United Nations Development Programme

Country: Uzbekistan

Project Document

Project Title	Integrated Water Management and Water Efficiency Plan for Zarafshan River Basin Project
UNDAF Outcome(s):	By 2009, national laws are harmonized with selected United Nations legal instruments, and the implementation and monitoring of the latter are improved
Expected CP Outcome(s): *(Those linked to the project and extracted from the CPAP)*	Obligations under international environmental conventions and agreements fulfilled through improved effectiveness of environment management and development of clean energy sources.
Expected Output(s): *(Those that will result from the project and extracted from the CPAP)*	Improved national capacity to monitor state of environment and trends and to assess policy performance in promoting environmental sustainability
Implementing Partner:	Ministry of Agriculture and Water Resources
Responsible Parties:	Cabinet of Ministers, Ministry of Finance, Ministry of Economy, State Committee for Nature Protection, State Committee on Geology and Mineral Resources, Uzcommunkhizmat Agency, GAK "Uzbekenergo"," Water Problem Institute, Khokimiyats of Samarkand, Djizzakh, Navoi, Bukhara and Kashkadarya oblasts.

Brief Description

The purpose of this project is to develop a National Integrated Water Resources Management and Water Use Efficiency Plan for Zarafshan River Basin of Uzbekistan, to strengthen the legal and regulatory framework for the water sector, and to support the integration of water management issues into relevant intersectoral policy frameworks.

Programme Period:	2005-2009
Key Result Area (Strategic Plan):	Mainstreaming environment and energy.
Atlas Award ID:	00058460
Start date:	January, 2010
End Date	January, 2013
PAC Meeting Date	December 24, 2009
Management Arrangements	NIM

2010 AWP budget:	$ 542 453
Total resources required	$ 1 305 451
Total allocated resources:	$ 1 305 451
Regular (UNDP)	$ 1 259 245
In-kind Contributions (Government of Uzbekistan)	$46 206

Agreed by: Signature/Date

Ministry of Agriculture and Water Resources of the Republic of Uzbekistan: Shavkar Khamraev, Deputy Minister

UNDP: Anita Nirody, Resident Representative

24 DEC 2009

Section 1. Elaboration of the Narrative

Part I: Situation Analysis

1. The Law of the Republic of Uzbekistan on "Water and Water Use" adopted May 6, 1993 governs the water sector. The Cabinet of Ministers is responsible for overall implementation of the Law. The Ministry of Agriculture and Water Resources (MAWR) is responsible for management surface water resources and the State Committee on Geology and Mineral Resources is responsible for groundwater resources. The State Committee on Nature Protection is responsible for water quality and natural resources management, and the Agency for Communal and Utility Service is responsible for delivery of water and wastewater services.

2. As a signatory to Agenda 21 Uzbekistan is committed to rational utilization of land, water and other natural resources to conserve their reserves for forthcoming generations.

3. The Millennium Development Goals were adopted during the fifty-fifth session of the United Nations through the Millennium Declaration, Resolution 55/2 on September 8, 2000. Effective management of water resources is related to all eight development goals, but is directly related to Goal No. 7 -- Ensuring Environmental Sustainability by halving by 2015, the number of people without sustainable access to safe drinking water and basic sanitation.

4. The World Summit on Sustainable Development, Johannesburg 2002, recognized the importance of integrated water resources management (IWRM) in meeting sustainable development goals. The Summit Implementation Plan calls for nations to develop integrated water resources management and water use efficiency plans by 2005, with support to developing countries, through actions at all levels. Paragraph 26(c) of the Plan states that countries should "Improve the efficient use of water resources and promote their allocation among competing users in a way that gives priority to satisfaction of basic human needs and balances the requirements of preserving or restoring ecosystems and their functions, in particular in fragile environments, with human, domestic, industrial and agriculture needs, including safeguarding drinking water quality."

5. During 2005, the United Nations Environment Program supported the Government of Uzbekistan in completing a roadmap for integrated water resources management to expedite the process of preparing a plan. This process identified the following priorities: 1) the need to establish intersectoral councils for IWRM, 2) creation of the legislative and policy framework for IWRM that includes adoption of a new water code and law on water users associations by 2008, 3) development of an IWRM plan by

2009, 4) introduction of water charges for use and discharge by 2012, and 5) development of master plans for use and protection of water resources by 2012.[1]

6. In May 2007, the Cabinet of Ministers adopted resolution No. 218 which establishes a Special Intersectoral Working Group to explore options for water savings. The mandate of the Group is to conduct: 1) an in-depth study of water uses of all sectors; 2) examine future water availability taking into account potential upstream water development; 3) evaluate the current condition of existing hydro technical structures; 4) conduct an analysis of technologies currently used for irrigation and prepare proposals for water savings in irrigation; 5) prepare alternative crop distribution practices given potential reductions in water supply; 6) prepare legislative recommendations promoting economic incentives for water conservation in all sectors; and, 7) prepare recommendations for improved institutional, financial and technological basis for management of water used in all economic sectors.

7. In 2007, the Government of Uzbekistan adopted a Welfare Improvement Strategy Program (WISP). IWRM falls under three of its major development areas: 1) Macroeconomic policy—promoting high rates of economic growth; 2) Industrial Policy—provision of the sustainable high rate of industry growth; and, 3) Development of Agriculture—completion of the process of moving to private farming and doubling capital investment for irrigation and drainage.

8. In August 2007 the Republic of Uzbekistan adopted a Resolution of the President of the Republic of Uzbekistan on the accession to the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes and the 1997 UN Convention on Non-navigational Uses of Transboundary Watercourses.

9. On (provide date and reference) the Ministry of Agriculture and Water Resources requested that the United Nations Development Program (UNDP) provide preparatory assistance in designing a Project for developing the integrated water resources management and water use efficiency plan for Uzbekistan.

10. The Preparatory Assistance Phase was conducted from September 2007 through January 2008. A consultative process involved a broad range of stakeholders in the Project design. As a result of extensive input, the focus of the Project was agreed to. At the national level the program focus will be to develop a modern legislative basis for the water sector. IWRM and water efficiency use planning will take place within a single river basin, the Zarafshan, on a pilot basis where successful results can be scaled up to the national level during a possible second phase program.

[1] UNEP Support for Achieving the Johannesburg Plan of Implementation Target of Integrated Water Resources Management and Efficiency Plans by 2005, with support to Developing Countries. Uzbekistan Report. 2006.

The National Context

11. In 2005, the population of Uzbekistan was approximately 26, 021,300, and is comprised of 50.1% of females and 49.9% males. The rural population was 15,769,400, representing 63% of the total population.[2] The poverty rate of Uzbekistan is currently estimated at 26%. Access to water is a key factor in poverty alleviation.[3]

12. The Gross Domestic Product (GDP) of Uzbekistan in 2005 was an estimated $15 billion, with a per capita GDP of $2,616.[4] Agriculture accounts for 28% of GDP, 44% of employment, and 60% of export revenues. Uzbekistan is the fourth largest cotton producer in the world. Cotton production contributes to 40% of export revenues, while wheat production is a key component of the nation's food security strategy. The Government currently procures all of the cotton production and 50% of the wheat production. The WISP envisions growth in agriculture to remain stable at 4.5-5.0% through 2015. It envisions growth of the industrial sector's contribution to GDP to increase from 23.1% in 2007 to 27.2 % in 2015.

13. The Republic of Uzbekistan covers 447,000 square kilometers (km^2) or 44.7 million hectares (ha). The irrigated area is 4.3 million ha, the rainfed area is 900,000 ha, pasture land is 22.4 million ha, forest cover is 1.3 million ha, and the area that is not in use is 16 million ha.[5] There is a wide variation average annual rainfall. Average rainfall of the desert areas is 200 mm/year, 400-800 mm/year in the piedmont and highlands, and 2000 mm/year in high mountain areas.[6]

14. Discharge of wastewater into the city sewage system with subsequent treatment at treatment plants is subject to a charge both for the volume of wastewater, and the contents. In addition, all water users engaged in dumping water into water bodies or ground shall make payments both for the volume and quality of water, and for the excess discharge using a special excess rate (Resolution of the Cabinet of Ministers of the Republic of Uzbekistan № 199 of 01.05.2003 "On improving the system of payments for the pollution of the environment and waste disposal in the territory of the Republic of Uzbekistan.

15. Underground water reserves of the country are estimated at approximately 24.3 km^3. Of the nation's 357 underground aquifers, 276 are currently in use.[7] There are restrictions on many sources of groundwater for drinking due to high levels of mineralization and other types of pollution.

---

[2] www.statistics.uz.
[3] World Bank. Irrigation in Central Asia. Social, Economic and Environmental Considerations. Main Report 2003.
[4] www.statistics.uz
[5] UNEP Support for Achieving the Johannesburg Plan of Implementation Target of Integrated Water Resources Management and Efficiency Plans by 2005, with support to Developing Countries. Uzbekistan Report. 2006.
[6] UNDP. Water: Critical Resources for Uzbekistan's Future. Tashkent 2007.
[7] UNDP. Water: Critical Resources for Uzbekistan's Future. Tashkent 2007.

16. As of 2006, irrigation accounted for 92% of the total water consumption, municipalities consumed 4%, industries consumed 2%, and other users consumed 2%. By 2015, the percentage of water use among agricultural users is anticipated to decline to 90%, while total consumption among municipal water users is expected to increase to 5%, industrial water use to increase less than 1%, and rural domestic water supply to increase to less than 1%, and other uses to increase to 3%. The reduction in agricultural water use is anticipated to be achieved through water conservation measures in this sector.[8] Water resources of Uzbekistan are 100% allocated. Thus, water conservation is necessary to ensure water supplies to support future economic growth.

Figure 1. Percentage of National Water Use by Sector, 2006

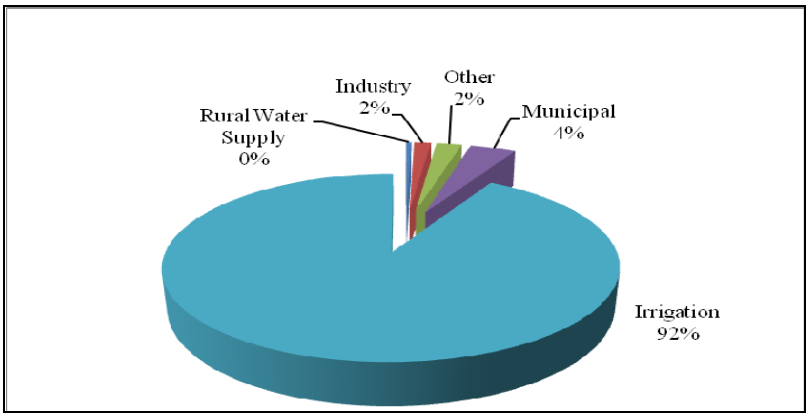
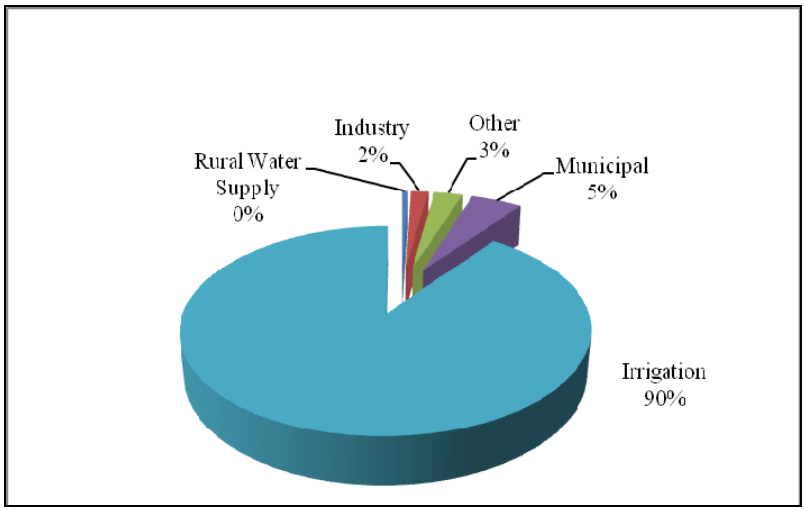


Figure 2. Percentage of National Water Use by Sector, Predicted 2015



17. Current estimates indicate that 6 million people, 22% of the population, are exposed significant water pollution, and the poor are disproportionately affected. ADB

[8] Appendix 4. 2.2 Use of Water Resources in the Economy by Sector Current Water Balance.

estimates that 30% of the population of rural areas and 70% of the population in urban areas have access to water. Drinking water delivery systems face long cross-country transmission and there are high distribution losses. There are significant financial constraints to adequately treating wastewater. The single most pervasive environmental challenge of Uzbekistan is to establish sustainable patterns of land and water use. Deterioration of the quality of drinking water due to pollution of groundwater is another closely related problem.[9]

18. The area under irrigation in Uzbekistan increased from 2.5 million ha to 4.22 million between 1960 and the mid-1980s. Raw cotton production increased from an average of 2.95 to 5.37 million tons annually during the period.[10] The irrigation system to support agricultural output was between 80 and 85 percent efficient. However, as the productivity of arable land declined due to environmental impacts and water scarcity, an expansion of irrigated area was limited in the mid 1980s.[11]

19. 50% of the irrigated area is currently affected by salinization while 19% is threatened by water erosion. Salinization reduces cotton yields by 20-30% on slightly salinized lands, 40-60% on moderately salinized lands, and 80% or more on heavily salinized lands. Agriculture faces declining productivity as high water tables, inappropriate irrigation and under-maintained drainage systems increase salinization and water logging and erode fertility of arable land. This reduction in the resource base is estimated to costs about $1 billion annually in foregone economic output. However, even under the most pessimistic assumptions including consideration of environmental externalities, 88% of the irrigated area is considered profitable, with only 12% of the irrigated land producing at a loss. Analysis indicates that rehabilitating irrigation and drainage (I&D) systems is less expensive than cash transfers equivalent to the value of the lost income from irrigation and social disruptions that would be associated with a decision not to invest in these systems.[12]

20. Currently 32% of the inter-farm and main canals require reconstruction and 23.5% are in need of repair. More than 42% of the on-farm irrigation network requires reconstruction and 17% are in need of repair. 42 intake structures with discharge in the range of 10-300 m3/s require replacement and modernization, including 5 which require reconstruction. The majority of the nation's 1130 pumping stations that supply water to 2.1 million ha have exceeded their design life. 11 of the nation's 27 reservoirs are in need of desilting, where silt almost reaches the outflow level of 5 reservoirs. Water losses from distribution systems are estimated at 12.90 km3/year. The World Bank estimates a total of $23 billion would be necessary to cover all investments, $12 billion of which could be financed by user cost recovery measures. [13]

[9] ADB. Country Strategy for Uzbekistan. Appendix 3.
[10] UNDP. Water: Critical Resources for Uzbekistan's Future. Tashkent 2007.
[11] UNDP. Water: Critical Resources for Uzbekistan's Future. Tashkent 2007.
[12] World Bank. Irrigation in Central Asia. Social, Economic and Environmental Considerations. Main Report 2003.
[13] UNDP. Water: Critical Resources for Uzbekistan's Future. Tashkent 2007.

