

Project Administration Manual

Project Number: 44458-013

Loan Number:

August 2013

Republic of Uzbekistan: Amu Bukhara Irrigation
System Rehabilitation

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Project Administration Manual Purpose and Process

- The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with Government and Asian Development Bank (ADB) policies and procedures. The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.
- The Ministry of Agriculture and Water Resources (MAWR) of Uzbekistan, the executing agency, is wholly responsible for the implementation of ADB financed projects, as agreed jointly between the borrower and ADB, and in accordance with Government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by MAWR of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.
- At Loan Negotiations the borrower and ADB shall agree to the PAM and ensure consistency with the Loan¹ agreement. Such agreement shall be reflected in the minutes of the Loan Negotiations. In the event of any discrepancy or contradiction between the PAM and the Loan Agreement, the provisions of the Loan Agreement shall prevail.
- After ADB Board approval of the project's report and recommendations of the President (RRP) changes in implementation arrangements are subject to agreement and approval pursuant to relevant Government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval they will be subsequently incorporated in the PAM.
- The PAM does not apply to the parallel financing and full administration by Japan International Cooperation Agency (JICA).

¹ The name of the operational financing document may vary on a project to project basis; this reference shall be deemed to encompass such variations, e.g., a Framework Financing Agreement, as applicable.

Abbreviations

ABIS	=	Amu Bukhara Irrigation System
ABISA	=	Amu Bukhara Irrigation System Authority
ABMC	=	Amu Bukhara Main Canal
ADB	=	Asian Development Bank
ADF	=	Asian Development Fund
AFS	=	audited financial statements
BISA	=	Basin Irrigation System Administration
CDM	=	clean development mechanism
COM	=	Cabinet of Ministers
DSS	=	decision support system
DMF	=	design and monitoring framework
GHG	=	greenhouse gas
EA	=	executing agency
EMP	=	environment management plan
FMA	=	Financial Management Assessment
GoU	=	Government of Uzbekistan
ICB	=	international competitive bidding
IEE	=	initial environmental examination
IFI	=	International Financial Institutions
IPDP	=	Indigenous peoples development plan
ISA	=	International Standards on Auditing
ISA	=	Irrigation System Administration
JICA	=	Japan International Cooperation Agency
LAR	=	land acquisition and resettlement
LARP	=	land acquisition and resettlement plan
m ³ /s	=	Cubic meter per second
M&E	=	monitoring and evaluation
M&R	=	modernization and rehabilitation
MAWR	=	Ministry of Agriculture and Water Resources of Uzbekistan
MOE	=	Ministry of Economy
MOF	=	Ministry of Finance
MWh	=	megawatt hours
NCB	=	national competitive bidding
OCR	=	ordinary capital resources
O&M	=	operation and maintenance
PAM	=	project administration manual
PIO	=	project implementation office
PMO	=	project management office
PPMS	=	project performance monitoring system
QCBS	=	quality- and cost based selection
SCADA	=	supervisory control and data acquisition
SOE	=	statement of expenditure
SPS	=	Safeguard Policy Statement
tCO ₂ e	=	tonnes of carbon dioxide equivalent
WCA	=	water consumers' association

I. PROJECT DESCRIPTION

1. The project will address irrigated agriculture and water resources management issues in Amu Bukhara Irrigation System (ABIS) in Bukhara and Navoi Provinces. The impact of the project is sustained economic and social welfare in communities dependent upon ABIS. This will be achieved by a sustainable and reliable water supply in ABIS through implementation of four outputs; (i) one new pump station built and four existing ones modernized and rehabilitated, (ii) conveyance efficiency in the ABIS main canal increased, (iii) the capacity of Basin Irrigation System Administration (BISA), Irrigation System Administrations (ISAs), water consumers' associations (WCAs), and farmers to adapt to climate change increased; and (iv) project and ABIS managed efficiently.

