municipal Company to provide a 24/7 service to Poti inhabitants. For more information see: http://www.ebrd.com/projects/psd/psd2005/35601.htm
Kutaisi Water Project	2006-2010	EBRD, Gov. Georgia, Local Municipalities	Total 11 mln Euro EBRD 3.0 mln Euro	The objectives of the proposed project are to: rehabilitate well fields, transmission pumping stations and the water supply network; install water meters for 100 percent of households and assist the Kutaisi Water company to improve its financial and operational performance. For more information see: http://www.ebrd.com/projects/psd/psd2006/36491.htm
Ecoregional Conservation Program in the South Caucasus: Establishment of Javakheti National Park in Georgia	2008-2010	BMZ/Kf W, Govt. Georgia	2.25 mln Euro	The project supports the establishment of a national park, four wetland sanctuaries around lakes Khanchala, Bugdasheni, Madatapa and Sagamo in Javakheti region of Georgia. The project envisages: Development of management plans for the national park and the wetland sanctuaries; Integration of the National Park into the land use of the project area via a land use planning which covers all communities in the support zone; Development of selected support zone programmes in order to decrease the pressure on the national park and sanctuaries and to foster the acceptance by the population; To promote transboundary cooperation in biodiversity conservation in the Javakheti region.
Development of Environmental Monitoring and Management Systems in Georgia (DEMMS)	2007-2008	Finnish Gov.	0.7 mln. Euro	Main purposes of the DEMMS project are: to strengthen environmental monitoring and management tools of Georgian environmental authorities, ii) to modernize water monitoring methods, restore some parts of the monitoring network, upgrade the environment laboratories and iii) preparing a framework for Georgia's water monitoring strategy and action plan.

Terms of Reference

Project Coordinator/CTA

General Responsibilities:
The Project Coordinator/CTA shall be responsible for the overall coordination of all aspects of the UNDP-GEF project. He/she shall liaise directly with members of the Project Steering Committee (PSC), the Implementing Agency (UNDP), the Executing Agency (UNOPS), UNDP Country Offices, donors, and other partners as deemed appropriate and necessary.

The budget and associated work plan will provide guidance on the day-to-day implementation of the approved Project Document and inception report and the integration of the various donor funded parallel initiatives. He/she shall be responsible for delivery of all substantive, managerial and financial reports from and on behalf of the Project. He/she will provide overall supervision for all staff in the Project Coordination Unit, as well as guiding and supervising all external policy relations. She will directly report to the UNDP Regional technical Adviser and UNOPS Senior Portfolio Manager.

Specific Duties:
The Project Coordinator will have the following specific duties:

- Management of the UNDP- GEF PCU, its staff, budget and if established the imprest account;
- Prepare an Annual Work Plan of the program on the basis of the Project Document and inception report, under the general supervision of the Project Steering Committee and in close consultation and coordination with related Projects, National Focal Points, GEF Partners and relevant donors;
- Coordinate and monitor the activities described in the work plan;
- Coordinate the TDA/SAP development process;
- Oversee the pilot project implementation and design the replication strategy;
- Ensure project compliance with all UN and GEF policies, regulations and procedures;
- Ensure consistency between the various program elements and related activities provided or funded by other donor organizations;
- Assure preparation of Terms of Reference for consultants and contractors;
- Coordinate and oversee preparation of the substantive and operational reports from the Program, including revised TDA;
- Assume overall responsibility for the proper handling of logistics related to project workshops and events;
- Prepare GEF quarterly project progress reports and annual Project Implementation Reports (PIR) and IW Tracking Tool, as well as any other reports requested by the UNOPS, UNDP and GEF;
- Guide the work of consultants and subcontractors and oversee compliance with the agreed work plan;
- Monitor the expenditures, commitments and balance of funds under the project budget lines, and draft project budget revisions;
- Assume overall responsibility for the meeting financial delivery targets set out in the agreed annual work plans, reporting on project funds and related record keeping;
- Liaise with project partners to ensure their co-financing contributions are provided within the agreed terms; seek opportunities to leverage additional co-funding
- Represent the Project at meetings and other project related fora within the region and globally, as required

Qualifications:

- Post-graduate degree in Water Resource or Environmental Management, or a directly related field;
- At least ten (10) years experience in fields related to the assignment including 6 years of experience at a senior project management level.
- Demonstrated diplomatic and negotiating skills;
- Familiarity with the goals and procedures of international organizations, in particular those of the GEF, UNDP and regional organizations related to Project activities, and currently identified Project donors;
- Fluency in English and Russian, both speaking and writing;
- Previous work experience in one or more of the participating countries, and previous work experience in the region on issues related to the Project will be very favorably considered and
- Proof records of successful project management in developing countries.

Terms of Reference

Scientific Officer – River Basin Ecologist

General Responsibilities:
The Scientific officer shall act as Deputy Project Coordinator and shall assist the Project Coordinator in the overall coordination of all aspects of the UNDP-GEF project. The Scientific Officer will have general responsibility for ensuring the Project's high quality technical output.

Specific Duties:
The Scientific Officer will have the following specific duties:

- Assist the Project Coordinator in preparation of an Annual Work Plan of the Project on the basis of the Project Document and inception report;
- Ensure close collaboration with the major technical partners (EU, NATO, OSCE, UNECE and USAID).
- Manage the TDA update and have day-to-day responsibility for management of the TDA gap filling activities;
- Support the Development of the Environmental Flows and Rapid River Ecosystem Assessment
- Have day-to-day oversight of pilot project implementation;
- Support IWRM Plans and SAP as needed
- Preparation of Terms of Reference for Consultants and Contractors; and
- Represent the Project at technical meetings within the region and globally, as required.

Qualifications:

- Post-graduate degree in River Ecology or a directly related field;
- A good background in river system assessments;
- At least seven years experience in fields related to the assignment;
- Demonstrated management and team building skills;
- Familiarity with the goals and procedures of international organizations, in particular those of the GEF and UNDP and regional organizations related to Project;
- Fluency in English and Russian, both speaking and writing; and
- Previous work experience in one or more of the participating countries, and previous work experience in the region on issues related to the Project will be very favorably considered.

Terms of Reference

Environmental Economist/ Integrated Water Resource Planner

General Responsibilities:
The Economist/**Integrated Water Resource Planner** shall be responsible for production of the up-dated TDA coordinating thematic inputs and gap filling activities. He/she shall chair the TDA Technical Task Team reporting directly to the Project Manager. Key technical responsibilities will include the development of the Causal Chain Analysis, support to National IWRM Plans, identification of SAP interventions and pre-feasibility studies of priority interventions. The Economist/**Integrated Water Resource Planner** will also assist with the development of the SAP and linking the national IWRM plans, advising the countries on strategic investments, and will be responsible for organization of the donor conference, and will be responsible for technical oversight of the water quality demonstration project.

Specific Duties:
The Economist/**Integrated Water Resource Planner** will have the following specific duties:

- Development of the TDA coordinating all inputs into the process and the production of the final document;
- Development of the CCA for the priority transboundary issues;
- Technical support to the countries in development of national IWRM plans, with particular reference to investment strategies in the water and environment sectors;
- Listing of interventions for inclusion in the SAP and oversight of priority feasibility studies;
- Support for the Stakeholder Advisory Group and NGO Forum
- Organisation of the SAP donor conference and coordination with IFIs; and
- Oversight of the water quality demonstration project and development and promotion of appropriate economic instruments.