21. The state budget currently finances only 20% of the level of investment that was in place prior to independence. During the period from 1995 to 2004 Government expenditures for the water sector declined from 22.6% of GDP to 7.5% of GDP.[14] While land productivity also declined by 23% the cost of agricultural inputs increased significantly. The operation and maintenance costs of the nation's irrigation system more than tripled from 1.2 soums/m3 to 4.59 soums/m3 during the period from 1999 to 2004.[15] The cost of electricity more than doubled. Currently, the agricultural sector consumes 20% of the nation's electricity with electricity costs currently comprising 70% of MAWR's budget.

22. There are an estimated 4,235 water consumers/users nationally, including 2,733 agricultural associations, and 1,496 nonagricultural users.[16] The average coverage area of water user associations is 2500 ha of farmland. 73% of the WUAs are made up of private farms and 27% of dekhan farms. The average plot size per WUA member is 21.6 ha. Equipment owned by the associations is quite limited, with each association owning an average of .29 excavators, .28 bulldozers, .1 tractors and .25 motor vehicles.[17] On average, association dues which WUAs collect from members cover only 22% of actual expenses.

23. As of 2004 there were 1550 shirkat farms producing 48% of the cotton and 37 % of the wheat. There were 103,900 private farms that cultivated 2.9 million ha which produced 52% of the cotton and 47% of the wheat. 4.5 million privately owned dekhan farms cultivated 682,500 ha--41% of their land was cultivated in cotton and 42% in wheat. They produced 60% of the total agricultural output on 11% of the arable land, including 17% of the grain as wells as most fruits, berries, vegetables and livestock. Private and dekhan farms achieved higher crop yields, produced crops more cheaply, and were responsible for most of the growth in livestock production. Productivity in cereals was 16% higher among family farms than on shirkat farms. The average production costs per ton of cotton on dekhan and family farms were 50% of that of the shirkats. Vegetable yields on dekhan farms were three times higher than that of shirkats and yields for vegetables were two times higher.[18]

24. Domestic water supply and wastewater facilities also suffer from lack of financing for upgrades, and operation and maintenance on a scale comparable to that of irrigation systems. Only 65% of rural populations receive water supply although current plans are to increase this to 90% by 2010. Estimates of the level of investment necessary for urban water supply from 2006-2010 is $1,527 million and $1,706 million for rural water

[14] Source: Report on the Study of Efficiency of Budget Expenditures for Financing of Water Organizations, and MAWR's and Ministry of Macroeconomics and Statistics Data.
[15] Source: Report on the Study of Efficiency of Budget Expenditures for Financing of Water Organizations, and MAWR's and Ministry of Macroeconomics and Statistics Data.
[16] UNEP Support for Achieving the Johannesburg Plan of Implementation Target of Integrated Water Resources Management and Efficiency Plans by 2005, with support to Developing Countries. Uzbekistan Report. 2006.
[17] Overview of Current Legislation and Normative Base on Water and Land Resources Management in the Republic of Uzbekistan.
[18] ADB. Country Strategy for Uzbekistan. Appendix 3.

supply. The World Bank estimates that the total investment necessary for improving water supply nationally is 5 billion USD.[19]

25. Uzbekistan is self-sufficient in energy supply and hydropower accounts for 12% of its energy production. There are currently 27 hydropower stations and all but 2 operate in the irrigation mode.

26. 2008 water charges for industry are 9.5 soums/m3 for surface water and 12.3 soums for groundwater. Charges for irrigation water are included in the land tax which covers only 6% of the actual costs of water delivery.[20] However, there are implicit taxes to farmers through suppressed cotton and wheat prices which were equivalent to 10% of GDP in 2004 and which amounted to an average tax rate on cotton and wheat farmers of 75% of their gross income.[21] In accordance with the Resolution of the Cabinet of Ministers of Uzbekistan dated 04.05.2003 No. 199 the Statute on "Improved Procedure fo the Compensation for the Pollution of Natural Environment and Wastee on the territory of Uzbekistan rates of compensation for the discharge of pollutants into water courses on the territory of Uzbekistan have been established.

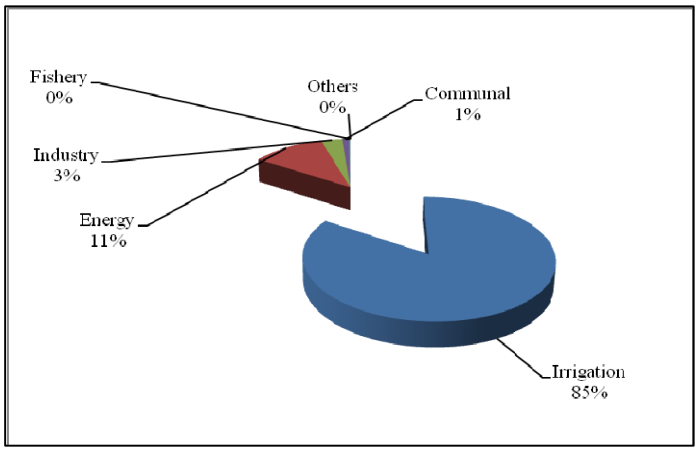
The Zarafshan River Basin

27. The Zarafshan River Basin is home to approximately 6 million people, comprising approximately 11% of the national population. 64% of the area population is rural. The basin covers an area of 143,000 km^2--131,000 km^2 of which falls within Uzbekistan. The total length of the river is 900 km, 500 km of which are located in Uzbekistan and 300 km of which are located in Tajikistan. The long term average run off of the river is 5.91 km3/year of which only .76 km3 are formed in Uzbekistan.

28. Currently 85% of water resources of the basin are used in irrigation, 11% is used for hydropower production and thermal power plant cooling purposes. Communal services consume 1%, industry consumes 3%, and fisheries and other uses consume less than 1%. The river is currently over-allocated with an average annual water deficit of 1.3 km3. The difference between annual runoff of 5.91 km3 and the annual surface water consumption of 6.6 km3 is met through recycling of untreated return flows.

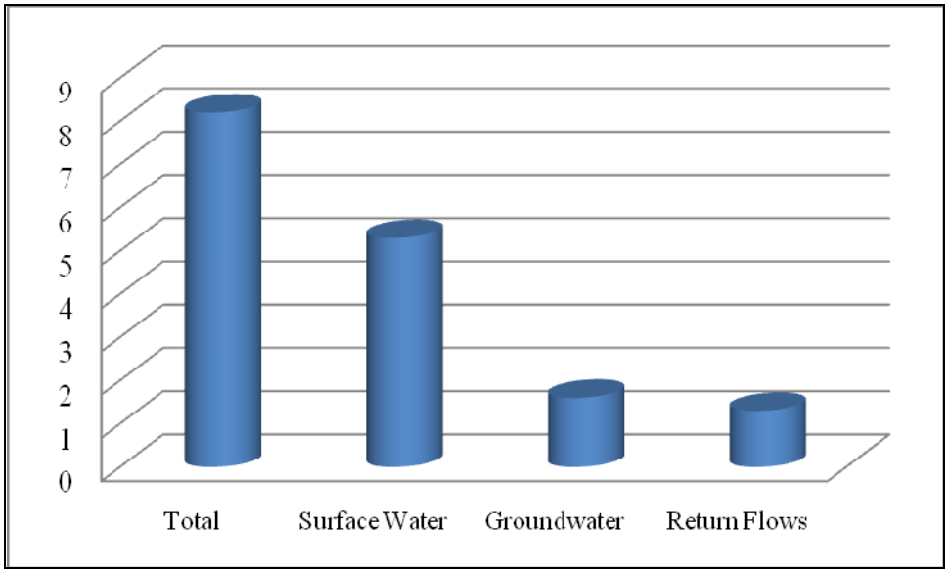
[19] ADB. Proposed Loan for the Republic of Uzbekistan. Kashkadarya and Navoy Rural Water Supply and Sanitation Project. 2005.
[20] Overview of Current Legislation and Normative Base on Water and Land Resources Management in the Republic of Uzbekistan**.**
[21] ADB. Country Strategy for Uzbekistan. Appendix 3.

Figure 3. Percentage of Water Use by Sector, Zarafshan River Basin



29. Groundwater of the Zarafshan Basin is highly interlinked with surface water. Annual groundwater recharge is approximately 2.33 km^3/year, with an estimated annual use of 1.6 km3. Salinity levels range from .5-3 g/l. Groundwater is used for irrigation and drinking water supply. Drinking water supplies are drawn exclusively from groundwater resources.

Figure 4. Water Supply of the Zarafshan River Basin by Source (km^3)



30. According to the results of monitoring conducted in 2002-2007, the current state of the Zaravshan River can be assessed as satisfactory. The dynamics of surface water pollution in the Zaravshan River showed that for a number of selected indicators it exceeded the limit values, and for certain polluting components the excess of MAC has remained stable throughout the period of observation. This includes petroleum products,

on the average, from 1 to 2.6 MAC, nitrates from 1.2 to 1.75 MAC, nitrite up to 9.8 MAC. One of the critical indicators is of mineralization of the Zaravshan River, and while industrial pollutants are distributed fairly evenly along the course, the mineralization grows dramatically in the downstream of the Navoi province, and reaches a maximum of 2.6 MAC. This trend continues throughout the annual cycle.

31. A separate mention should be made of toxic metals for which excess of MAC during the whole year is observed. At the entrance of the river to the Republic of Uzbekistan (Rawat-Hoja facility), there is a 3.5 excess of MAC for copper, 4 MAC for phenol, the concentration of which grows to as much as 6.3 MAC in the water of the river on the territory of Uzbekistan, or at times even up to 7 MAC. The presence of organic chlorine pesticides in 2007 was observed at the level of 0-0,5 MAC in the river. Based on WPI, the quality of Zaravshan River water has improved in recent years. This is particularly true for the course below the OAO "Navoiazot" where the water quality improved from grade IV in 2000 to grade II in 2004. In the other sites the water quality has not changed and corresponds to grades II and III.

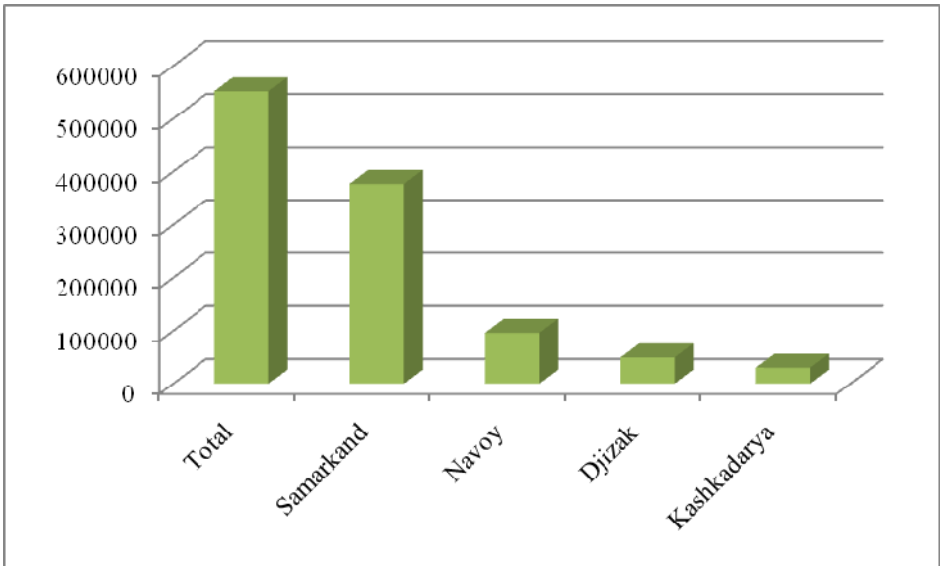
32. In terms of the sanitary-epidemiological indicators the river water of Zaravshan is satisfactory in general. However, in summer and autumn periods, at some sites there may be an exceed for the COLI-index??? (bacteriological water index) and NAG vibrion and F-30: downstream Akdarya, canals of Dargom and Siab, the NAG-Vibrio was detected in 53.5% of samples in the Navoi and 33, 3% in the Bukhara provinces.

33. The ground water in the valley of Zaravshan is suitable for drinking use only in the Samarkand province, as further downstream its mineralization and rigidity grows. In the territory of Navoi and Bukhara provinces the chemical composition of ground water makes it unusable for drinking.

34. The Zarafshan Basin currently irrigates approximately 551,000 ha, or 13% of the total irrigated area of Uzbekistan. It serves irrigation needs of four oblast including 375, 745 ha of Samarkand, 29, 985 ha of Kashkadarya, 95,985 ha of Navoy, and 49,138 ha of Djizak.[22]

[22] State Committee on Nature Protection, 2008.