2. **ABIS Overview.** The Bukhara Province is located in the central part of Uzbekistan, which borders Turkmenistan. The population of the Province is 1.7 million in 2012, the population within the command area is about 1.8 million, including entire Bukhara Province and two districts of Navoi Province. Population growth of 1.7% a year in the ABIS command area will have a potentially significant impact on the availability of water.² The ABIS is located on the right bank of Amu Darya River, has a command area of 315,000 ha, in which around 6,500 farmers are dependent on agriculture activities with the support of 145 WCAs (as of 2011), and serves the irrigated lands of the Bukhara-Zarafshan and Karakul oases and the Karaulbazar massif. The ABIS intake channel from the Amu Darya River and about 22 kilometers (km) of the 385-km main canal from the intake channel are located in neighboring Turkmenistan. Operation and maintenance (O&M) of these sections is carried out by the Ministry of Agriculture and Water Resources (MAWR) under a bilateral agreement between the two countries.³ ABIS also provides domestic water supply for an estimated 725,000 people in the ABIS command area.⁴ The importance of reliable water supplies for ABIS is thus significant, as 68% of the population live in rural areas and fully rely on irrigated agriculture.

3. During the last century, when cotton production reached its maximum scale in Uzbekistan, large pump stations were constructed for irrigation which covered almost all regions of the country including Bukhara and Navoi Provinces. After construction of the Amu Karakul Canal (1962) and Amu Bukhara Canal (1964-1965, 1975), the Bukhara Province and a portion of the Navoi Province came to be irrigated with water from the Amu Darya River, which is the Amu Bukhara Irrigation System. Since 1990, cotton as a mono-crop has been gradually reduced due an increase in the area for winter wheat, and its fields have been reduced by up to 55-60%, which is within the recommended range of cotton-wheat crop rotation. Further, in recent years some trend has been observed towards more crop diversification. In 2011 after harvesting almost half the area of wheat was planted by double crops, including vegetables, melons and gourds, legumes, maize etc.⁵

4. The ABIS was commissioned in 1965, and its main pump stations covering 250,000 ha have exceeded their design life spans. The system's main, and inter- and on-farm canals have been obsolete and in poor condition. Water supplies have become more unreliable due to: (i) continued high expenditures (SUM154 billion including electricity cost of SUM122 billion in 2011⁶) of the O&M in ABIS, which led to several major failures of pumping equipment, and the likelihood of

² Bukhara Province. 2012. *Statistic Bulletin*. Bukhara. <http://www.buxoro.uz/>

³ The Agreement on cooperation on water economics between Uzbekistan and Turkmenistan was signed in January 1996.

⁴ This figure was obtained from the statistics departments of Bukhara Province, Kizil Tepa, and Karmana districts.

⁵ In 2010/11, only 1 metric ton (MT) of cotton was produced in the country while approximately 1.6 MT was produced in 1990/91. The decrease in cotton area is attributed to issues concerning food security, problems with irrigation, and generally the risks associated with monoculture and policy in favour of grain production.

⁶ O&M Cost Report of ABISOA for 2007-2011.

future declines in pumping capacity and ultimate failure of the system; and (ii) deteriorated regulatory structures and inefficient water supply operation and management of ABIS leading inefficient water distribution (15%-20% of water has not reached farms from main canal intakes) and low conveyance efficiency (15% of water has not reached main canal intakes from the intake of Amu Darya River) resulting in overall irrigation efficiency of about 40%, posing a significant risk to agricultural production in the region and to the livelihood of local communities. In addition, these aging and energy-inefficient pump stations are consuming overly large amounts of electricity—equivalent to about 60% of total energy consumption in Bukhara Province— and their greenhouse gas (GHG) emissions in 2011 are estimated to be equivalent to 758,000 to 935,000 tons of carbon dioxide (tCO₂e).

5. ABIS area is also suffering poor land quality and about 12% of lands in Bukhara Province considered unsuitable for agriculture. This is mainly due to salinity, attributed to overuse of irrigation water under arid climatic and poor drainage conditions, which leads to salt accumulation in the soil. According to data from Hydrogeological Meliorative Expedition moderately saline lands in ABIS cover about 25-30% and severely saline about 3-4% of the irrigated lands. This is attributed to the overuse of irrigation water which accumulate salts in the soil profile under arid climate condition and poor drainage condition.