Qualifications:

- Post-graduate degree in Environmental Economics, Natural Resource Planning or a directly related field;
- At least seven years experience in fields related to the assignment;
- Demonstrated management and team building skills;
- Familiar with river basin ecology, and experience in transboundary issues;
- Familiarity with basic international environmental law related to water management and transboundary issues;
- Familiarity with the goals and procedures of international organizations, in particular those of the GEF, UNDP and regional organizations related to Project activities, and currently identified Project donors;
- Fluency in English, both speaking and writing, with a working knowledge of Russian; and
- Previous work experience in one or more of the participating countries, and previous work experience in the region on issues related to the Project will be very favorably considered.

Terms of Reference

National Project Coordinators (3)

General Responsibilities:
The **National Project Coordinators** shall be responsible for all national level project activities. He/She will report to the National Focal Point and Chief Technical Advisor. The **National Project Coordinators** will be responsible for implementation of the project, including support in recruitment and supervisions of national level consultants such a the National Public Participation and Stakeholder Involvement Expert; national level ecologists, biologist, and hydrologist as necessary. He/she will support the national IWRM Planning Committee, and liaise between the project and the committee. The national inputs to the TDA, SAP and demonstration projects will be the responsibility of the **National Project Coordinators.** Coordination and support of all international consultants activities in country will be the responsibility of the **National Project Coordinators**

Specific Duties:
The **National Project Coordinators** will have the following specific duties:

- Development of the TDA coordinating all national inputs into the process and the production of the final document;
- Technical support to the development of national IWRM plans, and liaising with National Planning bodies and Project Staff in support of implementation
- Listing of IWRM related transboundary interventions for inclusion in the SAP and oversight of priority feasibility studies;
- Support for the National Stakeholder Advisory Group and NGO Forum; supervision of national public participation and stakeholder involvement expert and oversight of activities, including press releases, and educational activities
- Providing support in development of Environmental Flow and Rapid River Ecology Assessment methodology and implementation of demonstration projects
- Arranging meetings for international consultants in country
- Supervision of timely production of all national reports and translations/publications as appropriate

Qualifications:

- Post-graduate degree in Environmental Management, Natural Resource Planning or a directly related field;
- At least five years experience in fields related to the assignment;
- Demonstrated management and team building skills;
- Familiar with river basin ecology, and experience in transboundary issues;
- Familiarity with basic international environmental law related to water management and transboundary issues;
- Familiarity with the goals and procedures of international organizations, in particular those of the GEF, UNDP and regional organizations related to Project activities, and currently identified Project donors;
- Working proficiency in English, both speaking and writing, with a working knowledge of Russian; and
- Previous work experience in one or more of the related projects, and previous work experience in the region on issues related to the Project will be very favorably considered.

PART IV: Stakeholder Involvement Plan

Introduction:

Stakeholder involvement in transboundary projects increases the range of opinions, ideas and participating populations. In cases where multi-stakeholder involvement has not been widely utilized in decision making processes, or where there are groups who have been marginalized by the norms ingrained in the decision making process, a stakeholder involvement strategy provides guidance for increasing inclusion and a sense of ownership among a broad array of stakeholder groups. The benefits of increased stakeholder involvement in project development and implementation includes obtaining inputs and diverse perspectives from stakeholder groups, incorporating these into project design, development and implementation. Additional benefits include increasing sustainability of project impacts by increasing the range of stakeholders whose interests are met by the project and through an enhanced sense of region wide responsibility for common resources.

The rationale for developing a stakeholder involvement strategy for the Kura Aras River is that prior to the PDf-B project, low levels of attention paid to the need to secure broad-based public support for, uses associated with the Kura Aras River Basin. It is anticipated that this strategy will provide guidance for how to increase stakeholder input into decision making of the project and will provide guidance about how to appeal to broader public as beneficiaries of the efforts undertaken by the project. Additionally, it is anticipated that this strategy will provide the project with suggested activities that can be undertaken in order to facilitate stakeholder buy-in to project activities to be implemented primarily at the national level and utilizing formal civil society stakeholder organizations.

The Public Participation and Stakeholder Involvement Strategy focuses specifically on the objectives of the Kura Aras River Basin Project and will delineate the activities and tactics to meet the stakeholder involvement objective of obtaining high quality contributions to the project development and implementation from engaged, diverse and informed stakeholder groups. This will include activities to ensure multi-stakeholder inputs into the Strategic Action Programme, and determining public awareness building and outreach activities, education targeting specific stakeholder groups, public involvement components in demonstration projects, ongoing support of the regional Kura Aras NGO Forum, and monitoring and evaluation of the effectiveness of the project.

This will be accomplished through a series of activities based on creating a dynamic flow of information to and from the project staff based on a variety of stakeholder ideas and opinions, and allowing a significant portion of the public and stakeholder involvement to be driven by the stakeholders themselves. The findings of the Stakeholder Analysis conducted during the PDF-B phase of the project serve as the empirical basis for both the specific issues to be addressed and approaches to be employed to reduce tensions between groups through collective action towards common goals.

The activities of the Kura Aras Public Participation and Stakeholder Involvement Strategy are intended to link with the activities of other projects such as the UNDP/OSCE Environmental Security Initiative, USAID projects, and EU, as well as others under development such as SIDA, the Greek Embassy, and those working on related activities. Additionally, it is anticipated that the Public Participation and Stakeholder Involvement Strategy can be synchronized with the Caspian Cluster Activities strategy when that has been finalized.

This strategy outlines the activities of the Public Participation and Stakeholder Involvement Strategy (P2/SIS) through: description of the activity; rationale; recommended tactics for accomplishing the activity; ttimeframe within the project; and, suggested monitoring indicators. Definitions for major terms used in this strategy are available in Annex 1.

This strategy should be viewed as a framework for more specific actions within the project that will be developed as the project is implemented relying on further stakeholder inputs during the SAP development phase of the full sized projects (FSP). This will include the constructing a project communication strategy to facilitate broad project outreach and public awareness, public involvement

inputs into the demonstration projects, and monitoring of project effectiveness and impacts. It is expected that fulfillment of the strategy will include exchange of knowledge, ideas, challenges and experiences between communities from various other river basins in the broader region, including the Caspian Sea, Black Sea, Dnipro/Dneiper River, Tisza River, and Danube River, potentially the Upper Syr Darya, and Aras Sea, as well as other transboundary water projects.

Background information

The need to support stakeholder involvement and public participation in transboundary water management within the UNDP Kura Aras Project is based on the findings of the stakeholder analysis, and the need to meet the needs of multiple stakeholder groups with an interest in and/or impact on the ecology of the river basin while avoiding exacerbating tensions among stakeholder groups. The combination of these two will determine the makeup of the Stakeholder Advisory Council (SHAG) and will contribute to the formation of the national Stakeholder Fora (SHF), as well as provide direction for the implementation of the strategy.

The Stakeholder Analysis (SHA) for the UNDP Kura Aras Project was conducted in Spring 2005 – Autumn 2006. The first phase involved qualitative analysis based on in-depth person to person interviews with stakeholders in the Former Soviet Kura Aras countries. This was followed by development of stakeholder analysis surveys administered to over 500 stakeholders representing 36 distinct stakeholder groups in Armenia, Azerbaijan, Georgia, and Iran. The survey was designed to gauge stakeholder group opinions, concerns and priorities regarding the specific issues addressed by the UNDP Kura Aras Project. These surveys were statistically analyzed and the findings combined with those from the qualitative analysis.

The findings of the SHA suggests that there is a need to include a much broader range of stakeholders in the process of decision making so that the needs of many groups can be addressed in a way that does not infringe upon the needs of others. The SHA demonstrated that there were potential tensions between the upstream and downstream users and use of agrochemicals and municipal waste dumping, or tensions between environmental users such as those concerned with seasonal flows and those stakeholders who favor more aggressive water use schemes that would distribute water at times favorable to demand peaks in order to advance economic development.