Figure 5. Irrigated Area by Oblast of the Zarafshan River Basin (ha)



35. The Basin Irrigation Supply Authority (BISA) of Zarafshan evolved from one of the first basin organizations in Central Asia. It manages 549 internal pumping stations and 89 irrigation pumping stations. The collector drainage system of the basin includes 18,700 km of horizontal drainage, 18,400 km of main and inter-farm collectors, and 285 active vertical drains. The basin includes 42 canals that are 1,213 km^3 in length with a capacity of 1,071 m3/s. The river system includes six diversion points and nine reservoirs with a total storage capacity of 1.2 km3 which irrigate a command area of 84,000 ha. The system operation and maintenance cost of Samarkand is approximately 1.5 soums/m3, 2.82 soums/m3 in Kashkadarya, 3.05 soums/m3 in Navoy, and 2.56 soums/m3 in Djizak. [23]The BISA is reimbursed from state funds for only 58% of the actual costs of system operation and maintenance.[24]

36. Intake of groundwater from the Interregional Damhodzha Pipeline often faces the challenge of low groundwater due to the stopped water releases below the Damhodzha Dam (of the Kattakurgan reservoir). The Damchodjin water pipeline draws drinking water from deep aquifers. It supplies drinking water to Bukhara, Navoy and the western part of Samarkand. Although 50,000 m3/day are supplied from the Dzhujzar channel of the Zarafshan River, water from the Damchodjin pipeline is the only source suitable for drinking. Drinking water supplies of the basin are often constrained and minimum allocations are sometimes not met.[25]

[23] 4.1.5 Recommendations to improve the economic mechanism in the area of water resources management, organization of water use and payment for services and water supply.
[24] Overview of Current Legislation and Normative Base on Water and Land Resources Management in the Republic of Uzbekistan.
[25] Based on field level discussions, November 2007.

37. The existing wastewater treatment capacity of Samarkand City is 139,000 m3/day and that of Bukhara is 100,000 m3/day. Estimates indicate that approximately one-third of domestic wastewater of this region is treated. Water resources of this region are so scarce that in some instances wastewater collectors are illegally tapped to divert water for household use.[26]

38. A cascade of hydropower stations is located along the Zarafshan Dargom-Taligulyan water and energy tract fed from the Zaravshan River, the Samarkand HPP cascade consisting of four hydroelectric power plants is located, with a total installed capacity of 40.1 MW (Hishrau HPP) with a capacity of 21.9 MW, Irtysh hydroelectric power station with capacity of 6,4 MW, Taligulyan HPP-1 with a capacity of 3 MW, Taligulyan HPP-3 with a capacity of 8.8 MW). The capacity of the tract is 180 m^3/s. During the growing season the runoff is 100 m^3/sec, which passed through the channel in the lower wing of the Hishrau hydropower plant and is then used to cover needs of the irrigation canal Eski-Hangar and Angar.

39. Flow discharge rates are adequate to keep only the 20 MW station operational. The current flow rate of 30 m3/s is half the rate of 60 m3/s necessary for operation of the remaining 3 plants. Sedimentation and pollution pose operational problems to the facilities. The introduction of winter wheat to region's cropping patter has posed further constraints on water supply to fuel wintertime power production. Uzenergo is evaluating the possibility of replacing outdated turbines with energy efficient turbines that would allow operation with less water. The Navoy thermal power plant received 25 m3/s for cooling tower uses. However, in water scarce conditions the plant does not receive adequate water. It then must use hot water for cooling which increases the discharge temperature of water releases from the plant. This poses risks to plant and aquatic life as well as crops located downstream.[27]

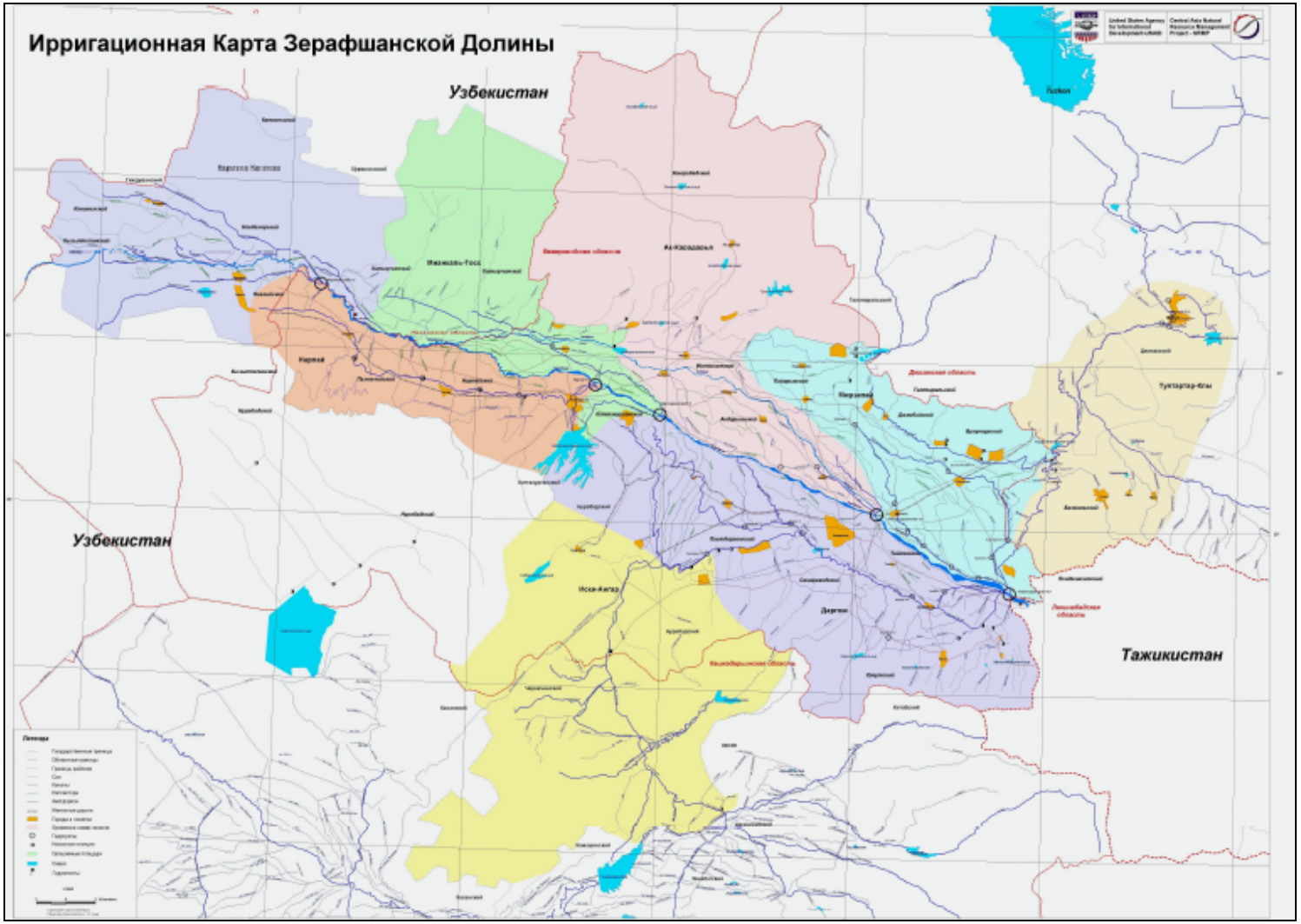
40. Cabinet of Ministers Decrees No. 401 and 303 issued in 2001 and 2002 govern sanitary release requirements for the Zarafshan River Basin. No. 401 includes 15 measures for improving the environmental and sanitary situation of the basin. No. 303 requires a sanitary buffer zone of 29,789 ha to protected groundwater resources and a river bank protection area of 3,710 ha. The protection zones fall within Samarkand, Navoy and Bukhara Provinces.

41. According to the Asian Development Bank (ADB), "significant opportunities exist to greatly improve water use efficiency through improving monitoring, measurement and management. Some WUAs have reported good results in water savings through installation of the hydroposts and these benefits of water savings and reduce orders benefit other water user." Similarly there are large gains to be made on larger structures through automation and use of SCADA systems. USAID has conducted some initial work with the Zarafshan BISA to automate systems, yet more work could be done to automate the six diversion points to work as a unified system.

[26] Based on field discussions, November 2007.
[27] Based on field discussions, November 2007.

42. The zone of the Zarafshan River watershed is located almost entirely in the territory of the Republic of Tajikistan and is in the zone of responsibility of the Hydrometeorological Service of Tajikistan. Tadzhikgidromet provides no information on hydrological monitoring and surveillance of water flow in the zone. Obtaining information on the seasonal projection of snow accumulation, glacier and runoff from glaciers is required for accurate hydrological forecasts, which are currently impossible in the absence of observation data in the area where water flow is formed, which causes problems with the implementation of the integrated water resources management project in the river basin of Zarafshan.

Figure 6. Map of the Zarafshan River Basin[28]



[28] USAID. Natural Resources Management Project. 2005.

Part II. Strategy

43. More than twenty agencies were consulted during the preparatory assistance phase to obtain input on the design of the IWRM Project both at the national and basin level. Based on their input the IWRM Project will include components at the national and basin levels. The national level aspect of the program will focus primarily on improving the legal and institutional basis for integrated water resources management in Uzbekistan. At the basin level, a pilot program will be conducted within the Zarafshan River Basin to develop an integrated water resources management and water use efficiency plan that incorporates actions for meeting MDG goals and WISP targets for water and sanitation for this basin. Lessons learned from the Zarafshan model can then be scaled up to the national level.

44. The project output is also in line with Country Programme Outcome 31: "Improved national capacity to monitor state of environment and trends and to assess policy performance in promoting environmental sustainability" and Key Result Area: "Mainstreaming environment and energy". The project output will contribute to strengthened national capacities to mainstream environment concerns into national development plans and implementation systems. The project output will also contribute to the Millennium Development Goal 7 Target 9 – Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources.

45. To achieve the output, the project will perform the following free components/ activities:

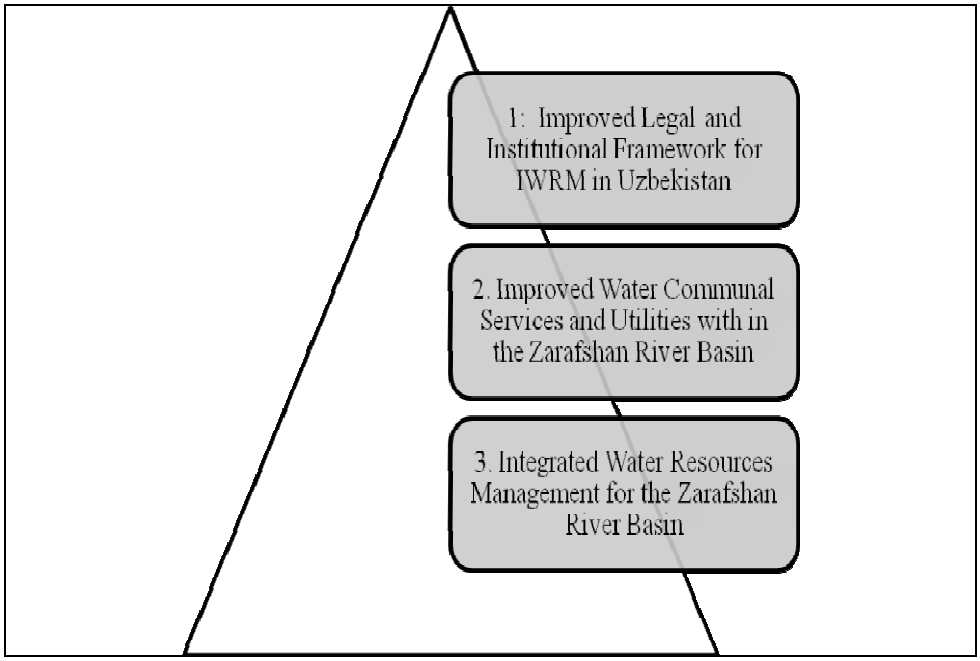
- Component 1: Improved Legal and Institutional Framework for Integrated Water Resources Management in Uzbekistan;

- Component 2: Improved Water Communal Services and Utilities within the Zarafshan River Basin; and,

- Component 3: Integrated Water Resources Management and Water Use Efficiency Plan for the Zarafshan River Basin.

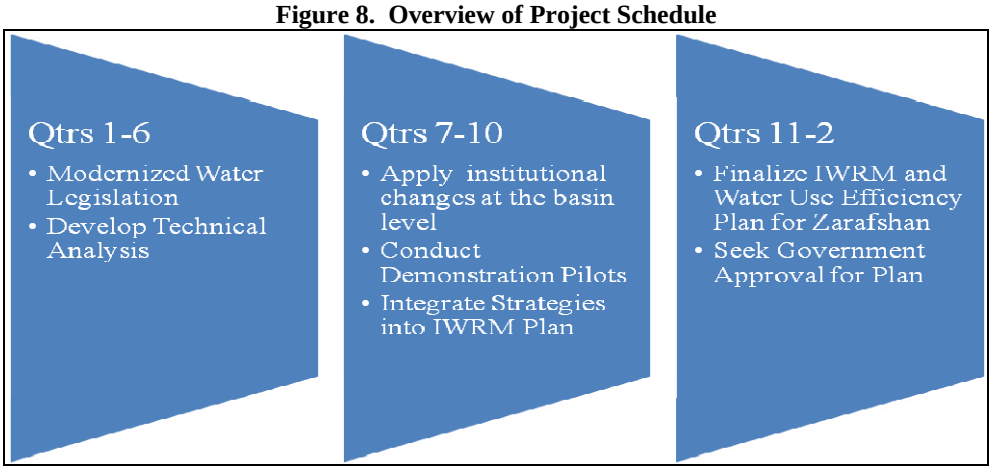
46. Work from Components 2 and 3 will combine to form the IWRM and Water Use Efficiency Plan for the Zarafshan Basin. All three components of the Project will be conducted through a stakeholder driven process where consultative working groups are established to oversee the main project and provide for specific technical inputs at the national and basin levels for each of the component tasks and subtasks.

Figure 7. IWRM Project Components



47. The Project will provide program support for each of the three components, support for meetings and facilitation, and capacity building where necessary. The Project will also support development of detailed assessments, and technical assistance where necessary to develop strategies. It will also support demonstration pilots under Components 2 and 3 to verify underlying assumptions of strategies to be incorporated into the IWRM and Water Use Efficiency Plan for the Zarafshan River Basin.