6. **Climate Change Impacts on ABIS.** The following climate change impacts to ABIS are identified; (i) the average crop water demand of ABIS is likely to increase by about 9% by 2050; (ii) climate change alone will result in a decrease in average river flow from the current 38 km³/year to an estimated range of between 22 and 28 km³/year due to possible rising temperatures and loss of glacial storage in the headwaters; (iii) the inter-annual variability of available Amu Darya flow is expected to increase from a historic range of 31 to 34%, to a projected (2050) range of 36 to 44%; (iv) more frequent water deficiencies in some years will have the potential to pose serious irrigation problems by 2050, requiring emergency drought management plans; and (v) in order to cope with these changes there is an imperative to massively reduce the irrigation off-take before 2050. Such drier environment is expected to be more reliant on already scarce water resources. Due to the potential for reduced diversions from the Amu Darya River, the ever present risk of drought, and future challenges related to global climate change, feasible adaptation measures are required, including better agricultural practice aimed towards increasing water productivity and preserving land fertility.

7. The project will support the government's 2011 Integrated Rural Development Program, which places priority on improving water management, increasing the productivity of water use, and rehabilitating irrigation systems considering the continued facing problems arising from increasing water stress, which its resource-intensive irrigation system and lesser glacial water flows as a result of global warming.⁷

A. Impact and Outcome

8. The impact of the project is sustained economic and social welfare in communities dependent upon the ABIS. This will be achieved by the outcome: A sustainable and reliable water supply in the ABIS command area.

⁷ ADB. 2011. *Report and Recommendation of the President to the Board of Directors on a Proposed Multitranchise Financing Facility to the Republic of Uzbekistan for Housing for Integrated Rural Development Program Investment Project*. Manila.

B. Outputs

9. The outcome will be achieved through the following outputs:

- (i) **Output 1: One new pump station built and four existing ones modernized and rehabilitated.** This covers: (a) the replacement of Khamza 1 including its auxiliary pump stations with a new Khamza 1 pump station; (b) modernization and rehabilitation (M&R) of Kuyu Mazar pump station; (c) M&R of Khamza 2 pump station; and (iv) M&R of Kizil Tepa and its auxiliary pump stations. These are major existing pump stations in ABIS, and Khamza 1 and Kuyu Mazar pump stations commissioned in 1965 exceeded far beyond their economic life spans, and the other pump stations commissioned in 1975. The benefits of the replacement and M&R of these pump stations are: (a) reduction of energy-consumption; (b) sustained and reliable water supply without operational and system failures; (c) reduction of GHG emission by estimated 23% from estimated 758,155.27 tCO₂e/year in 2011 to estimated 580,065.27 tCO₂e/year, leading to an estimated emissions reduction of 178,090 tCO₂e/year upon project completion. The M&R includes the replacement of pumps and motors, mechanical and electrical equipments, screen gates, gantry cranes, and strengthened building structures, depending on pump station. The output does not include rehabilitation or replacement of discharge pipes attached to target pump stations as the MAWR confirmed that they have been rehabilitating or replacing damaged sections of the discharge pipes and will continue to rehabilitate or replace damaged sections.
- (ii) **Output 2: Conveyance efficiency in the ABIS main canal increased.** This covers: (a) the M&R of 22 key regulatory and/or diversion structures; (b) installation of water measurement gauges; and (c) installation of wireless radio communication systems, along ABIS main canal. These structures were built between 1930 and 1967 and are in poor condition. The conveyance efficiency in ABIS main canal will be achieved by the M&R of these structures closely associated with modernized irrigation system management to reduce ineffective water discharge from the main canal to inter farm irrigation systems.
- (iii) **Output 3: The capacity of Basin Irrigation System Administration (BISA), Irrigation System Administrations (ISAs), WCAs, and farmers to adapt to climate change increased.** This covers: (a) M&R of inter- and on- farm canals and regulation structures in three selected areas; (b) introduction of climate adaptive agronomic practices, cropping pattern, and water saving irrigation technologies in demonstration farms in three selected areas; (c) the development of climate change adaptive modernized water operation and management plan which contributes to increase water productivity based on the detailed water balance assessment with the use of remote sensing and actual water measurements; and (d) capacity development of Bukhara BISA, three ISAs, and three WCAs in Bukhara.⁸
- (iv) **Output 4: Project and ABIS managed efficiently.** This covers project management, institutional and operational supports during project

⁸ The ABIS command area is covered by five ISAs—four in Bukhara Province and one in Navoi Province—as well as 145 WCAs.