The SHA Findings, including those from the Qualitative SHA, Quantitative SHA, and Stakeholder Advisory Group, suggest that stakeholders at all levels are aware of problems and are eager to be involved in addressing these. These SHA demonstrated that there is desire across all stakeholder groups for more information about how to keep the river healthy, and a willingness among stakeholders to recognize that upstream and downstream uses of the river have resounding impacts throughout the region. Specific stakeholder groups will need encouragement and support in becoming involved while others are already active and eager to have more input in to the river basin management process. Completed findings are available in the Full Stakeholder Analysis, and serve as the foundation for this strategy. The recommendations, activities and initiatives advocated within this strategy emerge from the SHA and are a result of the lessons learned through Environmental Governance "Reducing Trans-boundary Degradation of the Kura-Aras River Basin through Public Involvement and Stakeholder Inclusion in Governance" the Regional Environment Practice Component, of the UNDP/GEF Kura Aras Project administered through the UNDP Bratislava Regional Centre.

Objective and activities:
As noted above the primary objective of the strategy is to obtain quality contributions into the project development and implementation from engaged, diverse and informed stakeholders through inputs into project planning/design, implementation and monitoring of the activities at the national and regional levels. This is to be accomplished through a set of five activities stemming from the findings of the SHA and emanating from the inputs of the regional SHAG.

1. Provide input into the project development, including Strategic Action Programme development and demonstration project implementation through the SHAG with linkages to national stakeholders charged with supporting the UNDP Kura Aras Project

2. Continue to support the region wide Kura Aras NGO Forum focusing on addressing sustainable transboundary water and environmental management advocacy to support the project, provide civil society input into project activities and support project outreach activities.

3. Based on the input of the SHAG, develop an iterative communication and outreach strategy for the project that emphasizes broad public awareness building and specific stakeholder group targeted education activities to be implemented through a small grants programme in coordination with the NGO Forum

4. Implement the hands-on stakeholder and public involvement activities at the local level in close coordination with the project SAP Demonstration Projects to be implemented by NGOs and civil society within the region.

5. Create and maintain an empirical mechanism to monitor and evaluate the effectiveness of the activities to determine what works, what needs improvement and how sustainable efforts are without long term project funding.

This work will be done in accordance with the UNDP/GEF Kura Aras SAP Development. These activities will be linked to the activities of the Caspian Cluster where possible and appropriate. It is intended that these activities will provide a model for other the IW projects and they will be mutually reinforcing, complimentary, and coordinated whenever possible.

The following section outlines the tactics may be employed to accomplish these activities. Additions and adjustments will be made as the project develops and more information becomes available. The strategy should be viewed as a flexible approach to including stakeholders and the public in project activities and should not be considered an immutable plan. It must remain sensitive to the realities of the project, of regional developments and to the needs and conditions of stakeholders on the ground.

1. Provide input into the project development, including Strategic Action Programme development and demonstration project implementation through the SHAG with linkages to national stakeholders charged with supporting the UNDP Kura Aras Project

In order for the public involvement strategy to most accurately reflect the needs, concerns and priorities of stakeholders within the region, it will be critical that stakeholders from a broad spectrum of interests and backgrounds are represented on the Stakeholder Advisory Group.

During the PDF-B phase of the project a group of 12 Stakeholders met for 3 days in November 2006 to review the TDA after an in depth briefing on the UNDP/GEF Project and earlier work of the SHA Team. The SHAG Team members included: NGO representatives, a public health care provider, a community organizer, a municipal water manager, an agricultural input association representative, a farming technology expert, a rural sociologist, and an environmental journalist. Most lived in communities close to the Kura or Aras rivers.

The members of the group were selected based on a broad spectrum of specialization, their understanding of transboundary water issues, and various interests while maintaining an equal balance of regional nationalities. They provided input, via comments on content, and made substantial recommendations for the project development. Their input has been incorporated into subsequent drafts of the TDA, and will be incorporated into the Full Sized Project (FSP) and other component projects.

The make-up of this group is based on the findings of the stakeholder analysis and members were selected based on the division over particular project related issues, the degree of salience within specific stakeholder groups and the degree to which these stakeholders are impacted by the conditions. The SHAG does not replicate the functions of the intersectoral committees established by the project but instead focuses on those groups who do not have a formal voice within the decision making process at the regional level.

In the future officials from various government sectors may be invited to participate in the SHAG as appropriate. Members of international funding institution and bilateral development agencies and governmental sectors also are stakeholders who may be included in project activities as appropriate, however they will not be participating members of the SHAG.

The SHAG members will provide input into the identification and articulation of the SAP Ecosystem Quality Objectives (EQOs), and set the stage for the development and contributions to the UNDP Kura Aras Project. The SHAG will be asked to assist the project to develop the final version of the Basin Vision, and to work with the project and SAP Formulation Team members to develop meaningful EQOs that will favour win-win situations, address concerns of multiple stakeholders in the region and be realistically attainable.

For the project to move forward to address specific issues other stakeholder groups may be formed to deal with these issues. For example for the demonstration project dealing with transboundary flooding between Azerbaijan and Georgia, a small, issue specific stakeholder group may be able to provide key inputs into the project design and development, especially pertaining to the development of public involvement activities of that project. The members of that group could include national members of the regional SHAG, as well as others impacted by and directly involved with this issue. This approach could be replicated for other demonstration projects and national level activities as needed.

Both the SHAG and issue specific groups will be run on a consensus based decision making model, with no member given more prominence than any other, regardless of social, economic, or political standing. The emphasis will be placed on building mutual respect, consideration and understanding. The goal of these groups is to create win-win positive sum situations whenever possible, and in cases where it is not, to reduce negative impacts on stakeholders.

2. Continue to support the region wide Kura Aras NGO Forum focusing on addressing sustainable transboundary water and environmental management advocacy to support the project and, provide civil society input into project activities and project outreach activities.

The civil society mechanisms with the Kura Aras Basin are emerging as a potentially influential force for change for social and environmental issues. Prior to the PDF-B phase of the project there was not an organization or coalition of civil society organizations that addressed transboundary environmental issues focusing specifically on water management. The NGO Forum came together under the Environmental Governance Component of project with the mission to increase support for the project within the civil society sector, to provide a mechanism for the project to support transboundary project development and implementation for projects funded by international donors and to provide a united front for civil society involvement in the region. The NGO Forum now provides civil society with a formal mechanism for input in to the UNDP project, as well as other.

Members of the NGOs come together, exchange experiences and ideas, develop transboundary partnerships. Organizations in the NGO sector are often competitors for funding, however because of the diversity of expertise within these groups, creating a means for them to cooperate can have benefits throughout the region, including serving as a clearing house and directory for donor funding initiatives, creating a regional expertise database, and establishing cohesive and collaborative project proposals and implementation.

The additional benefit for the creation of a NGO Forum is that it provides a means to recruit and market transboundary communication outreach and stakeholder education activities (detailed in Activity 3) and it provides a means to solicit proposals for implementation of public involvement activities (detailed in Activity 4).

Through continues support, in combination with other regional donors, such as the Eurasia Foundation and OSCE ENV SEC Initiative, the Kura Aras NGO Forum can continue to build upon the strong foundation laid during the PDF-B phase of the project and work towards becoming autonomous. Additionally, the group now has elected representative who can serve to provide civil society input in to

the forthcoming Kura Aras Environment Programme. Additionally, there is an eagerness to liaise with NGOs in the Caspian Cluster.