Figure 8. Overview of Project Schedule



48. **Component 1—Improved Legal and Institutional Framework for Integrated Water Resources Management in Uzbekistan.** Under this component the institutional and legislative framework for the water sector will be adopted to ensure adequate quality and availability of water resources to support the following WISP goals:

(a) A macroeconomic policy environment that ensures GDP growth rates as a percentage of prior year from 108.2 in 2007 to 108-109% in 2015 and Per Capita GDP Growth rates that increase from 107% in 2007 to 107-108% in 2015.[29]

(b) An increase in the contribution of the Industrial sector to GDP from 21.1% in 2007 to 27.2% in 2015.[30]

(c) Development of agriculture through completing the process of moving to private farming, strengthening institution of long term leasing in order encourage farmers in efficient use of and long term capital investment in their land. Production volumes of farms as % of gross output of agriculture increases from 35% in 2007 to 50% in 2015.[31]

49. Component 1 includes two major tasks: 1.1) The Government's Project Advisory function established; and 1.2) Modernized National Water Legislation. Under Task 1.1 the Government's Project Advisory function approved by Government Decree which forms a Project Steering Committee and Technical Advisory Group. The Project Steering Committee will be an inter-sectoral group comprised of representation from ministries, state committees, and institutes related to water resources management or ministries representing sectoral water users. This group should meet on a quarterly basis throughout the Project. The Technical Advisory Group will be comprised of national experts who are designated as key points of contact by the Steering Committee for day to day interaction with the Project. This group will meet on a monthly basis. The output of this task will be improved intersectoral coordination at the national level for integrated water resources management.

50. Under Task 1.2 the Law on Water and Water Use of the Republic of Uzbekistan will be updated and modernized. One objective of this effort would be to create a legislative framework which would include Water Committees (registration, licensing, taxation, tariffs, etc.) set up in rural areas to manage water supply and sewerage utilities. Water committees are non-governmental non-profit organizations of citizens based on self-government in rural areas that promote economical use of water (consumption) at the lowest cost and energy saving in the operation and maintenance of water systems.Creation of Water Committees as a form of organizational management of water supply in rural areas will contribute to further development of market relations in the public sphere.

51. The work under this component should be completed within the first eighteen months of the Project to enable effective IWRM planning at the basin level. An intersectoral working group to revise the national water legislation will be established through Government Decree, preferably at the inception of the Project. Once the

[29] WISP, Annex 2, vii.
[30] WISP, Annex 2, vii.
[31] WIS Annex 2, x.

working group has been created, an inception workshop which reviews examples of national and international water law will be conducted. A comprehensive review the body of existing Uzbekistan Law and regulations and water law in the international context will be conducted. Recommendations for changes to Uzbekistan's legislation will evolve from this review. Using this as the starting point, draft principles for changes to current law will be developed and agreed to among the working group. In addition, in consultation with the Government, the working group will develop an institutional framework for integrated water resources management. This framework will consider the need for national level intersectoral coordination, the need for streamlined institutional management of the nation's water resources, the need for the creation of Basin Councils, and the need for providing basic operational mandates for water users associations.

52. Based on a consensus reached regarding legislative principles and the institutional framework the legislative drafting process will begin. The working group will both guide and participate in developing and drafting of the new legislation. A series of working sessions, supported with international technical assistance, will be conducted. The first draft of the new legislation should be developed within the first year of the Project with an additional six months allowed for circulation within the Government and submission to and adoption by the Parliament.

53. **Component 2--Improved Water Communal Services and Utilities within the Zarafshan River Basin.** The goal of this component is to improve and develop the existing wastewater treatment system develop a strategy for meeting the MDG goals for water and sanitation and WISP goals for improving access to water communal and utility services, specifically for the Zarafshan River Basin through the period of 2010 through 2015. The Strategy will recommend non-revenue options and investment options that contribute to the following MDG and WISP goals:

(a) Meet MDG Goals for water and sanitation for the population living within the Zarafshan River Basin by doubling the number of people with access to safe drinking water and sanitation from 2000 to 2015.
(b) Meet WISP goals by increasing the percentage of rural households of the Zarafshan River Basin with water supply from 79% in 2007 to 90% in 2015 and urban households with water supply from 82.6% in 2007 to 87.1% in 2015.
(c) Meet WISP goals by increasing the percentage of the population of the Zarafshan River Basin with sewage treatment from 60.2% in 2007 to 70% 2015 for urban areas from 9.2% in 2007 to 13% in 2015. And increase the number of apartments and houses with sewage systems from 31.5% in 2007 to 46% in 2015.
(d) Meet WIS goals for improvement of control systems and stimulation of efficient water use by increasing the percentage of households with meters for measuring cold water consumption from 70% in 2007 to 100% in 2015 and with meters for measuring hot water from 60% in 2007 to 100% in 2015.

Currently the coverage of the Bukhara province population with centralized water supply is 51.6%, sewage coverage in the cities of Bukhara province is 34.5% (including the city of Bukhara 48.7%). Coverage of the entire population of Bukhara province with the centralized sewerage is 8.5%. The coverage of the population in Samarkand province with centralized water supply is 77%. Coverage of cities in the Samarkand province with centralized sewerage is 55.9% (including 64% in city of Samarkand). Coverage of the entire population of Samarkand province with centralized sewerage is 9.7%.

54. This Component includes four major tasks:
- 2.1 Improving drinking water supply for the basin population
- 2.2 Wastewater treatment, recycling and reuse within the basin
- 2.3 Demonstration pilot verifying critical assumptions of either strategy
- 2.4 Integrated Strategy for Water Supply and Sanitation

55. The objective of Task 2.1 is to devise a strategy for ensuring adequate water supplies for populations in a basin with increasing water scarcity will be a challenge through 2015. Therefore, attention to improving and maintaining the quality of existing groundwater supplies, reducing losses of water through the water distribution system, and promoting user water conservation will be essential. The strategy should comprehensively examine options for investments in drinking water delivery systems improve access to water, control water losses and improve drinking water quality, measures for protecting groundwater resources, and implementation approaches for service cost recovery that will ensure financial health of utilities and which promote water conservation measures.

56. The objective of Task 2.2 is to devise a strategy for wastewater that evaluates measures for improving domestic waste treatment services which are currently either inadequate or non-existent in some areas. The strategy might consider innovative options for recycling and reuse of treated waste water. Wastewater treatment to certain levels can support water uses for industry and energy in areas where water may not be available. For example, recycling treated wastewater to levels acceptable for use in thermal power plant cooling tower use might be a for ensuring stable water supply to the Navoy thermal power plant.

57. In preparing the Strategy for water supply and sanitation one working group each for drinking water and wastewater will be convened at the basin level. This group will oversee development of Detailed Project Reports (DPRs) that include: 1) Baseline Assessment; 2) Data Collection; 3) Implementation Options Analysis (policy, institutional, or technology options); 4) Cost Benefit Assessment; 5) Investment Options; 6) Financing Options. The DPRs will be prepared through support of the Project including international short term technical assistance and local consultancy services. The results of these reports will be used to support development of the strategies. Once the strategies are developed they will be presented to a broader audience for input prior to the final strategy being developed. It is anticipated that the DPR's will be completed during the first 18 months of the Project.

58. Under Task 2.3 a demonstration will be conducted that will be necessary for verifying a key strategic recommendation that evolves from either Task 2.1 or Task 2.2.

59. Under Task 2.4 an integrated strategy combining results of the above three tasks will be prepared which will then be incorporated into the IWRM plan to be completed in Component three during the last six months of the Project.

60. Component 3--Integrated Water Resources Management and Water Use Efficiency Plan for the Zarafshan River Basin. The primary objective of this component is to develop an integrated water resources management and water use efficiency plan for the Zarafshan River Basin. This plan will effectively incorporate relevant institutional, economic and regulatory arrangements that evolve from Component 1 and the Strategy for meeting MDG and WISP Goals for water supply and sanitation into the broader integrated water resources management plan for the basin. It is necessary during development of detailed project reports for the specific components and tasks that baseline reporting information be developed for the basin.

61. The objective of the IWRM and Water Use Efficiency Plan for the Zarafshan River Basin is will be to lay out a program of non-revenue and investment options to support the MDG and WISP goals mentioned above as well as WISP goals related increasing income, promoting industrial growth, development of agriculture, and protection of the natural environment. More specifically, the Plan should develop a program for the Zarafshan River Basin that contribute to the following WISP indicators and measures:

(a) Increase incomes of poor families by reducing the poverty rates (the percentage of the population that consumes less than 2100 kcal/day) from 23% in 2007 to 16% in 2015.
(b) Improve the sectoral and territorial structure of employment through increasing the share of jobs in rural areas from 68.4% in 2007 to 71.1% in 2015.
(c) Encouraging growth in the industrial sector increasing the percentage of domestically processed locally produced raw materials for textiles and food such that production volumes of domestically produced raw materials as a percentage of the total volume of industrial output increases from 13% in 2007 to 26% in 2015.
(d) Developing agriculture through doubling investment in irrigation and drainage system by increasing investment in this sector from 6% of the general volume of investment increases in 2007 to 9% in 2015.
(e) Increasing the share of agricultural lands returned to agricultural use through reducing the salinized area from 65% in 2007 to 61% in 2015.
(f) Increase by natural conservation territories from 12,231,000 ha in 2007 to 44,890,000 in 2015.
(g) Reduction in the annual per capita carbon emissions from 4.1 tons in 2007 to 3.9 in 2015.

(h) Increasing the percentage contribution of the industrial sector to GDP from 23.1% in 2007 to 27.2% in 2015.

62. Component 3 includes 12 major tasks that will support the technical basis for the IWRM Plan as well as integrate outputs from all three Project components. Component tasks include:

3.1 Socioeconomic and Gender Assessment of the Zarafshan River Basin
3.2 Improving Institutional and Participatory Framework for Integrated Water Resources Management for Zarafshan River Basin
3.3 Improving Agricultural Productivity and Water Use Efficiency
3.4 Improving the Surface Water Delivery System and the Irrigation and Drainage Network
3.5 Ensuring environmental protection measures and instream flow requirements for improved ground and surface water quality, land quality and biodiversity
3.6 Improving Water Use Efficiency in the Energy Sector and Energy Efficiency in Water Pumping to Reduce Water Delivery Costs and Reduce Greenhouse Gas Emissions
3.7 Industrial Water Use and Economic Growth
3.8 Improved data collection, data management and information sharing form informed decision-making
3.9 Pilot Demonstration Projects
3.10 Education and Outreach
3.11 Equitably Balancing Water Needs within the Basin
3.12 IWRM Plan for Zarafshan River Basin

In preparing each of the tasks above a working group each will be convened at the basin level. This group will oversee development of Detailed Project Reports (except for the socioeconomic and gender assessment tasks) that include: 1) Baseline Assessment; 2) Data Collection; 3) Implementation Options Analysis (policy, institutional, or technology options); 4) Cost Benefit Assessment; 5) Investment Options; 6) Financing Options. It is anticipated that the DPR's will be completed during the first 18 months of the Project. The Project will provide short tern international technical assistance and local consultancy services to support preparation of these reports. During the course of their development important issues may need further exploration through the conduct of a demonstration pilot that can support verification of in advance of making strategic recommendations. Results of the DPRs and the demonstration will be incorporated into the final strategies which should be completed within the first two years of the project. These will then be incorporated into the final IWRM and water use efficiency plan during the third Project year.

63. Task 3.1 Socioeconomic and Gender Assessment of the Zarafshan River Basin. This assessment will focus on the people and households of the basin, to determine baseline economic information and gender status and issues related to IWRM. Information from the assessment will be used in the design process of the IWRM, but

should over the long run, be used to measure results from IWRM interventions through 2015. Therefore, careful design of the assessment is essential, where attention to the key questions that the assessment needs to address over the long term are determined at the beginning of the process. Ideally, a statistically based random and representative sample of the population could be selected for study over time to assess the impact of IWRM interventions in meeting WISP and MDG goals. Such an approach would ensure that results from the data collection effort represent the entire basin and as such can be used with a high level of confidence in monitoring the success of IWRM interventions over time.

64. Task 3.2 Improving the Institutional and Participatory Framework for Integrated Water Resources Management. This strategy will evaluate the institutional constraints and opportunities within the basin related to effective water resources management. It will evolve recommendations for institutional streamlining, strengthening, and capacity building. Some of the recommendations evolving through the course of dialogue under this task can feed into the institutional dialogue taking place in parallel at the national level. The role of water users should figure prominently in this strategy and recommendation for a basin water resources management structure that involves the BISA, a basin council that represents all water user groups (e.g. municipal, energy, industry, agriculture, and environment), confederations of water users associations, and water users associations.

65. Task 3.3 Improving Agricultural Productivity to Improve Crop Yields and Water Use Efficiency within the Basin will examine the cropping pattern of the basin, on farm water use in crop production, crop production practices, crop yields, agricultural income and other agricultural factors to determine the overall water use efficiency of this area. It is recommended that a statistically random and representative survey which is a subset of the socioeconomic and gender survey sample be used so that it can be studied over time to measure results of the IWRM implementation program through 2015. Once water use efficiency is determined a crop budget analysis could be conducted that determines alternative cropping which reduces water consumption and enhanced on-farm livelihoods will be developed. Technology options for achieving water savings will be evaluated, costs assessed, cost and benefits compared, payback periods estimated and investment options explored. Developing measures for water savings, creation of a system of accounting and monitoring of used water, measures towards to land preparation (leveling, etc), and selection drought-resistant crops are among the interventions that will be considered under this task.