implementation to Amu Bukhara Irrigation System Authority (ABISA) responsible for O&M and management of major pump stations and ABIS main canal. The first includes: (a) implementation of safeguards requirements; and (b) project supervision, detained design, procurement, and financial management. The second includes strengthening institution, human capacity, ABIS operation and management in ABISA. Remote monitoring and controlling system will be introduced, and a modernized energy-water efficient operation and management plan will be adopted for effective and efficient operation and management of pump stations and main canals. Capacity building will also be provided for ABISA to integrate GHG monitoring-reporting-verification systems to ensure environmental integrity of the GHGs mitigated in the pumps' O&M. The commercialization of carbon credits will be pursued through clean development mechanism (CDM) or other carbon market mechanisms to fill the financing gap for O&M.⁹

10. In addition, poor-conditioned drainage channels at inter-farm and on-farm levels will be rehabilitated by Government's Amelioration Fund¹⁰ and ADB-financed Land Improvement Project to reduce soil salinity and water logging to compliment to the outcome and the impact of the project.

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

Indicative Activities	2013				2014		Who responsible
	Jul	Aug	Nov	Dec	Jan	Mar	
Loan Negotiations	X						ADB -GoU
ADB Board approval		X					ADB
Loan signing			X				ADB -GoU
Government legal opinion provided				X			GoU
Government budget inclusion					X		GoU
Loan effectiveness						X	GoU-ADB

ADB = Asian Development Bank, GoU = Government of Uzbekistan.

11. From the loan signing date, the following two advertisement processes and necessary advanced actions will commence: (i) the consultant services package (one contract) for (a) procurement and construction supervision, (b) improved water management and water consumers' association (WCA) strengthening, and (c) project management and implementation support; and (ii) the first turnkey contract for the construction of new Khamza pump station. A Project Director and key MAWR staff will be appointed and/or employed prior to loan effectiveness. Project management staff including procurement, financial management, and accounting staff will be fielded after loan signing.

⁹ Accompanying documents focus on clean development mechanism (CDM), which was originally contemplated as climate financing instrument, but recent international developments related to climate change warrant a more broad focus.

¹⁰ In 2007, the Government established the Amelioration Fund to improve drainage conditions to address water-logging and soil salinity problems.

B. Overall Project Implementation Plan

Project Activities	2014 Q1 Q2 Q3 Q4	2015 Q1 Q2 Q3 Q4	2016 Q1 Q2 Q3 Q4	2017 Q1 Q2 Q3 Q4	2018 Q1 Q2 Q3 Q4	2019 Q1 Q2 Q3 Q4	2020 Q1
Output 1: Construct/ rehabilitate/modernize pump stations		X X X	X X X X	X X X X	X X X X	X X X X	X
Output 2: Increase of conveyance efficiency in ABIS main canal			X X X X	X X X X	X X X X	X X X	
Output 3: Increase of climate change adaptation capacity			X X	X X X X			
Output 4: Efficient project and ABIS managements	X X X X	X X X X	X X X X	X X X X	X X X X	X X X X	X
Management Activities							
procurement of contract packages	X X	X X X X	X X X X				
Consultant selection procedures	X X X						
Environment management plan key activities	X X	X X	X X	X X	X X	X	X
Key activities to address gender issues	X X	X X X X	X X X X	X X X X	X X X		
Communication strategy key activities	X X						
Annual/Mid-term review	X	X	X	X	X	X	

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations – Roles and Responsibilities

Project implementation organizations	Management Roles and Responsibilities
Ministry of Finance (MOF)	Borrower: <ul style="list-style-type: none"> ✓ signing the loan agreement; ✓ monitoring of the project implementation and providing respective coordination and facilitation; ✓ allocating and releasing counterpart funds; ✓ endorsing to ADB the authorized staff with approved signatures for withdrawal applications (WAs) processing; and ✓ processing and submitting to ADB any request, when required, for reallocating the loan proceeds.
Ministry of Agriculture and Water Resources (MAWR)	➤ Executing Agency: <ul style="list-style-type: none"> ✓ establishing the project management office (PMO) and project implementation office (PIO) with the required staffing; ✓ establishing the imprest account and for maintaining the accounts through the PMO. ✓ recruiting consultants; ✓ finalizing surveys, detailed design, bidding documents, and contract awards; ✓ timely provision of agreed counterpart funds for project activities; ✓ monitoring and evaluation of project activities and outputs, including preparation of review reports reflecting issues and time-bound actions taken (or to be taken); ✓ involving beneficiaries and civil society representatives in all stages of project design and implementation; ✓ public disclosure of project outputs; ✓ quality assurance of works, and services of consultants and counterpart staff; ✓ establishing strong financial management system and submitting timely WAs to Asian Development Bank (ADB), conducting timely financial audits as per agreed timeframe and taking recommended actions; ✓ complying with all loan covenants; ✓ implementing gender measures; ✓ preparing regular periodic progress reports, and project completion report and their timely submission to ADB; ✓ ensuring projects' sustainability during post implementation stage and reporting to ADB on the assessed development impacts; ✓ ensuring necessary drainage rehabilitation works by coordinating with Government's Amelioration Fund; and ✓ application to carbon credit and signing of emissions reduction purchase agreement
Ministry of Foreign Economical Relations and Trade (MFERIT)	<ul style="list-style-type: none"> ✓ Timely registration of contracts for imported goods, works and international services under the project.