3. Based on the input of the SHAG, develop an iterative communication and outreach strategy for the project that emphasizes broad public awareness building and specific stakeholder group targeted education activities to be implemented through a small grants programme in coordination with the NGO Forum

An iterative communication and outreach strategy for the UNDP Kura Aras Project is intended to reach a broad array of stakeholders, and the general public, as well as more specific and targeted stakeholder groups. The messages to be sent to these will be different and based on both awareness raising about the nature of the challenges to the Kura Aras Basin environment, and improving the behaviours and actions of specific stakeholders in order to reduce negative impacts on the environment.

A second more focused effort will be developed to increase educational outreach to specific stakeholder groups. The intention is to increase awareness and introduce alternative practices to stakeholders in the region. These efforts will be focused on specific stakeholder groups, such as public health care providers, sustenance farmers, municipal water managers, or educators. The approach will be to demonstrate the logic behind current approaches, the empirical evidence of the impacts of these approaches, and introduction of alternative practices.

The SHAG will serve as the body that provides the critical inputs for the development of the strategy and the specific stakeholder education projects based on the findings of the SHA and the TDA. The SHAG will be asked to help identify specific areas where these efforts will be most effective and then develop specific messages to target groups and over all awareness building. The support of an environmental communications expert may be obtained in order to ensure optimal outputs and strategy design. The communication and outreach strategy should use social marketing approaches to reach the public and should be done through a series of iterated activities and information campaigns so that they can build on one another, and increase understanding and need for action gradually and more effectively. This will be based on the strategy guidelines developed by UNDP/GEF in the manual "*Communicating for Results! A Communications Planning Guide for International Waters Projects*"

Once the efforts and activities have been identified and initally developed through the strategy, they will be channelled to the NGO Forum, and expressions of interest including specific approaches to be used, budgets, transboundary areas and such will be solicited from transboundary partner NGOs. These will be awarded based on criteria established by the SHAG and will be supported through small grants administered by the project. The small grants will have a specific monitoring and evaluation criteria and may be administered based on the criteria for set by the SHAG.

4. Implement the hands-on stakeholder and public involvement activities at the local level in close coordination with the project SAP Demonstration Projects to be implemented by NGOs and civil society within the region.

The SHAG will also be charged with advising the project regarding the public involvement demonstration projects (PIDPs) to be implemented during the SAP development phase of the project. The SHAG will provide additional ideas, and assist in the development of strategies to increase the public in communities near the selected sites for the demonstration projects. It is anticipated that the SHAG members will have a unique set of vantage points that can provide much needed understanding of how these issues are currently viewed and how communities can be recruited to assist in the project, and as a result become more invested in the outcomes.

The PIDPs were designed and developed through a competitive selection process during the PDF-B phase of the project in conjunction with the NGO Forum activities. The selected projects are:

Implementation of a farmer training project that demonstrates the impacts of current farming practices, improved farming practices and organic farming practices. This will involve training of farmers in communities, carefully gauging the impacts of the farming practices on the environment, and providing

hands on community educational opportunities that target reducing negative impacts while improving harvests quantity and quality.

Design and implementation of artificial wetlands to treat waste water in public buildings within small communities. This will use artificial wetland technologies to purify the water prior to introducing it to the river environment, and will emphasize small scale, cost effective mechanisms for improving the water environment.

These demonstration projects will be implemented in all four Kura Aras Basin countries, by NGO partners, and will emphasize training, affordability, community involvement and cost effectiveness of the activities.

Again the SHAG could provide critical inputs to the receptivity, location and approach for recruiting community involvement in these activities.

For new smaller scale PIDP activities, the SHAG will assist in the development of new PIDP ideas, provide criteria for selection for proposals from NGOs in the NGO Forum, and devise monitoring and evaluation indicators for the pubic involvement strategy. As with the Communication Strategy Activities, these will be channeled through the Kura Aras NGO Forum and will require transboundary cooperation among NGO partners for implementation, to be funded through small grants.

5. Create and maintain an empirical mechanism to monitor and evaluate the effectiveness of the activities to determine what works, what needs improvement and how sustainable efforts are without long term project funding.

A significant challenge to the field of public participation and stakeholder involvement is adequate and meaningful monitoring and evaluation of activities. The causality of changes in behaviours, the impacts of outreach activities, and the effectiveness of projects are often inappropriately measured and lack empirical validity. As such it becomes difficult to know if the activities had the intended impacts. Therefore this strategy includes the development of an empirical mechanism to monitor and evaluate the effectiveness of activities. This is intended to gauge what is effective, where improvements can be made and how to increase long term sustainability after funding from the project is no longer driving activities.

A second end of project stakeholder analysis should be conducted to identify where changes have or have not been effective. This will be based on the findings of the initial SHA and target specific issues and stakeholders identified as critical during FSP phase of the project. Additionally, the broader public will also be surveyed to determine if the project has had inputs on the specific groups. This will be a significant portion of the monitoring and evaluation of the communication strategy and stakeholder education activities.

A critical review meeting will be held with project staff and select members of the SHAG to determine the quality and impact of inputs in to the SAP development. It is anticipated that there will be significant lessons to be learned through this and the critical review meeting will provide an opportunity to assess the positive and negative impacts of this so that both this and future projects can benefit from the findings and conclusions reached in this meeting.

Monitoring and evaluation of the NGO Forum will be based on the independent transboundary initiatives undertaken by the NGOs, as well as the specific activities they implement on behalf of the project. As noted above the SHAG will assist in developing the indicators for measuring the successful implementation of the project.

Finally, SHAG and project staff will be charged with reviewing the impacts of the public involvement in the demonstration project activities. These will be reviewed in terms of the unique approaches employed, the receptivity of communities and the long term impacts these activities have on communities.

The final output from the monitoring and evaluation of the public participation and stakeholder involvement activities will be critically reviewed and a lessons learned report will be produced to provide

information for related projects and inputs, as well as for the Kura Aras Environment Programme and/or Caspian Cluster to consider for future public involvement activities.

Annex 1 for Public Participation and Stakeholder Involvement Strategy

Definition of Terms

There are several terms that continue to present conceptual challenges to the development of public involvement strategies. The terms "public", "stakeholder", and "participation", are routinely, and often erroneously, interchanged in discussions and project designs. The working definitions for this particular strategy are as follows:

Public: The population as a whole, including a wide array of stakeholders, both those active and latent, who are not specifically defined by their status as members of other professional, social, civic, hedonistic, or economic stakeholder groups in relation to the river basin.

Stakeholder: A member of a specifically defined group sharing a common interest in river issues, based on professional, social, civic, hedonistic, or economic concerns. It is possible that an individual can be a member of several stakeholder groups at the same time. Stakeholder interests can be active and organized or latent and unorganized. Stakeholders can be actively or passively involved in the issues addressed by the project. They can either be impacted by and/or impacting the issues addressed by the project.

Stakeholders for this project include the following groups: Non-Governmental Organization (NGOs), scientists, industrial sector, mining industry representatives, construction industry representatives, agro-industry representatives, regional government officials, district water management officials, municipal government officials, municipal waste manager, nature preserve staff, community based organizations (CBOs), educators and teachers, students, farmers, pastoralists, public health care providers, member of community near the river, tourism and recreation industry officials and employees, press and media, and members of international Funding Institution and bilateral development agencies. Governmental sectors also are stakeholders who may be included in project activities as appropriate.

Participation: The act of taking part in activities of the project in order to reach the goal of a healthier river system in the Kura Aras Basin. This may be done through receptive participation, in terms of receiving information and education about actions that can be taken to improve conditions, and through active participation by taking part in activities and potentially continuing to be involved in those activities.