66. Task 3.4 Improving the Surface Water Delivery System and Irrigation and Drainage Network. A strategy for improving the surface water delivery system and the irrigation and drainage network will be developed which identifies and prioritizes measures in light of their ability to improve irrigation water supply, reduce land salinization, and improve rural livelihoods. Under this task review of investments for creation of an automated control system will be examined that consider the following diversion points:

- Ravathodzha water control structure
- Improvement of the Ak-Karadarya water control structure
- Damhodzha water control structure
- Narpay water control structure
- Kattakurgan reservoir
- Karmana water control structure

In association with this, investments in an automated management system of hydrotechnical facilities on the irrigational system of the following structures will be evaluated:

- RBC (ПБК - right bank channels) - right-bank system of channels, including partial irrigation of the Dzhizak province by means of Tujatortar-Kly Channel
- LBC – left bank system of channels, including partial irrigation of the Kashkadarya province by means of the Eski-Hangar Channel
- Narpay system of channels
- MHK (Interfarm channel) (Shavat, Toss)

Creation of a system of accounting, supervision (quantity and quality), monitoring and management of returnable water within the basin (1,3 km^3) will also be explored. Creation of a uniform system for basin information sharing with required equipment, software and a database that allows for improved operation, maintenance and projects would also be of benefits and will be assessed under this task.

67. Task 3.5 Ensuring environmental protection measures and instream flow requirements for improved ground and surface water quality, land quality and biodiversity. Under this task a strategy for environmental protections within the basin that addresses surface and ground water quality, instream and sanitary flow requirements, land degradation, resources conservation, and biodiversity issues will be developed. The relative costs and benefits of each of the measures will be outlined as the basis for prioritization.

68. Task 3.6 Improving Water Use Efficiency in the Energy Sector and Energy Efficiency in Water Pumping to Reduce Water Delivery Costs and Reduce Greenhouse Gas Emissions. Under this task issues related to energy sector use of water resources within the basin will be evaluated. In addition, energy use in water pumping will be examined to identify ways to improve energy efficiency to reduce the cost of water pumping as well as reduce carbon emissions. A strategy for improving energy sector water use efficiency and energy efficiency in water pumping will be developed. This task will examine the potential energy savings as well as carbon offsets that can be achieved through energy efficiency associated with water use.

69. Task 3.7 Industrial Water Use and Economic Growth. Growth in the industrial sector will be one of the major areas for economic development within Uzbekistan. Need for water, particularly in this basin, could be a limitation to such growth. Therefore, a careful analysis of the impact of water scarcity on industrial growth and the impacts of industrial water use on water quality and water supply needs to be

conducted. The strategy should develop means for sustainable industrial development within the region which promotes clean water, clean technologies, and innovative industrial development—particularly as it relates to processing of raw materials from agriculture.

70. Task 3.8. Improved Data Collection, Data Management and Information Sharing for Informed Decision-Making. A strategy for improving information management within the basin will be developed under this task. It will examine the need for data at the farm, interfarm, river basin and transboundary level and investments in hardware and software that would be necessary to link information and data systems among users. It will also examine ways to conduct basin level information sharing and coordination.

71. Task 3.9 Pilot Demonstration Projects. Under this task two pilot demonstration projects will be conducted to verify results and findings of DPRs and to demonstrate the most important elements highlighted through development of the strategies. The results of these are anticipated demonstrate how IWRM plan proposals support achievement of WISP indicators and which may prove important in gaining acceptance and approval of the IWRM Plan.

72. Task 3.10 Education and Outreach. Needs for education and outreach will evolve from the strategies and demonstration projects. Based on these needs an education and outreach strategy will be developed which detailed activities, costs, and associated financial alternatives.

73. Task 3.11 Equitably Balance Water Needs within the Basin. Under this task the process for integrating results of strategies developed under Components 2 and 3 will be initiated. The sectoral strategies for water and sanitation, irrigation, environment, energy and industries will be used to evaluate critical issues and concerns for each sector. A careful analysis of values associated with the basin's major water uses and an options analysis for optimized water use under different scenarios will be conducted. Although the water use values may not necessarily dictate the priority of water uses, they can indicate the trade-offs which are inherent in various water use scenarios. Based on this analysis, a strategy will be developed for balancing competing water needs through 2015 and beyond will be developed which takes into consideration economic growth, potential upstream development, and potential impacts of climate change on water supply.

74. Task 3.12 Integrated Water Resources Management and Water Use Efficiency Plan for the Zarafshan River Basin. During the last six months of the Project, the integrated water resources management and water use efficiency plan for the Zarafshan River Basin will be developed. At this point in the Project, it is anticipated that the legislative changes will be adopted that will enable the creation of a Basin Council. The Basin Council in partnership with the BISA will direct compilation of the final plan. The plan will work primarily from the strategy for equitable balancing of competing water needs and then outline prioritized non-revenue options and investment plans that evolve from the other strategies. It will also incorporate the lessons learned

from pilot demonstration projects to shore up other findings and incorporate a plan for education and outreach. The monitoring and evaluation plan for the IWRM implementation phase will be based on results of the socioeconomic and gender assessment and surveys conducted in completing other tasks (e.g. on farm surveys, drinking water supply and wastewater surveys) which allows monitoring over time of the impact of IWRM interventions as they relate to the MDG and WISP goals.

75. In linking activities under the IWRM plan for the Zarafshan River Basin, it is essential to scale the indicators and measures specifically to the Basin itself. Current information on these measures is either reported nationally or on administrative units within the basin. A key objective of the Detailed Project Reports for each task will be to establish the baseline information for these measures specifically for the basin.

76. The project will cooperate with other donors that have been working or plan to work at the Zarafshan River Basin. In particularity, GTZ has expressed willingness to coordinate its work with the project towards improvement of water management in the basin. SDC has been implementing similar project in Fergana Valley and also will be one of main partners of UNDP in terms of capacity building activities.

III. Results and Resources Framework

Intended Outcomes as stated in the Country Programme Results and Resource Framework: Obligation under international environmental conventions and agreements fulfilled through improved effectiveness of environment management and development of clean energy sources.				
Outcome indicators as stated in the Country Programme Results and Results Framework, including baseline and targets: Indicators: Improved capacity in environmental management through reorganization of environmental governance structures. Baseline 2009: National policy/strategic plans towards integrated water resources management not in place. Water legislation needs improvement for implementation of IWRM principles; Target: Uzbekistan meets obligations under United Nations Framework Convention on Climate, United Nations Convention on Biodiversity and United Nations Convention to Combat Diversification and timely reports on implementation.				
Applicable Key Results Area (from 2005-2009 Strategic Plan): Mainstreaming environment and energy				
Partnership Strategy: Ministry of Agriculture and Water Resources will be Implementing Agency; other partners will be Ministry of Finance, National Agency "Uzcommunkhizmat", State Committee for Nature Protection, State Committee for Geology and Mineral Resources, Uzhydromet, Ministry of Economy, Water Users Associations, Private Farm Association, local authorities, other international donors' projects.				
Project title and ID (Atlas Award ID): Integrated Water Management and Water Efficiency Plan for Zarafshan River Basin (Award #: 00058460; Project #:00072626)				
INTENDED OUTPUT(S)	**OUTPUT TARGETS**	**INDICATIVE ACTIVITIES**	**RESPONSIBLE PARTIES**	**INPUTS (USD)**
Output : Integrated Water Management and Water Efficiency Plan for Zarafshan River Basin **Output Baseline:** **Baseline 1.** The Law of the Republic of Uzbekistan on "Water and Water Use" adopted May 6, 1993 and requires improvement. **Indicators:** 1.1 Number of recommendations for changes to current water legislation submitted to the government 1. 2. Number of draft or final legal analyses, principals or draft legislative documents developed	2010: 1.1 25% of legislative recommendations and draft principles are developed; 1.3 60 water management institutions' staff trained 2011: 1.2 75% of legislative recommendations and draft principles are developed; 1.3 60 additional water management institutions' staff trained 1.3 Institutional framework for integrated water resources management drafted	**Activity Result 1** Modernized National Water Legislation **Action 1.1** To form the Project Steering Committee and establish Technical Working Group **Action 1.2.** To conduct Inception Workshop: Overview of International Experience in National Water Laws and International Water Conventions **Action 1.3** To review, analysis, and exposure to International Experience in National and International Water Law **Action 1.4** To provide International Technical Assistance in Drafting Legislation **Action 1.5** To draft Legal Principals and Institutional Framework **Action 1.6**	UNDP Project Office/MAWR	*Activity 1: USD 256, 256* *Year 2010: USD 136,584* *Year 2011: USD 79,696* *Year 2012: USD 39,976*

and submitted to the government 1.3. Institutional framework for integrated water resources management developed		To assist in adoption of Final Draft		
Baseline 2. Domestic water supply and wastewater facilities suffer from lack of financing for upgrades, and operation and maintenance on a scale comparable to that of irrigation systems. The ground water in the basin is suitable for drinking use only in the Samarqand province, as further downstream its mineralization and rigidity grows. In the territory of Navoi and Bukhara provinces the chemical composition of ground water makes it unusable for drinking. **Indicators:** 2.1. Number of rural households with improved drinking water supply and % reduced volume of water consumption at pilot site 2.2 Amount of wastewater treated, recycled and reused at pilot site 2.3 Detailed Project Report for improving population access to safe drinking water supplies: 1) Baseline Assessment; 2) Data Collection; 3) Implementation Options Analysis (policy, institutional, or technology options); 4) Cost Benefit Assessment; 5) Investment Options; 6) Financing Options	2010: 2.1 Pilot for demonstration of improved water supply established ; 2011: 2.2 Pilot for demonstration of mini treatment facility and reuse of wastewater created 2012: 2.3 a) Strategy for meeting drinking water supply goals for the basin developed; b) Strategy for improving wastewater treatment, recycling and reuse within the Zarafshan River Basin developed	**Activity Result 2** Integrated Strategy for Water Supply and Sanitation of the Zarafshan Basin **Action 2.1** To establish Basin Working Group **Action 2.2** To select pilot project and start its activity **Action 2.3**. To develop draft Detailed Project Report for improving population access to safe drinking water supplies **Action 2.4** To develop Final Strategy and incorporate it into IWRM Plan	UNDP Project Office/MAWR	*Activity 2: USD 269,833* *Year 2010: USD 103,076* *Year 2011: USD 111,711* *Year 2012: USD 55,046*
Baseline 3. Uzbekistan faces consequences of the climate change as well as the threats of catastrophes in the near future. Exhaustion and pollution of water resources and as consequence, destruction of ecosystems, becomes the real threat of all mankind's existence. Growing	2010: 3.1 Socioeconomic and Gender Survey Report 3.2 Strategy for Institutional Streamlining, Strengthening and Capacity Building	**Activity Result 3** IWRM and Water Efficiency Plan for Zarafshan River Basin **Action 3.1**. 3.1.1 To conduct Socioeconomic and Gender Assessment 3.1.2 To create Basin Level Working Group 3.1.3 To conduct statistically valid survey of	UNDP Project Office/MAWR	*Activity 3: USD 733,156* *Year 2010: USD 302,793* *Year 2011: USD 341,651* *Year 2012: USD 88,712*

demand for water among different users becomes main limiting factor for country's development. **Indicators:** 3.1 Socioeconomic and Gender Profile of Zarafshan River Basin 3.2 Strategy for Institutional Streamlining, Strengthening and Capacity Building 3.3 Strategy for improving agricultural productivity and water use efficiency within the basin 3.4 Strategy for improving the surface water delivery system and irrigation and drainage network 3.5 Strategy for energy sector water use, improving energy efficiency for reducing costs of water pumping and green house gas emissions 3.6 Strategy for Industrial Water Use Efficiency and Measures for Improving Industrial Growth through IWRM 3.7 Strategy for improving information management within the basin 3.8 Strategy for Education and Communication 3.9 Strategy for Equitably Balancing Water Needs within the Basin 3.10 IWRM Plan for Zarafshan River Basin is developed and submitted to the goverment	2011: 3.3. Strategy for improving agricultural productivity and water use efficiency within the basin 3.4 Strategy for improving the surface water delivery system and irrigation and drainage network 3.5 Strategy for energy sector water use, improving energy efficiency for reducing costs of water pumping and green house gas emissions 3.6 Strategy for Industrial Water Use Efficiency and Measures for Improving Industrial Growth through IWRM 3.7 Strategy for improving information management within the basin 3.8 Education and Communication Strategies Developed 3.9 Strategy for Equitably Balancing Water Needs within the Basin 3.10 IWRM Plan for Zarafshan River Basin	socioeconomic and gender conditions 3.1.4 To provide Technical Assistance in preparing survey instruments and data analysis 3.1.5 To draft Socioeconomic and gender survey report 3.1.6 To integrate Final Report Iinto IWRM Plan **Action 3.2.** 3.2.1 To create Basin Level Working Group 3.2.2 To conduct : 1) Baseline Assessment; 2) Data Collection; 3) Implementation Options Analysis (policy, institutional, or technology options); 4) Cost Benefit Assessment; 5) Investment Options; 6) Financing Options 3.2.3 To provide technical assistance for Developing Institution Options 3.2.4 To develop Final strategy and incorporate it Into IWRM 3.2.5 To create Basin Council **Action 3.3.** 3.3.1 To establish Basin Level Working Group 3.3.2 To draft Detailed Project Report for Improving Agricultural Water Use Efficiency Baseline assessment of current agricultural production scenario within basin and options for improving agricultural productivity, rural livelihoods, and for promoting water conservation technologies (drip irrigation, alternative crop choice, alternative cropping practices); cost benefit analysis, investment options, technology options 3.3.3 To develop Final Strategy and integrate it into IWRM Plan **Action 3.4.** 3.4.1 To create Basin Level Working Group 3.4.2 To draft Detailed Project Report for improving water supply delivery: 1) Baseline Assessment; 2) Data Collection; 3) Implementation Options Analysis (policy, institutional, or technology options); 4) Cost Benefit Assessment; 5) Investment Options; 6) Financing Options 3.4.3 To develop Final Strategy and integrate it into IWRM Plan **Action 3.5.** 3.5.1 To create Basin Level Working Group 3.5.2 To draft Detailed Project Report for meeting environmental water needs: 1) Baseline Assessment; 2) Data Collection; 3) Implementation Options		