Involvement: Making a direct contribution to the project through providing direct input and assisting in guiding the project design and development. Involvement is more dynamic and multidirectional than participation, and stresses a sense of ownership through consensus building and extended interactions based on establishing and maintaining an ongoing relationship with the project, and project activities.

Therefore a public participation and stakeholder involvement strategy involves encompassing the broader public through interactions specifically designed to support the participation of a wide array of stakeholders in activities in support of the project.

PART V: NGO Forum Draft Charter

(To be inserted from original text)

Part VI: Demonstration Project for Inclusion into the GEF full size project

1. Country(s): Armenia, Azerbaijan, Georgia

2. Title: Ecological flows study of the Kura River

3. Executing Agency: UNOPS

4. Cost of Project: GEF: US$ 740,000

5. Linkage to Kura-Aras River Basin SAP Priorities:

1) The Preliminary SAP Priority to address the problem of variation and reduction in hydrological flows is met with the Ecosystemic Quality Objective I: To achieve sustainable utilization of water resources to ensure access to water and preserve ecosystem services. In order to do this, ecological flows requirements of the Kura River must be empirically analyzed in order to understand impacts on ecological processes. The rivers ecological processes must be assessed throughout the basin to accurately set the baseline of flora and fauna under seasonal flow variation.

6. Linkage to National Priorities and Programmes

2) All countries in the region are committed to sustainably managing water resources and this commitment is reflected in national development and environment policies and plans, including MDG-based Poverty Reduction and Development Strategies, and National Environmental Action Programmes. Moreover, these policies and plans give due emphasis to the management and protection of the Kura and Aras rivers and the importance of the IWRM approach in achieving the objectives. Each of the countries has a growing non-governmental community and academic sector to complement the work of governmental organisations in this sector. Over the past ten years, working with the World Bank and USAID, Armenia has greatly strengthened its water and environmental policy, legislation and planning process based on the IWRM approach and it is now entering into an aggressive investment phase. The other Caucasus countries would like to develop similar programmes and both Azerbaijan and Georgia have requested assistance from UNDP in the development of National IWRM plan as a first stage. Striving for approximation to the European Union, Armenia, Azerbaijan and Georgia have signed with the EU the European Neighborhood Policy Action Plans (2006). Under these plans each of the countries is committed ”to identify possibilities with neighboring countries for enhanced regional co-operation, in particular with regard to water issues”. The three countries are also committed to implementation of the EU Water Framework Directive monitoring methodology and the development of river basin management plans, including transboundary river basins, of which a key element is the protection of ecological sensitive riverine areas.

3) The TDA revealed a need to more accurately understand the river ecosystem functions, and to identify an agreed methodology for measuring environmental impacts of shifting water resource utilization due to increased demands and climate change variation; determining bounds for the general ecosystem and impacts of in-river seasonal variation flows for migratory and non migratory fish, birds, and other flora and fauna; and the need for an empirical assessment of the various aquatic and terrestrial ecosystems dependent upon the river and impacted by seasonal flow variation.

4) Increasing demand on and competition for water resources due to accelerated economic activities in the basin is predicted to arise in the next twenty years as countries emerge from economic transition. In addition, extensive deforestation and conflicting water use has affected not only the quantity of water flowing but also the temporal pattern; the whole hydrological flow regime has been altered during the Soviet Era with significant transboundary consequences. The setting of ecological flows is currently based on out-dated Soviet methodologies which do not recognize the importance of ecological services in the basin. The existing ecosystems have adjusted to these alterations, but future changes to the flow regime may further impact biodiversity, ecosystem function and ability of the ecosystem to sustain its functions. Severe water deficit has not occurred in the basin to date, but negative impacts of extreme variation including flooding events and reduction of flow on aquatic and terrestrial ecosystems have already been observed.

5) The yield from potential available water resource is strongly influenced by the volume of releases made to satisfy the Ecological Flow Requirements (EFR) for aquatic ecosystems, in particular in the river Kura-Aras the wetland of the lower basin and tugai flood plain forests. The requirements for these ecosystems are poorly understood, as there are no systematic studies of the river system ecology throughout the regional seasonal flow rate variations. The seasonal variation significantly influences the functions of the ecosystems, and the range and function of these dynamic ecosystems across the basin is not well documented.

6) The impact of reduced flows on anadromous fish species populations has been noted by the Kura-Aras sister project, the Caspian Environment Programme, particularly the sturgeon species. However, there is little or no information regarding the flow requirements for the various migratory species to enter the Kura-Aras river system from the Caspian Sea or to maintain the accessible and ecologically healthy spawning grounds in the upper reaches of the system. Much more work is required to establish an environmental baseline and to develop a methodology for determining environmental flow requirements in the river. This work will be linked to the CEP project which has been approved which focuses on the development of sustainable fishes in the Caspian.

Name and Post of Government Representatives endorsing the Demonstration Activity

HARUTYUNYAN, Aram
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BAGIROV, Hussein
Minister of Ecology and Natural Resources of Azerbaijan
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KHACHIDZE, George
Minister of Environment Protection and Natural Resources of Georgia
6 Gulua Street
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Georgia

8: Project Objectives and Activities

8.1. Background

7) The Preliminary TDA details the main hydrological features in the Kura-Aras River basin. Variation in hydrological flow is caused by numerous human interventions including direct water abstraction from surface and groundwater bodies, and increased evaporation due to impoundments, urbanization and deforestation. Shifts are also caused by climatic variation and increasing frequency of extreme weather events. This has significant transboundary consequences. At the confluence of the Aras River the natural annual discharge of the Kura River is approximately 32.3 km3, and the natural discharge from the Aras is 12.3 km3. However, at present, the discharge of the Kura River is about 19.6 km3, while the discharge from the Aras 9.0 km3. It is calculated that 40% of the Kura's natural runoff and 27% of the Aras runoff is lost to the Caspian Sea (SIDA Technical Analysis, 2005). Possibly more importantly the temporal pattern of flow is also changed, with significant impoundment of the basin, reducing the spring floods and retaining water for irrigation and hydro-power. Little is known about the impact of these flow alterations on the key ecosystems and migratory fish species, as little is known about the functioning and flora and fauna variation of these ecosystems themselves.

8) A severe water deficit has not occurred in the basin to date and consequently shortages of water have not presented any serious threats to the population. However, population growth and rapid economic development in the basin countries will impose increased pressure on surface and groundwater resources. Water resources are most limited in Azerbaijan, which compared to Georgia has approximately 8 times less water measured in terms of both per km square and per person. As a result, the country is considered to be a region with a limited water supply (SIDA Technical Analysis, 2005). The Kura-Aras plain in Azerbaijan is also very arid and Azerbaijan's dependence on surface water resources from this is high (Regional Study on Irrigation and Drainage, 2006) making upstream water abstraction a very sensitive issue from a transboundary perspective. Armenia is also very arid in the Aras River Basin, and subjected disruptions due to seasonal variations in flows. The impacts on ecological systems results on impacts on human populations. It is therefore critical to understand how these systems function.

9) The main environmental impacts of variation and reduction of hydrological flow can be summarized as follows:

- Ecosystem degradation including: degradation of habitat, losses of species and reduced biodiversity, and increase in invasive species;
- Temporal changes in flow affecting biological processes such as fish migration and spawning;
- Reduced natural pollution assimilation capacity of rivers, increased pollutant concentrations and reduce flux.
- Increased desertification due to lowering of groundwater tables.

10) Variation and reduction of flow has already impacted fish species composition in the Kura-Aras river basin. Statistical data shows that in Azerbaijan in 1932 (i.e. before the implementing major water projects in the Kura river basin) valuable anadromous and fluvial anadromous fish catch reached 30.5 thousand tonnes per annum. In 1982, after construction of the various flow control structures the fish catch was 15 times lower at 2 thousand tonnes.

11) Another cause for decreases in fish catch is the altered annual distribution of river runoff due to the construction of hydropower and irrigation impoundments such as the Mingechavir and Shamkir reservoirs. Although the reservoirs have provided favourable conditions for increasing certain fish stocks, they have had an adverse effect on the habitat and reproduction of downstream populations of silver fish (Cyprinids) as well as anadromous and fluvial anadromous fish.

12) The large abstraction of water from surface and groundwater bodies (predominantly for irrigation) has also affected terrestrial ecosystems. For instance, 5000 ha of floodplain tugai forests in the Iori River valley (a Kura River Tributary) located on the border of Georgia and Azerbaijan have been heavily impacted by reduced surface flows. One of the major causes of degradation of the forest was the construction of a 50 m tall dam on the Dali reservoir that impeded water flow. The Dali reservoir, occupying 3 km^2 was initially constructed for irrigation purposes in Georgia and Azerbaijan but no irrigation network has been put in place. Consequently the reservoir has lost its function and has been non-operational since its construction (WWF Report, 2005). There are similar examples throughout the basin.

13) Despite these existing disruptions, assessment of Ecological Flows can only be measured by current conditions. Therefore, it is vital that the current ecosystem conditions are assessed though standardized means, and catalogued to serve as a baseline for any future developments, including climate change impacts, to be measured against. These changes in flow rates with effect ecosystem functions will create secondary impacts, on social and economic conditions throughout the basins.

14) The main socio-economic consequences of variation and reduction of hydrological flow are water shortages for ecological processes and impacts on the various economic sectors, causing:

- Low productivity of agricultural land due to inadequate and poor irrigation;
- Low income from agricultural and fishing activities;
- Poor local sanitation and increased incidence of water-borne diseases – infection of shallow groundwater potable sources;
- Loss of groundwater resource due to over-extraction;
- Loss of commercial anadromous fish populations due to impoundments blocking access to spawning grounds;
- Decrease in ecosystem health critical for biological waste absorption;
- Decreased capacity for hydro energy generation downstream.

15) Significant increases in consumption of water in upstream countries will have a negative impact on the availability of water for economic activities and domestic needs in downstream states, potentially limiting development and affecting ecological functioning. Water shortage problems in the agriculture sector have already taken place in Georgia during the last 15 years although principally as a result of the deterioration of the existing irrigation supply network. Large areas of agriculture lands have not received irrigation water for many years leading to a decline in production and increased poverty levels in rural areas. A similar trend has occurred in Armenia. Water shortage problems in Azerbaijan have resulted in insufficient levels of water for water intensive crops: often they are irrigated only twice instead of 6-7 times (Regional studies on Irrigation and Drainage, 2006). This scenario is likely to develop in downstream countries if water availability is affected due to reduced

hydrological flows[11]. In Iran where energy is heavily subsidized pumped irrigation schemes are common and the demand for water to irrigate uplands in the lower Aras basin is high.

16) Water shortages are likely to accelerate soil erosion and desertification in the basin. There are already acute environmental and social problems associated with these issues, especially in the South Caucasus countries. At present, 600 thousand ha of arable land are heavily eroded in Azerbaijan whereas in Armenia 44 % of land is subject to various levels of desertification. In south east Georgia around 3000 ha are subject to desertification and 11.5 thousand ha are heavily eroded. This demonstration project on the Kura and Aras Rivers can be replicated subsequently in other similar basins.

17) Climate change could also have a catastrophic impact in the medium and to long term with potential scenarios indicating flow reductions of 50% as a consequence of increased average temperature and decreased precipitation, as forcasted. The impacts of the changes will be felt first and most profoundly within the river ecosystems, and the establishment of a set of databases on the existing biodiversity and ecosystem functions in a range of flow regimes will be useful to the planning process as the scope and timing of these climatic changes accelerate.

8.2. Objectives and Activities

Objective:

18) The overall objective of this demonstration project is to develop guidelines for establishing Ecological Flows in the Kura-Aras basin, and conduct a series of rapid assessments of the river ecology throughout the basin, based on best international practices. The Project Team of international and national consultants will:

- Identify key sites that are ecologically sensitive or flow regime impacted areas throughout the basin;
- Undertake environmental flow and river ecology rapid assessments for key sites in the Kura River basin at different seasons to gauge flow change impacts;
- Develop and Provide Stakeholder Education Training Activities;
- Develop a Baseline Data Collection Programme to inform the Environmental Flow and Ecosystem Function Reviews;
- Design a long-term Monitoring Programme to assess the impacts of changes in flows and/or other management interventions (i.e. non-flow related) that are to be implemented

19) The assessments should aim to develop data sets for the selected sites, which will allow the evaluation of scenarios of both flow change (i.e., change in the volume and timing of water) and non-flow related impacts in terms of: effects on overall downstream river condition, including; changes in the abundance of key biophysical components of the riverine ecosystems; changes in the availability of resources used directly by the people living alongside the river; and possible impacts on the health of people, or their livestock, living alongside the river and estuary.

20) The results of the study in Kura-Aras basin will be used to provide guidelines to be incorporated into National IWRM plans and be used as baseline data against which to evaluate the feasibility and impacts of new water resource developments including those that will potentially altering the flow regime.

[11] However it should be noted that much of the land previously irrigated by pumped systems in the Soviet period would be uneconomic to restore.

Project Activities

Activity 1: Project plan, including site selection and review and selection of appropriate methodologies, and issues assessment. This will include:

21) Development of a project plan and to be included in the project inception Report. The project plan will include final details of the approach to be adopted, including: the study team; methodology; site selection criteria; issues assessment; project monitoring and quality control system; and assumptions, strengths and weaknesses of the proposed study approach.

22) A review of the scientific literature will be undertaken to select appropriate methodologies based on a preliminary assessment of potential sites. The literature review will include: information on the nature of the river channel and any associated wetlands and floodplains; rapid river ecological assessment methodologies; water chemistry; flow information, i.e., hydrological records/models; general bank and channel biotic communities along the river; any information on the flow and physical habitat preferences of the biotic communities; and information on non-flow related impacts along the lower river. This study will allow the project to identify or develop appropriate methodologies that will meet the objectives of identifying environmental flow impacts and assess river system ecologies for the Kura-Aras River.

23) Undertake field visits to each of the potential assessment site locations. Prepare a Site Selection Report describing each site in full, the selection criteria and potential for replicability to provide a characterization survey of selected sites, conduct an initial ecological condition assessment on the present conditions for use as the baseline; and use accepted methods of rapid riverine/estuarine ecosystem appraisal.

Activity 2: Undertake environmental flow and river ecology rapid assessments for key sites in the Kura River basin at different seasons to gauge flow change impacts, to include:

24) For the selected demonstration sites an initial assessments shall include: the geographical extent, present condition, ecological or other importance of the river reach in a local and regional context, past problems related to water management; species or features of special significance; a summary of the demographics of the human population that utilise the river and the nature of their dependence on the river; and other relevant aspects such as important cultural sites.