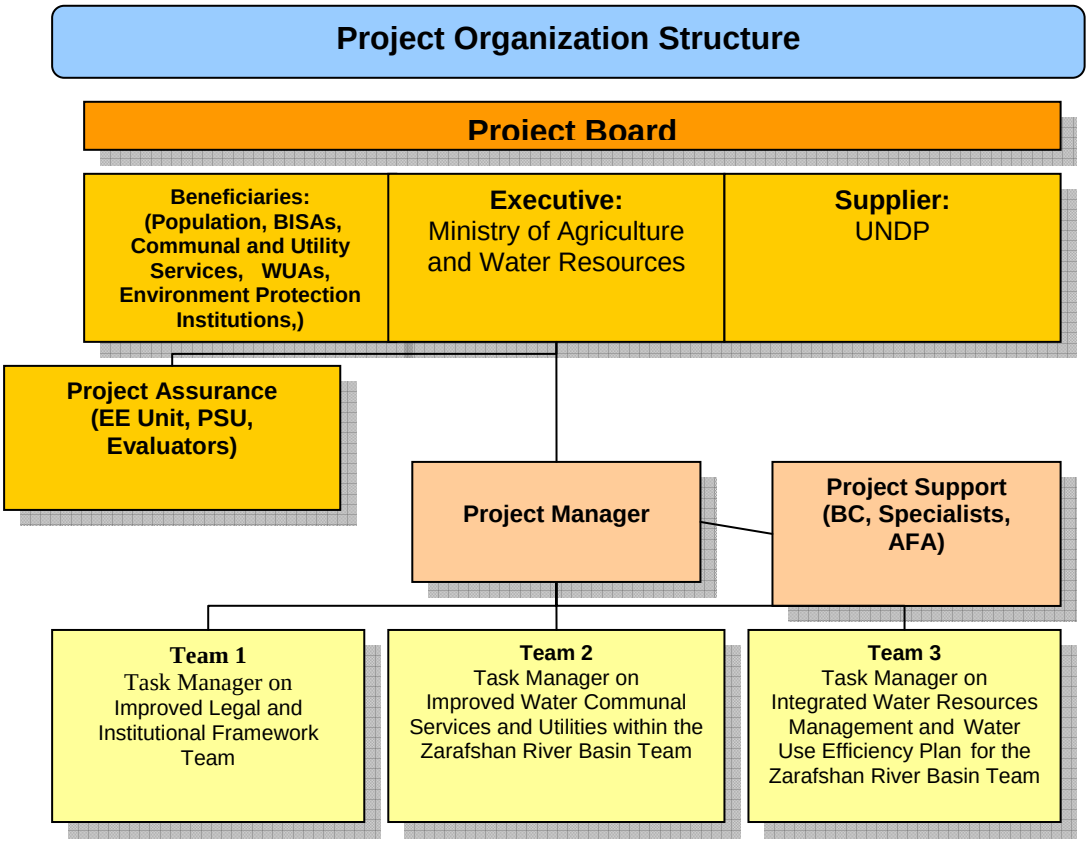
		Analysis (policy, institutional, or technology options); 4) Cost Benefit Assessment; 5) Investment Options; 6) Financing Options 3.5.3 To develop Final Strategy and integrate it into IWRM Plan **Action 3.6.** 3.6.1 To create Basin Level Working Group 3.6.2 To draft Detailed Project Report for reducing carbon emissions through reduced electricity consumption in water pumping and increasing electricity production with hydropower within the basin:1) Baseline Assessment; 2) Data Collection; 3) Implementation Options Analysis (policy, institutional, or technology options); 4) Cost Benefit Assessment; 5) Investment Options; 6) Financing Options 3.6.3 To develop Final Strategy and integrate it into IWRM Plan **Action 3.7.** 3.7.1 To create Basin Level Working Group 3.7.2 To draft Detailed Project Report 1) Baseline Assessment; 2) Data Collection; 3) Implementation Options Analysis (policy, institutional, or technology options); 4) Cost Benefit Assessment; 5) Investment Options; 6) Financing Options 3.73 To develop Final Strategy and integrate it into IWRM Plan **Action 3.8.** 3.8.1 To create Basin Level Working Group 3.8.2 To draft Detailed Project Report for Upgrading the Information System for Improved Decision Making: 1) Baseline Assessment; 2) Data Collection; 3) Implementation Options Analysis (policy, institutional, or technology options); 4) Cost Benefit Assessment; 5) Investment Options; 6) Financing Options 3.8.3 To develop Final Strategy and integrate it into IWRM Plan **Action 3.9.** 3.9.1 To set objectives for demonstration projects identified based on social and technology assessments 3.9.2 To establish criteria for pilot demonstration projects developed 3.9.3 To design Pilot Projects and select them 3.9.4 To develop Monitoring and evaluation plan for pilot projects		

		3.9.4 To implement Pilots 3.9.6 To draft report on Pilot project results 3.9.5 To organize basin level workshop to present pilot project results **Action 3.10.** 3.10.1 To conduct Assessment of Capacity Building and Public Outreach Needs 3.10.2 To develop Strategy for Short and Long Term IWRM Capacity Building 3.10.3 To develop Communication and Outreach Strategy **Action 3.11** 3.11.1 To create basin level working group to assess potential for water conservation and measures for balancing deficits for water needs among sectors 3.11.2 To draft Detailed Project Report for Water Conservation and Allocation Measures for Balancing Sectoral Water Needs: 1) Baseline Assessment; 2) Data Collection; 3) Implementation Options Analysis (policy, institutional, or technology options); 4) Cost Benefit Assessment; 5) Investment Options; 6) Financing Options 3.11.3 To develop Final Strategy and integrate it into IWRM Plan **Action 3.12** 3.12.1 To develop integrate Sectoral Strategies 3.12.2 To submit Final Plan to Government for Approval		

Part III. Management Arrangements

77. This project will be nationally implemented (NIM modality). The Ministry of Agriculture and Water Resources will be the Implementing Partner and will retain overall responsibility for this project. The project will be implemented in close co-ordination and collaboration with all relevant government institutions, local communities and NGOs, as well as with other relevant projects in the region.
78. The Ministry of Agriculture and Water resources will designate the National Project Coordinator (NPC). Direct responsibility of the NPC will be provision of strategic advice, as well as coordination of the project activity taking into account interests of the Government. He/she will approve Annual Work Plan of the Project, according to which the whole project activity will be carried out.
79. The strategic management of the Integrated Water Management and Water Efficiency Plan for Zarafshan River Basin Project will be implemented by a Project Board. Project Board will be responsible for making by consensus management decisions for a project when guidance is required by the Project Manager (PM), including recommendation for UNDP/Ministry of Agriculture and water Resource's approval of project plans and revisions. Project reviews by this group are made at designated decision points during the running of a project, or as necessary when raised by the PM. This group is consulted by the PM for decisions when PM tolerances (normally in terms of time and budget) have been exceeded.
80. The Project Board is comprised of:
    (a) Executive (National Project Coordinator), representing the Ministry of Agriculture and Water Resources. The Executive is ultimately responsible for the project, supported by the Senior Beneficiary and Senior Supplier
    (b) Supplier: UNDP – The Supplier represents the interests of the parties which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing).
    (c) Beneficiaries represented by the Ministry of Agriculture and Water Resources, WUAs, population, Communal and Utility Services, Environment Protection Institutions, Industry, hydropower and others.
81. Project Assurance will be performed by UNDP Energy and Environment Unit (EEU) and Project Support Unit (PSU)
82. A Project Office will be established in Tashkent. The project structure will consist of teams respectively for all three components: Improved Legal and Institutional Framework, Improved Water Communal Services and Utilities within the Zarafshan River Basin, and Integrated Water Resources Management and Water Use Efficiency Plan for the Zarafshan River Basin. Core project personnel will be comprised of a Project Manager, Administrative and Finance Assistance (AFA), Driver, and Managers for each of three components
83. Ministry of Agriculture and Water Resources will locate the Project in the premises of the Ministry with in-kind support from the Government of Uzbekistan. In addition, a field office will be established in Samarqand house with the Zarafshan BISA staffed with a field coordinator. The project may hire relevant national and international experts/consultants at various stages of the project implementation

84. The Project Manager (PM) has the authority to run the project on a day-to-day basis on behalf of the Project Board within the constraints laid down by the Board. The PM is responsible for day-to-day management and decision-making for the project. The PM's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost.
85. The Government approves by decree an Inter-ministerial Project Board which will responsible for creating and monitoring of Technical Intersectoral Working Groups activities. These groups will be responsible for overall guidance of the work under the Project, approval of outputs and facilitation of Government approval of updated legislation and the Integrated Water Resources Management and Water Use Efficiency Plan of the Zarafshan River Basin.
86. Working groups will be established for the water law revisions, drinking water, wastewater, irrigation, energy, industry, and environmental sector strategy development processes. Working Groups will be reporting to Project Board.



In accordance with the provisions of the letter of agreement signed on 30 April, 2010 and the approved Country Programme Action Plan 2010-2015, the UNDP country office shall provide support services for the Project as described below.

Direct Country Office Support services to project Implementation:

87. The UNDP and the Ministry of Agriculture and Water Resources have agreed that the UNDP Country Office will provide the following support services for the project activities at the request of the Ministry of Agriculture and Water Resources:
    ii) Identification and/or recruitment and solution of administrative issues related to the project personnel;
    iii) Procurement of commodities, labour and services;
    iv) Identification and facilitation of training activities, seminars and workshops;
    v) Financial monitoring and reporting;
    vi) Processing of direct payments;
    vii) Supervision of project implementation, monitoring and assistance in project assessment.

88. The UNDP country office may provide support services for assistance with reporting requirements and direct payment. In providing such support services, the UNDP country office shall ensure that the capacity of Ministry of Agriculture and Water Resources is strengthened to enable it to carry out such activities directly.

89. When providing the above support services, the UNDP Country Office will recover the costs for providing Implementation Support Services on the basis of actual costs and transaction fee based on the Universal Price List (see Annex1 attached). According to the corporate guidelines, these costs are an integral part of project delivery and, hence, will be charged to the same budget line (account in AWP) as the project input itself.

90. The procurement of goods and services and the recruitment of project personnel by the UNDP country office shall be in accordance with the UNDP regulations, rules, policies and procedures. If the requirements for support services by the country office change during the life of a project, the list UNDP country office support services is revised with the mutual agreement of the UNDP resident representative and the Ministry of Agriculture and Water Resources.

91. The relevant provisions of the Standard Basic Assistance Agreement (SBAA) between the Government of Uzbekistan and the UNDP, signed by Parties on 10th June 1993, including the provisions on liability and privileges and immunities, shall apply to the provision of such support services.

92. Ministry of Agriculture and Water Resources shall retain overall responsibility for this nationally managed project and will appoint the National Project Coordinator (NPC). Direct responsibility of the NPC will be provision of strategic advice, as well as coordination of the project activity taking into account interests of the Government (for more details please see roles and responsibilities of the Project Board's Executive).

93. Any claim or dispute arising under or in connection with the provision of support services by the UNDP country office in accordance with this document shall be handled pursuant to the relevant provisions of the SBAA.

    Audit of the project will be conducted as per UNDP procedures and requirement.

IV. Monitoring Framework and Evaluation

94. In accordance with the programming policies and procedures outlined in the UNDP User Guide, the project will be monitored through the following:

Within the annual cycle

- On a quarterly basis, a quality assessment shall record progress towards the completion of key results, based on quality criteria and methods captured in the Quality Management table below.
- An Issue Log shall be activated in Atlas and updated by the Project Manager to facilitate tracking and resolution of potential problems or requests for change.
- Based on the initial risk analysis submitted (see annex 1), a risk log shall be activated in Atlas and regularly updated by reviewing the external environment that may affect the project implementation.
- Based on the above information recorded in Atlas, a Quarterly Progress Reports (QPR) shall be submitted by the Project Manager to the Project Board through Project Assurance, using the standard report format available in the Executive Snapshot.
- a project Lesson-learned log shall be activated and regularly updated to ensure on-going learning and adaptation within the organization, and to facilitate the preparation of the Lessons-learned Report at the end of the project.
- a Monitoring Schedule Plan shall be activated in Atlas and updated to track key management actions/events.

Annually

- **Annual Review Report**. An Annual Review Report shall be prepared by the Project Manager and shared with the Project Board. As minimum requirement, the Annual Review Report shall consist of the Atlas standard format for the QPR covering the whole year with updated information for each above element of the QPR as well as a summary of results achieved against pre-defined annual targets at the output level.
- **Annual Project Review**. Based on the above report, an annual project review shall be conducted during the fourth quarter of the year or soon after, to assess the performance of the project and appraise the Annual Work Plan (AWP) for the following year. In the last year, this review will be a final assessment. This review is driven by the Project Board and may involve other stakeholders as required. It shall focus on the extent to which progress is being made towards outputs, and that these remain aligned to appropriate outcomes.