25) Designing and implementing a Biophysical and Ecosystem Function Data Collection Programme aimed at providing the data required for the selected assessment methodology. All relevant information should be collected at designated sites, at agreed periods throughout the seasonal cycles impacting flow regimes, and under as wide a range as possible of flow conditions to cover one annual hydrological cycle. Standard, well-accepted methods within each discipline should be used, and justified, to the extent possible. Basic laboratory and monitoring equipment will be provided to national laboratories in support of these activities. In order to most effectively assess the ecosystem functions, the multi-disciplinary teams will work closely and share their initial findings within the teams so that they are most accurately reflecting the function of the ecosystems within each rapid assessment site visit. The team shall also assess the non-flow related impacts at the selected sites and the likely mitigation efforts for improvements in overall ecological condition.

26) Provide detailed description of key scenarios and detailed descriptions of their biophysical and ecosystem function implications for a short-list of three key scenarios combining flow and non-flow changes at each site.

Activity 3: Develop and Provide Stakeholder Education Training Activities

27) Stakeholders in the communities near the assessment sites will be included in the activities of the project through educational training activities, with an emphasis on creating self contained teaching materials to focus on age appropriate biology and ecology lessons.

28) National level project staff and experts will work with curriculum specialists to develop a kit to be distributed to schools near the assessment sites. These kits will contain basic lessons in ecosystem functions, river ecology guides, species identification guide sheets, flow monitoring, and river system health. The kits will also contain materials needed for basic assessments to be conducted by the students under the supervision of a trained teacher. These materials will include buckets, laminated guide sheets, species measuring, flow gauges, thermometers, and other needed materials. All printed materials will be in local languages.

29) For each specific site, lessons will be prepared to train local teachers how to teach students about river ecology, biology, zoology, flow rate measurement etc. The national experts will conduct these trainings, and teachers will be asked to assist the project by conducting secondary assessments with their classes. The findings from these assessments will be included in the final project summary. The schools will be asked to keep a running tabulation of their assessment measurements throughout the scope of the project, and pending funding availability, these may be extended into subsequent projects.

Activity 4: Develop a Baseline Data Collection Programme to inform the Environmental Flow and Ecosystem Function Reviews

30) A comprehensive of the assessments will be collected of all the ecological functions for each site, in terms of biodiversity, cataloguing of flora and fauna species, ecosystem functions as impacted by the current flow regime, noting significant changes resulting from seasonal and flow rate variations.

31) Areas with endangered species, vulnerable habitats, and severe susceptibility to changes in flow rates will be carefully assessed, as needed, in order to ensure their protection and provide baseline information for their current status.

32) The interdisciplinary team will draft a summary report of findings with support from the National and Regional PCUs and international consultants, as needed. These summary reports will provide decision makers, water management experts and members of the National IWRM Planning team recommendations regarding flow regime management, and presentations based on summary reports shall be prepared and made at available for local, national, regional, and international review.

Activity 5: Design a long-term Monitoring Programme to assess the impacts of changes in flows and/or other management interventions (i.e. non-flow related) that are to be implemented in support of the National IWRM plans.

33) Preparation of 3 National and one Regional Summary Reports that describes the biophysical, ecological, and socio-economic impacts for of the various flow regimes on the specific sites and how these impact the overall function across the basin. The report should also summarize for each flow scenario the non-flow impacts, including mitigation measures. The summary report will include recommendations for the environmental flow to be adopted at each site and will form the basis for technical guidelines on the determination of environmental flows in the Kura-Aras basin. The design of a long-term Monitoring Programme, based on key biophysical, ecological and social parameters, as indicators of agreed site specific Environmental Quality Objectives (EQOs). If the target condition is requires improvement, this should provide criteria for adjustments to be made to the river system management and include the restoration activities.

34) The project results will be presented at a regional workshop to which the Southern Caucasus and Caspian States will be invited. The project will seek adoption of the methodology in the SAP for on going monitoring and assessments of specific sites.

8.3 End-of Project Landscape (Outcomes)

35) The conclusion of the demonstration project will result in a heightened awareness and understanding of the ecological systems throughout the Kura Aras basin and basic environmental flow requirements.

36) As a result of the project there will be a review and selection of appropriate methodologies to be employed in river systems within a range of river ecosystems in arid and semi-arid zones. This review of methodologies once applied will provide added protection to the river environment in general and at critical locations, including the river mouth. The approach adopted here and lessons learned from this can serve as a resource for other projects in the region and within similar river systems, to provide guidance to regulating authorities and IWRM planning.

37) The project will deliver a solid baseline of information and data from each study area including a clear delineation and characterization of river reaches, assessment of ecological conditions, selection of environment flow sites, biophysical data collection, and an evaluation of existing environmental goods and services at the local level.

38) Selection of methodology(ies) for assessing river system ecological systems and identifying impacts of various environmental flow conditions in the Kura-Aras basin will contribute to the IWRM Plans and SAP.

39) The design and implementation of a long-term monitoring programmes at key sites in the basin will enable the ecosystem assessment and environmental flow setting methodologies to be refined and strengthened to address trends (e.g. climate change), challenges to and shifts in the existing conditions. It will provide valuable data on the overall environmental status of the Kura-Aras and assist in identifying basin-wide trends and changes.

9. Rationale for GEF Involvement and Fit with GEF Operational Programmes and Strategic Priorities

40) The demonstration project is consistent with the 1st Strategic Objective of the IW Focal Area: to foster international, multi-state cooperation on priority transboundary water concerns through more comprehensive, ecosystem-based approaches to management. It furthermore fits with the 3rd Strategic Program in GEF-4: Balancing overuse and conflicting

uses of water resources in transboundary surface and groundwater basins. The project aims to assist countries to better manage water quantity and thereby preserve water resources for multiple users. The demonstration project is consistent with the preliminary SAP developed under the PDF-B and assist the countries to harmonise with the EU WFD and implement the concept and principles of IWRM and River Basin Management Planning.

10. Project Management Structure and Accountability

41) The Project Coordination Unit based in Tbilisi, Georgia, the Armenian Project Coordination Unit in Yerevan, and the Azerbaijan Project Coordination Unit in Baku will over see the project execution at the national levels. The GEF Chief Technical Advisor will have overall responsibility for the demonstration project implementation assisted by the Scientific Officer. Day-today management will be the responsibility of the National Project Coordinators of Baku, Tbilisi and Yerevan. The CTA shall report regularly to the Steering Committee. The majority of the technical work will be tendered out nationally with guidance from international consultants.

11. Stakeholders and Beneficiaries:

42) The stakeholders involved in the project, and the beneficiaries include: local rural communities within the region, conservationists and ecologists, farmers/ pastoralists, and local authorities, Hydro Met agencies, NGOs, Environmental Ministries, Tourism and recreational users, fisheries departments, Mining regulating agencies, Agricultural Ministries, Regional governmental officials, Agricultural industry, and scientists.

12. Long-term Sustainability Strategy

43) The demonstration project has the full support of Armenia, Azerbaijan and Georgia and will be an important element of their National IWRM plans. The implementation of long term monitoring programmes at the critical sites is assured as part of the regulatory system once a clear baseline has been established and methodology agreed. However, the project will seek guarantees that the long term monitoring programmes will be maintained.

13. Replicability

44) The overall objective is to refine methodologies for establishing rapid ecological assessment and environmental flow requirements throughout the Kura-Aras river basin and as such will be applied in selected sites in each of basin states and therefore replicability is inherent in the project. The methodology will address environmental requirements in rivers as well as the main river branches. The methodology will have application outside the Kura-Aras River Basin, into the CIS and beyond. The final report of the project will include lessons learned and recommendations for a strategy for replication in other regions.

14. Monitoring and Evaluation Process

45) The Project Management Unit will produce a brief quarterly Progress Report updating the Steering Committee and the Project Execution and Implementation Agencies on the progress of the project based on the approved Strategic Results Framework (Annex 1). Once a year a detailed report will be submitted through the PCU to the Steering Committee. This report will provide a full review of the work plan to identify project achievements and deliverables, budget expenditures, amendments to workplan and budget, staff contracting and

performance, and any other information required by the Steering Committee and/or the Executing Agencies.