Quality Management for Project Activity Results

Output : Institutional Strengthening and Capacity Building Result in More Effective Fund Operations		
Activity Result 1 Updated Revised Water Legislation **(Atlas Activity ID)**	*Activity 1 Modernize National Water Legislation*	Start Date: January, 2010 End Date: September 2011
Purpose	*Institutional and legislative framework for the water sector is adopted to ensure adequate quality and availability of water resources to support MDG goals*	
Description	*Action 1.1 Project Steering Committee is formed and Technical Working Group is established*	
	Action 1.2. Workshop: Overview of International Experience in National Water Laws and International Water Conventions	
	Action 1.3 Review, analysis, and exposure to International Experience in National and International Water Law	
	Action 1.4 International Technical Assistance in Drafting Legislation	
	Action 1.5 Government Water Law Revisions Working Group Drafts Legal Principals and Institutional Framework	
	Action 1.6 First Draft	
	Action 1.7 Presentation to Government Sectors for review and comment	
	Action 1.8. Second Draft Revision	
	Action 1.9 Presentation to the Cabinet of Ministers	
	Action 1.10 Third Draft Revision	
	Action 1.11 Broader Public Review and Comment	
	Action 1.12 Fourth Draft Revision	
	Action 1.13 Introduction to Parliament	
	Action 1.14 Parliamentary Revisions	
	Action 1.15 Final Adoption	

Quality Criteria	**Quality Method**	**Date of Assessment**
how/with what indicators the quality of the activity result will be measured?	*Means of verification. what method will be used to determine if quality criteria has been met?*	*When will the assessment of quality be performed?*
Legislative Strengthening Needs Assessment Identified	Legislative Strengthening Needs Assessment Report	June 30, 2010
Institutional and legislative framework for the water sector is developed	Adoption of the Framework by the Government	June 30, 2010

Activity Result 2. Improved Water Communal and Utility Services within the Zarafshan River Basin	*Activity 2* Integrated Strategy for Water Supply and Sanitation for the Zarafshan River Basin	Start Date: May 1 2010
(Atlas Activity ID)		End Date: March 30, of 2011
Purpose	*Develop a strategy for meeting the MDG goals for water and sanitation and WISP goals for improving access to water communal and utility services, specifically for the Zarafshan River Basin through the period of 2010 through 2015*	
Description	**Action 2.1** To establish Basin Working Group	
	Action 2.2 Pilot project selected and activity started	
	Action 2.3. Detailed Project Report for improving population access to safe drinking water supplies drafted	
	Action 2.4. Strategy drafted	
	Action 2.5 Final Strategy developed	
	Action 2.6 Final strategy incorporated into IWRM Plan	

Quality Criteria	**Quality Method**	**Date of Assessment**
Basin Working Group created	The structure of the Basin Working Group defined and agreed by relevant institutions	April 15, 2010
Detailed Project Report for improving wastewater treatment, recycling and reuse developed	The Report agreed with all main stakeholders	July 25, 2010
Pilot Demonstration Project conducted	The amount of water treated and reused through introduction of improved technologies	November 18, 2011
Final Strategy elaborated and submitted to Project Steering Committee for approval	Strategy approved and incorporated into IWRM plan for Zarafshan River basin	December 28, 2011

Activity Result 3 Integrated Water Resources Management and Water Efficiency plan for Zarafshan River basin	*Activity 3 Development of IWRM and Water Efficiency Plan for Zarafshan River Basin*	Start Date: January 25, 2010
(Atlas Activity ID)		End Date: December 15, 2011
Purpose	To develop an integrated water resources management and water use efficiency plan for the Zarafshan River Basin	
Description	*Action 3.1* Socioeconomic and Gender Profile of Zarafshan River Basin	
	Action 3.2. Strategy for Institutional Streamlining, Strengthening and Capacity Building	
	Action 3.3 Strategy for improving agricultural productivity and water use efficiency within the basin	
	Action 3.4 Strategy for improving the surface water delivery system and irrigation and drainage network	
	Action 3.5 Strategy for energy sector water use, improving energy efficiency for reducing costs of water pumping and green house gas emissions	
	Action 3.6 Strategy for Industrial Water Use Efficiency and Measures for Improving Industrial Growth through IWRM	
	Action 3.7 Strategy for improving information management within the basin	
	Action 3.8 Pilot Projects Demonstrating Results	
	Action 3.9 Education and Communication Strategies Developed	
	Action 3.10 Strategy for Equitably Balancing Water Needs within the Basin	
	Action 3.11 IWRM Plan for Zarafshan River Basin	
	Action 3.12 Monitoring and Evaluation Plan for IWRM Program Established to measure results for Basin Level Objectives and WIS Objectives	

Quality Criteria *how/with what indicators the quality of the activity result will be measured?*	**Quality Method** *Means of verification. what method will be used to determine if quality criteria has been met?*	**Date of Assessment** *When will the assessment of quality be performed?*
Detailed Project Report for Water Conservation and Allocation Measures for Balancing Sectoral Water Needs (1) Baseline Assessment; 2) Data Collection; 3) Implementation Options Analysis (policy, institutional, or technology options); 4) Cost Benefit Assessment; 5) Investment Options; 6) Financing Options) developed	The Report agreed with all main stakeholders	June 30, 2010
All eighth Strategies indicated within this Activity elaborated	Strategies approved by Project Board and incorporated into IWRM plan for Zarafshan River basin	December 1, 2011
Final IWRM and Water Efficiency Plan developed	The Plan adopted by the Government	December 23, 2011

I. Legal Context.

95. This project document shall be the instrument referred to as such in Article 1 of the SBAA between the Government of Uzbekistan and UNDP, signed on June 10, 1993 Consistent with the Article III of the Standard Basic Assistance Agreement the responsibility for the safety and security of the executing agency and its personnel and property, and of UNDP's property in the executing agency's custody, rests with the executing agency.
    The executing agency shall:
    a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
    b) assume all risks and liabilities related to the executing agency's security, and the full implementation of the security plan.

96. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

97. The executing agency agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

ANNEXES

Annex 1. UNDP Universal Price List.

Annex 2. Risk Analysis

Annex 3. Terms of Reference

Annex 1 UNDP Universal Price List

Valid as of 01 March 2009

UNDP 2009 Universal Price List
For Country Office Services to UN Agencies and Programmes

(For Country Office Cost Bands, refer to page 3 of this document)

Service [1] *(see service notes overleaf)*	High Cost	Mid-High Cost	Mid-Low Cost	Low Cost
Payment Process [2]	23.75	16.88	12.93	9.30
Issue check only (Atlas Agencies)	*6.81*	*4.83*	*3.70*	*2.65*
Vendor profile only (Atlas Agencies only)	*10.86*	*7.65*	*5.88*	*4.19*
Staff selection and recruitment process	373.80	252.85	196.03	134.75
Advertising (20%)	*74.76*	*50.57*	*39.21*	*26.95*
Short-listing (40%)	*149.52*	*101.14*	*78.41*	*53.90*
Interviewing (40%)[3]	*149.52*	*101.14*	*78.41*	*53.90*
Staff HR & Benefits Administration & Management [4] (one time fee, per staff. Service incl. contract issuance, UNJPF/MIP enrollment, payroll setup - Starting 2006 this price applies to the **separation** process as well)	134.42	96.22	73.59	53.29
Recurrent personnel management services: Staff Payroll & Banking Administration & Management [5] (per staff, per calendar year)	339.19	227.08	176.50	120.12
Payroll validation, disbursement (35%)	*118.72*	*79.48*	*61.78*	*42.04*
Performance evaluation (30%)	*101.76*	*68.12*	*52.95*	*36.04*
Extension, promotion, entitlements (30%)	*101.76*	*68.12*	*52.95*	*36.04*
Leave monitoring (5%)	*16.96*	*11.35*	*8.83*	*6.01*
Consultant recruitment	149.33	106.70	81.65	59.02
Advertising (20%)	*29.87*	*21.34*	*16.33*	*11.80*
Short-listing & selection (40%)	*59.73*	*42.68*	*32.66*	*23.61*
Contract issuance (40%)	*59.73*	*42.68*	*32.66*	*23.61*
Issue/Renew IDs (UN LP, UN ID, etc.)	28.72	20.47	15.67	11.31
Local driver's licenses (full process)	37.01	26.47	20.25	14.65
Accreditation w. government	37.01	26.47	20.25	14.65
Vehicle registration (full process)	37.01	26.47	20.25	14.65
Visa request (excl. government fee)	25.78	18.13	13.93	9.93
Ticket request (booking, purchase)	31.30	22.13	16.98	12.16
Travel authorization	25.78	18.13	13.93	9.93
Hotel reservation	13.81	9.99	7.62	5.57
F10 settlement	17.12	12.08	9.27	6.63
Procurement process involving CAP (and/or ITB, RFP requirements)[6]	294.62	202.81	156.57	109.42
Identification & selection (50%)[3]	*147.31*	*101.41*	*78.28*	*54.71*
Contracting/issue purchase order (25%)	*73.65*	*50.70*	*39.14*	*27.35*
Follow-up (25%)	*73.65*	*50.70*	*39.14*	*27.35*
Procurement not involving CAP (low value procurement, local)	88.94	62.80	48.18	34.47
Identification & selection [4] (50%)	*44.47*	*31.40*	*24.09*	*17.23*
Issue purchase order (25%)	*22.23*	*15.70*	*12.05*	*8.62*
Follow-up (25%)	*22.23*	*15.70*	*12.05*	*8.62*
Disposal of equipment [3]	124.11	86.48	66.57	47.05
Custom clearance	45.85	31.93	24.58	17.36
Shipment arrangement	76.60	54.59	41.80	30.15
Fellowship package (per participant)	83.97	58.89	45.26	32.18
AR Management Process (create/apply receivable pending item- Atlas Agencies Only)	9.57	6.82	5.22	3.77

2009 Universal Price List
Country Office Cost Bands

Country Office	Cost Band	Country Office	Cost Band	Country Office	Cost Band
Albania	Mid-Low	Ghana	Low	Niger	Low
Algeria	Mid-Low	Guatemala	High	Nigeria	High
Angola	High	Guinea	Low	Pakistan	Mid-High
Argentina	Mid-High	Guinea-Bissau	Mid-Low	Panama	Mid-High
Armenia	Mid-High	Guyana	Low	Papua New Guinea	Mid-Low
Azerbaijan	Mid-High	Honduras	High	Paraguay	Mid-High
Bahrain	High	India	Mid-High	Peru	High
Bangladesh	Mid-Low	Indonesia	Mid-Low	Philippines	Mid-Low
Barbados	High	Iran (Islamic Rep)	Mid-Low	Poland	High
Belarus	Low	Iraq	Mid-Low	Republic of Montenegro	Mid-High
Belize	Mid-Low	Israel/PAPP	Mid-High	Romania	Mid-High
Benin	Mid-Low	Jamaica	Mid-High	Russian Federation	High
Bhutan	Low	Jordan	Mid-High	Rwanda	Mid-Low
Bolivia	High	Kazakstan	Mid-High	Samoa	Low
Bosnia and Herzegovina	Mid-Low	Kenya	High	Sao Tome and Principe	Low
Botswana	Mid-High	Korea, Republic of	Mid-High	Saudi Arabia	High
Brazil	High	Kosovo	Low	Senegal	Mid-Low
Bulgaria	Mid-High	Kuwait	High	Serbia	Mid-High
Burkina Faso	Mid-Low	Kyrgyzstan	Low	Slovakia	High
Burundi	Low	Lao PDR	Low	South Africa	Mid-High
Cambodia	Low	Latvia	Mid-Low	Sri Lanka	Mid-Low
Cameroon	Mid-High	Lebanon	High	Swaziland	Mid-Low
Cape Verde	Mid-High	Lesotho	Mid-Low	Syrian Arab Republic	Low
Central African Republic	Mid-High	Libyan Arab Jamahiriya	Low	Tajikistan	Low
Chile	High	Lithuania	Mid-Low	Tanzania - U Rep of	Mid-Low
China	Mid-High	Macedonia	Mid-High	Thailand	High
Colombia	High	Madagascar	Low	Togo	Mid-Low
Comoros	Mid-Low	Malawi	Mid-High	Trinidad and Tobago	Mid-High
Congo	High	Malaysia	Mid-Low	Tunisia	Mid-Low
Costa Rica	Mid-High	Maldives	Low	Turkey	High
Croatia	Mid-High	Mali	Low	Turkmenistan	Low
Cuba	Low	Mauritania	Mid-Low	Uganda	Mid-High
Djibouti	Mid-Low	Mauritius	Mid-High	Ukraine	Low
Dominican Republic	High	Mexico	High	United Arab Emirates	High
Ecuador	High	Moldova - Rep of	Low	Uruguay	High
Egypt	High	Mongolia	Low	Uzbekistan	Low
El Salvador	Mid-High	Morocco	High	Venezuela	High
Equatorial Guinea	Mid-High	Mozambique	Mid-Low	Viet Nam	Low
Eritrea	Low	Myanmar	Low	Yemen	Mid-Low
Ethiopia	Low	Namibia	Low	Zambia	High
Gabon	High	Nepal	Low	Zimbabwe	Mid-Low
Gambia	Low	Nicaragua	Mid-Low		

Annex 2 Risk Analysis

OFFLINE RISK LOG									
Project Title:	**Award ID:**	**Date:**							
#	**Description**	**Date Identified**	**Type**	**Impact & Probability**	**Countermeasures / Mngt response**	**Owner**	**Submitted, updated by**	**Last Update**	**Status**
1. Lack of cooperation among agencies involved in the Water Management	Lack of willingness to cooperate among agencies with responsibility for water management activities		Organizational	I=5 P=1	The Project Steering Committee could orchestrate an MOU between the agencies to participate fully in the project	Project Manager	Project Design Expert		Ongoing
2. Lack of Institutional Capacity reduces ability of project to meet targets and indicators	Institutional capacity limits ability of Ministry staff to work with Project or to participate in Project financed activities		Organizational	I=5 P=1	The Project will design capacity building activities that build upon or are consistent with current Ministry work programs and which do not require time away from workplace to participate	Project Manager	Project Design Expert		Ongoing

Annex 3: TERMS OF REFERENCE

Project Management Roles

I. Project Board[1]

Overall responsibilities[2] The Project Board is the group responsible for making by consensus management decisions for a project when guidance is required by the Project Manager (PM), including recommendation for UNDP/Implementing Partner approval of project plans and revisions. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance to standards[32] that shall ensure best value to money, fairness, integrity transparency and effective international competition. In case a consensus cannot be reached, final decision shall rest with the UNDP Programme Manager/Officer. Project reviews by this group are made at designated decision points during the running of a project, or as necessary when raised by the PM. This group is consulted by the PM for decisions when PM tolerances (normally in terms of time and budget) have been exceeded.

Based on the approved annual work plan (AWP), the Project Board may review and approve project quarterly plans when required and authorizes any major deviation from these agreed quarterly plans. It is the authority that signs off the completion of each quarterly plan as well as authorizes the start of the next quarterly plan. It ensures that required resources are committed and arbitrates on any conflicts within the project or negotiates a solution to any problems between the project and external bodies. In addition, it approves the appointment and responsibilities of the PM and any delegation of its Project Assurance responsibilities.

Composition and organization: This group contains three roles, including:

1) An Executive: individual representing the project ownership to chair the group.
2) Senior Supplier: individual or group representing the interests of the parties concerned which provide funding and/or technical expertise to the project. The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project.
3) Senior Beneficiary: individual or group of individuals representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries.

[1] UNDP Financial Rules and Regulations: Chapter E, Regulation 16.05: a) The administration by executing entities or, under the harmonized operational modalities, implementing partners, of resources obtained from or through UNDP shall be carried out under their respective financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. b) Where the financial governance of an executing entity or, under the harmonized operational modalities, implementing partner, does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, that of UNDP shall apply.

Potential members of the Project Board are reviewed and recommended for approval during the LPAC[33] meeting. For example, the Executive role can be held by a representative from the Government Cooperating Agency or UNDP, the Senior Supplier role is held by a representative of the Implementing Partner and/or UNDP, and the Senior Beneficiary role is held by a representative of the government or civil society. Representative of other stakeholders can be included in the Board as appropriate.

Specific responsibilities:

Defining a project

- Review and approve the Initiation Plan (if such plan was required and submitted to the LPAC).

Initiating a project

- Agree on PM's responsibilities, as well as the responsibilities of the other members of the Project Management team;
- Delegate any Project Assurance function as appropriate;
- Review the Progress Report for the Initiation Stage (if an Initiation Plan was required);
- Review and appraise detailed Project Plan and AWP, including Atlas reports covering activity definition, quality criteria, issue log, updated risk log and the monitoring and communication plan.

Running a project

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the Project Manager;
- Provide guidance and agree on possible countermeasures/management actions to address specific risks;
- Agree on Project Manager's tolerances in the Annual Work Plan and quarterly plans when required;
- Conduct regular meetings to review the Project Quarterly Progress Report and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans.
- Review Combined Delivery Reports (CDR) prior to certification by the Implementing Partner;
- Appraise the Project Annual Review Report, make recommendations for the next AWP, and inform the Outcome Board about the results of the review.
- Review and approve end project report, make recommendations for follow-on actions;
- Provide ad-hoc direction and advice for exception situations when project manager's tolerances are exceeded;
- Assess and decide on project changes through revisions;

Closing a project

[2] Depending on its composition, the Outcome Board can fulfill the function of the Project Appraisal Committee (LPAC)

- Assure that all Project deliverables have been produced satisfactorily;
- Review and approve the Final Project Review Report, including Lessons-learned;
- Make recommendations for follow-on actions to be submitted to the Outcome Board;
- Commission project evaluation (only when required by partnership agreement)
- Notify operational completion of the project to the Outcome Board.

Executive (National Project Coordinator)

The Executive is ultimately responsible for the project, supported by the Senior Beneficiary and Senior Supplier. The Executive's role is to ensure that the project is focused throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes. The Executive has to ensure that the project gives value for money, ensuring a cost-conscious approach to the project, balancing the demands of beneficiary and supplier.

Specific Responsibilities (as part of the above responsibilities for the Project Board)

- Ensure that there is a coherent project organisation structure and logical set of plans
- Set tolerances in the AWP and other plans as required for the Project Manager
- Monitor and control the progress of the project at a strategic level
- Ensure that risks are being tracked and mitigated as effectively as possible
- Brief Outcome Board and relevant stakeholders about project progress
- Organise and chair Project Board meetings

The Executive is responsible for overall assurance of the project as described below. If the project warrants it, the Executive may delegate some responsibility for the project assurance functions.

Senior Beneficiary

The Senior Beneficiary is responsible for validating the needs and for monitoring that the solution will meet those needs within the constraints of the project. The role represents the interests of all those who will benefit from the project, or those for whom the deliverables resulting from activities will achieve specific output targets. The Senior Beneficiary role monitors progress against targets and quality criteria. This role may require more than one person to cover all the beneficiary interests. For the sake of effectiveness the role should not be split between too many people.

Specific Responsibilities (as part of the above responsibilities for the Project Board)

- Ensure the expected output(s) and related activities of the project are well defined
- Make sure that progress towards the outputs required by the beneficiaries remains consistent from the beneficiary perspective
- Promote and maintain focus on the expected project output(s)
- Prioritise and contribute beneficiaries' opinions on Project Board decisions on whether to implement recommendations on proposed changes
- Resolve priority conflicts

The assurance responsibilities of the Senior Beneficiary are to check that:

- Specification of the Beneficiary's needs is accurate, complete and unambiguous
- Implementation of activities at all stages is monitored to ensure that they will meet the beneficiary's needs and are progressing towards that target
- Impact of potential changes is evaluated from the beneficiary point of view

- Risks to the beneficiaries are frequently monitored

Where the project's size, complexity or importance warrants it, the Senior Beneficiary may delegate the responsibility and authority for some of the assurance responsibilities (see also the section below)

Senior Supplier (UNDP)

The Senior Supplier represents the interests of the parties which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. The Senior Supplier role must have the authority to commit or acquire supplier resources required. If necessary, more than one person may be required for this role. Typically, the implementing partner, UNDP and/or donor(s) would be represented under this role.

Specific Responsibilities (as part of the above responsibilities for the Project Board)

- Make sure that progress towards the outputs remains consistent from the supplier perspective
- Promote and maintain focus on the expected project output(s) from the point of view of supplier management
- Ensure that the supplier resources required for the project are made available
- Contribute supplier opinions on Project Board decisions on whether to implement recommendations on proposed changes
- Arbitrate on, and ensure resolution of, any supplier priority or resource conflicts

The supplier assurance role responsibilities are to:

- Advise on the selection of strategy, design and methods to carry out project activities
- Ensure that any standards defined for the project are met and used to good effect
- Monitor potential changes and their impact on the quality of deliverables from a supplier perspective
- Monitor any risks in the implementation aspects of the project

If warranted, some of this assurance responsibility may be delegated (see also the section below)

Project Assurance

Overall responsibility: Project Assurance is the responsibility of each Project Board member, however the role can be delegated. The Project Assurance role supports the Project Board by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed.

Project Assurance has to be independent of the PM; therefore the Project Board cannot delegate any of its assurance responsibilities to the PM. A UNDP Programme Officer typically holds the Project Assurance role.

The implementation of the assurance responsibilities needs to answer the question "What is to be assured?". The following list includes the key suggested aspects that need to be checked by the Project Assurance throughout the project as part of ensuring that it remains relevant, follows the approved plans and continues to meet the planned targets with quality.

- Maintenance of thorough liaison throughout the project between the members of the Project Board.
- Beneficiary needs and expectations are being met or managed
- Risks are being controlled
- Adherence to the Project Justification (Business Case)
- Projects fit with the overall Country Programme
- The right people are being involved
- An acceptable solution is being developed
- The project remains viable
- The scope of the project is not "creeping upwards" unnoticed
- Internal and external communications are working
- Applicable UNDP rules and regulations are being observed
- Any legislative constraints are being observed
- Adherence to RMG monitoring and reporting requirements and standards
- Quality management procedures are properly followed
- Project Board's decisions are followed and revisions are managed in line with the required procedures

Specific responsibilities would include:

Initiating a project

- Ensure that project outputs definitions and activity definition including description and quality criteria have been properly recorded in the Atlas Project Management module to facilitate monitoring and reporting;
- Ensure that people concerned are fully informed about the project
- Ensure that all preparatory activities, including training for project staff, logistic supports are timely carried out

Running a project

- Ensure that funds are made available to the project;
- Ensure that risks and issues are properly managed, and that the logs in Atlas are regularly updated;
- Ensure that critical project information is monitored and updated in Atlas, using the Activity Quality log in particular;
- Ensure that Project Quarterly Progress Reports are prepared and submitted on time, and according to standards in terms of format and content quality;
- Ensure that CDRs and FACE are prepared and submitted to the Project Board and Outcome Board;
- Perform oversight activities, such as periodic monitoring visits and “spot checks”.
- Ensure that the Project Data Quality Dashboard remains “green”

Closing a project

- Ensure that the project is operationally closed in Atlas;
- Ensure that all financial transactions are in Atlas based on final accounting of expenditures;
- Ensure that project accounts are closed and status set in Atlas accordingly.

Project Support

Overall responsibilities: The Project Support role provides project administration, management and technical support to the Project Manager as required by the needs of the individual project or Project Manager. The provision of any Project Support on a formal basis is optional. It is necessary to keep Project Support and Project Assurance roles separate in order to maintain the independence of Project Assurance.

Specific responsibilities: Some specific tasks of the Project Support would include:

Provision of administrative services:

- Set up and maintain project files
- Collect project related information data
- Update plans
- Administer the quality review process
- Administer Project Board meetings

Project documentation management:

- Administer project revision control
- Establish document control procedures
- Compile, copy and distribute all project reports

Financial Management, Monitoring and reporting

- Assist in the financial management tasks under the responsibility of the Project Manager
- Provide support in the use of Atlas for monitoring and reporting

Provision of technical support services

- Provide technical advices
- Review technical reports
- Monitor technical activities carried out by responsible parties.

Project Manager

Background

The World Summit on Sustainable Development, Johannesburg 2002, recognized the importance of integrated water resources management (IWRM) in meeting sustainable development goals. The Summit Implementation Plan calls for nations to develop integrated water resources management and water use efficiency plans, with support to developing countries, through actions at all levels. Paragraph 26(c) of the Plan states that countries should "Improve the efficient use of water resources and promote their allocation among competing users in a way that gives priority to satisfaction of basic human needs and balances the requirements of preserving or restoring ecosystems and their functions, in particular in fragile environments, with human, domestic, industrial and agriculture needs, including safeguarding drinking water quality."

The new joint UNDP and Government of Uzbekistan project, "Integrated Water Resources and Water Efficiency Plan for Zarafshan River Basin" will work towards improving water use and efficiency in the Zarafshan river valley in Uzbekistan.
Under direct supervision of the Head of Environment and Energy Unit, the Project Manager is fully responsible for operational management of the project according to the project document, UNDP corporate rules and procedures and for fulfilling the following functions.

Functions / Key Outputs Expected

- Responsible for day-to-day management, administration and decision-making for the project;
- Oversees strategic planning process for the project and ensures its implementation in accordance with the signed project document;
- Responsible for ensuring that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost;
- Manage the realization of project outputs through activities;
- Ensures that project contributes to the promotion of gender equality by reaching, involving and benefiting both women and men in its activities (gender mainstreaming);
- Provide direction and guidance to project team(s)/ responsible party (ies);
- Identifies partnership strategies with regard to providers of specialised expertise and possible co-financiers, and assists in resource mobilisation for project components;
- Identify and obtain any support and advice required for the management, planning and control of the project;
- Liaise with any suppliers;
- Perform other duties related to the scope of work of the PM as required

Running a project

- Plan the activities of the project and monitor progress against the initial quality criteria; Present such plans to the project board for their approval;
- Ensures timely, efficient and well planned project board meetings as well as provision of secretarial support;
- Mobilize goods and services to initiate activities, including drafting TORs and work specifications;
- Manage requests for the provision of financial resources by UNDP, using advance of funds, direct payments, or reimbursement;
- Manage and monitor the project risks, submit new risks to the Project Board for consideration and decision on possible actions if required; update the status of these risks by maintaining the Project Risks Log;
- Be responsible for managing issues and requests for change by maintaining an Issues Log;
- Prepare the quarterly and annual financial and progress reports and submit the reports to the Project Board and UNDP;
- Monitors the implementation of project components, analyses problems that hamper their implementation and takes appropriate measures to ensure timely delivery of required inputs and achievement of project-wide results;
- Monitors and reports to UNDP on all financial and procurement matters of the project, including proper utilization of funds and delivery, budget revisions, availability of funds, reconciliation of accounts, establishment of internal control mechanisms. Acts as a focal point to liaise with auditors and ensures follow-up actions. Ensures the accuracy and reliability of financial information and reporting;
- Monitors and facilitates advocacy and mass media outreach activities, writing of success stories, newspapers coverage, PR campaigns;
- Organize workshops, seminars and round tables to introduce project outputs to all stakeholders involved. Render support to related UNDP thematic activities such as publications, sharing of knowledge and group discussions;
- Liaises with other UNDP and UNDP-GEF funded projects to implement possible synergies.

Closing a Project

- Ensure proper operational, financial and programmatic closure of the project;
- Prepare Final Project Review Reports to be submitted to the Project Board and the Outcome Board;
- Identify follow-on actions and submit them for consideration to the Project Board; Manage the transfer of project deliverables, documents, files, equipment and materials to national beneficiaries;
- Prepare final CDR for signature by UNDP and the Implementing Partner

Recruitment Qualifications

Education:
Master's degree or higher in one of the following areas: Water Management, Business/Public Administration, Economics, Management, Development Studies, Agriculture, Environment, Natural Resource etc;

Experience:
Proven track of at least 7 years of progressive work experience in the field of water resource management related issues, experience with an international organization, especially within UN system, is an asset;

Language Requirements:
Fluency in Uzbek and Russian, working knowledge of English will be an asset

Administrative/Finance Assistant

Description of duties and responsibilities

Under the direct supervision of Project Manager, the Admin/Finance Assistant perform the following duties and responsibilities:
• Be responsible for office logistics as well as recruitment/extension/separation of the project staff;
• Keep Project's personnel attendance records on daily basis and provide monthly attendance reports;
• Based on consultations with Deputy Project Manager and UNDP Business Center to perform procurement related operations in accordance with UNDP rules and procedures;
• Maintain, update and transmit inventory records of non-expendable equipment in accordance with UNDP rules;
• Develop quarterly and annual budget plans for recruitment of personnel; maintain financial records and monitoring systems to record and reconcile expenditures, balances, payments and other data for day-to-day transaction and reports;
• Advise and assist Project staff, experts and consultants on all respects of allowances, salary advances, travel claims and other financial and administrative matters, and calculates and authorizes payments due for claims and services;
• Prepare detailed cost estimates and participates in budget analysis and projections as required to handle all financial operations of the project office, make cash payments and reconcile all accounts in required time frame

Required qualifications

• University degree in Business Administration, Finance and/or Economics;
• At least 2 years of experience in a related area, experience with UNDP-funded projects is an asset;
• Good interpersonal and communication skills;
• Initiative, analytical judgment, ability to work under pressure, ethics and honesty;
• Ability to use IT;
• Ability to work under stress;
• English and Russian (both written and spoken) and Uzbek knowledge is an asset.