46) In addition, the pilot project will also be subject to:

- Internal Project Implementation Reviews to be conducted by the CTA and submitted to the implementing agency every six months.
- An independent final project evaluation to be undertaken in conjunction with the Terminal Evaluation for the FSP.

47) The project evaluations will be carried out in accordance with UNDP-GEF requirements and will cover all aspects of the project. They will include: an assessment of (a) the outcomes generated, (b) the processes used to generate them, (c) project impacts, and d) lessons learned. Advice will be given on how the M&E results can be used to adjust the work if needed and on how to replicate the results in the region.

15. Co-Funding

48) The total contribution requested from GEF is USD 740,000 within a 3 year period. Country co-funding in-kind is $225K.

Award ID:					
GEF Outcome/Atlas Activity**	Sub-components	Amount ($) Year 1	Amount ($) Year 2	Amount ($) Year 3	Total ($) All Years
1. Project plan	1. Project Plan	55,000	0	0	55,000
	2. Preliminary assessment and site selection	60,000	0	0	60,000
	Sub-total	115,000	0	0	115,000
2. Undertake environmental flow and river ecology rapid assessments for key sites in the Kura River basin at different seasons to gauge flow change impacts	1. .Study area delineation and characterisation	45,000	0	0	45,000
	2. Biophysical and ecosystem function data collection and preparation of the Biophysical Reference Reports	90,000	120,000	0	210,000
	3. Selection of key scenarios and detailed descriptions of their biophysical implications	0	60,000	0	60,000
	Sub-total	135,000	180,000	0	315,000
3. Develop and Provide Stakeholder Education Training Activities	1. Develop curriculum and materials for assessment kits	40,000	2,000	2000	44,000
	2. Train teachers in use of assessment materials for students	30,000	3,000	10,000	43,000
	Sub-total	70,000	5,000	12,000	87,000
4. Develop a Baseline Data Collection Programme to inform the Ecosystem Function and Environmental Flow Reviews	1. Application of Environmental Flow Scenarios	0	29,000	15,000	44,000
	2,Develop databases	20,000	20,000	10,000	50,000
	3. Assessment of non-flow related impacts	0	21,000	20,000	41,000
	Sub-total	20,000	70,000	45,000	135,000
5. Design a long-term Monitoring Programme to assess the impacts of changes in flows and/or other management interventions (i.e. non-flow related) that are to be implemented.	1. Preparation of Environmental Flows Summary Report	0	0	33,000	33,000
	2 Final Ecosystem Function and Environmental Flows Report	0	0	24,000	25,000
	3 Dissemination workshop	0	0	30,000	30,000
	Sub-total	0	0	88,000	88,000
	Total	340,000	255,000	145,000	740,000

ANNEX 1 to Demonstration Project - Strategic Results Framework

Rapid River Ecology Assessment and ecological flows study of the Kura-Aras River Basin		Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
OUTCOME	Rapid River Ecology Assessment and environmental flows study of the Kura River - Establishment a baseline assessment of river ecology under various flow regimes, and identify a methodology for determined the environmental flows in the Kura-Aras River basin to support sustainable water resources management of the Kura-Aras River and a database against which changes in conditions can be measured.			
ACTIVITIES	1. Develop project plan and inception report Project Plan Preliminary assessment and site selection Review of methodologies	Project plan and inception report drafted Demonstration sites selected Selection of methodologies to be tested	Project plan delivered and agreed Inception meeting minutes MoU with Government stakeholders Methodology report delivered	Data made available All appropriate Government stakeholders consulted
	2. Undertake environmental flow and river ecology rapid assessments for key sites in the Kura River basin at different seasons to gauge flow change impacts Ecosystem function assessment data collection and preparation of the Ecosystem and flow rate Reference Reports Select key scenarios and provide detailed descriptions of their biophysical implications	Study area delineated and baselines developed for demonstration sites Biophysical and ecological function surveys of study sites over annual cycles Scenarios selected	Area study report delivered Biophysical survey report Seasonal ecosystem function and assessment reports Scenario report delivered	Sufficient time and resources to collect meaningful baseline data
	3. Develop and Provide Stakeholder Education Training Activities Develop curriculum and materials for assessment kits Train teachers in use of assessment materials for students	Curriculum developed Training conducted Secondary assessments collected Lessons learned reviewed	Curriculum materials in local languages Training report rosters secondary assessment databases Report on Lessons Learned delivered	Curriculum acceptable to local schools Teachers able to use training in classrooms Quality of secondary assessments
	4. Develop a Baseline Data Collection Programme to inform the Ecosystem Function and Environmental Flow Reviews Report on application of Rapid Assessment and environmental flow methodologies and non-flow impacts Develop databases Assess non-flow related impacts	National and regional summary reports drafted Non-flow related impacts assessed Databases developed	National and Regional Reports delivered Non-flow related impact report delivered Database functioning and delivered	Appropriate methodologies selected Summary reports useful to IWRM and SAP development
	5. Design a long-term Monitoring Programme to assess the impacts of changes in flows and/or other management interventions (i.e. non-flow related) that are to be implemented. Final Ecosystem Function and Environmental Flows Report Develop a Long-term Monitoring Programme Hold dissemination workshop	Monitoring programme in place Final report agreed and methodology adopted Results disseminated	Monitoring programme designed and monitoring results Methodology included in SAP Dissemination materials and workshop report	Monitoring programme sustained by countries Methodology replicable in other sites

SIGNATURE PAGE

Countries: Armenia, Azerbaijan, Georgia

UNDAF Outcome(s)/Indicator(s): ARM: UNDAF outcome 4: Promote environmentally sound technologies and effective management of natural resources in accordance with the MDGs and PRSP; AZE: UNDAF Outcome 2: The state improves its delivery of services and its protection of rights – with the involvement of civil society and in compliance with its international commitments; GEO: UNDAF outcome 5: Progress towards environmental sustainability demonstrated

Expected CP Outcome(s)/Indicator (s): ARM: CP outcome 4.8: The Kura-Araks river basin is managed effectively; AZE: CP outcome 2.9: National environmental protection and natural resource management improve; GEO: CP outcome 5.2: Sustainable environmental and natural resources management practices adopted at national and community level

Expected CP Output(s)/Indicator(s): ARM: CP output 4.8.2: By 2009, control mechanisms and regional cooperation forums for reducing pollution are established; AZE: CP outcome 2.9.3: Mechanisms in place for management of international waters; GEO: 5.2.1: Sustainable water management practices adopted for the Kura-Aras River-Basin

Implementing partner: UNOPS
(designated institution/Executing agency)

Other Partners:

Programme Period: 2006-2010
Programme Component: Energy&Environment
Project Title: "Reducing Transboundary Degradation in the Kura-Aras Basin."
Project ID: 00063506
Project Duration: 3 years
Management Arrangement: Agency execution: UNOPS

Total budget:	13,760,000
Allocated resources:	
• Government:	
• Regular:	
• Other:	
o GEF:	2,900,000
o Donor:	
• In-kind contributions:	
o OSCE:	90,000
o UNDP/OSCE (ENVSEC):	120,000
o EU:	7,200,000
o NATO:	135,000
o FINLAND:	1,050,000
o Governments	2,265,000

Agreed by (Government of Armenia):

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Agreed by (Government of Azerbaijan):

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Agreed by (Government of Georgia):

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Agreed by UNOPS:

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Agreed by UNDP:

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