Project implementation organizations	Management Roles and Responsibilities
Amu Bukhara Irrigation System Authority (ABISA)	<ul style="list-style-type: none"> ✓ Assist in finalizing surveys and detailed designs; ✓ Oversee and monitor pump stations rehabilitation works, and other civil works, including preparation of review reports reflecting issues and time-bound actions taken (or to be taken); ✓ involving beneficiaries and civil society representatives in all stages of project design and implementation; ✓ Assist MAWR in quality assurance of works, and services of consultants and counterpart staff; ✓ submitting timely WAs to MAWR/PIO/PMO; ✓ preparing periodic progress reports, and project completion report and their timely submission to MAWR and ADB; ✓ ensuring projects' sustainability during post implementation stage and reporting to MAWR/ADB on the assessed development impacts; and ✓ ensuring necessary coordination with BISA on the output 3 of the project.
Irrigation System Administration (BISA) in Bukhara Province	<ul style="list-style-type: none"> ✓ Oversee and monitor climate change adaptation demonstration activities; ✓ involving beneficiaries and civil society representatives in demonstration activities where required; ✓ quality assurance of climate change adaptation activities; ✓ preparing progress reports, and project completion report and their timely submission to MAWR, and ✓ ensuring project sustainability at post implementation stage and reporting to MAWR/ADB on the assessed development impacts; ✓ mobilizing water consumers' association to arrange climate change adaptation activities; ✓ coordinate with local authority and demonstration farmers to relax cotton and wheat quotas for climate change adaptation demonstration in pilot farms
Project Consultant (firm) -	<p>Provide professional services to MAWR in:</p> <ul style="list-style-type: none"> ✓ supervising day-to-day project implementation progress, assistance in hand-over and defects liability period; ✓ training and knowledge transfer to staff of MAWR, ABISA, BISA, ISA, and WCAs through supporting the implementation of project outputs including GHG monitoring-reporting-verification systems;. ✓ preparing withdrawal applications; ✓ ensuring project compliance with ADB policies and guidelines; ✓ preparing project progress reports; and ✓ maintaining project accounts and loan financial records..
ADB	<p>Lender:</p> <ul style="list-style-type: none"> ✓ assist the MAWR and its PMO/PIO by providing timely guidance at each stage of the project for smooth implementation in accordance with agreed implementation arrangements; ✓ review all the documents that require ADB approval; ✓ conduct periodic loan review missions, a midterm review, a completion mission for the project;

Project implementation organizations	Management Roles and Responsibilities
	<ul style="list-style-type: none"> ✓ monitor MAWR's compliance of all loan covenants; ✓ timely process withdrawal applications and release eligible funds; ✓ monitor MAWR's compliance of financial audit recommendations; ✓ regularly update the project performance review reports with the assistance of the MAWR; ✓ regularly post on ADB website the updated project information documents for public disclosure, and also the safeguards documents as per disclosure provision of the ADB safeguards policy statement; and ✓ Review and approve detailed design for the project upon the submission by the PMO.
Japan International Cooperation Agency (JICA)	Cofinancier: <ul style="list-style-type: none"> ✓ Parallel financing of the project; and ✓ Full administration of scope of works financed by JICA in accordance with its relevant policies, procedures and guidelines.

B. Key Persons Involved in Implementation

Executing Agency

MAWR

Shavkat Khamraev
Deputy Minister
Ministry of Agriculture and Water Resources
Tashkent, Republic of Uzbekistan
Fax No. +998-71 241-32-92; 244-09-20

ADB

Central and West Asia
Department

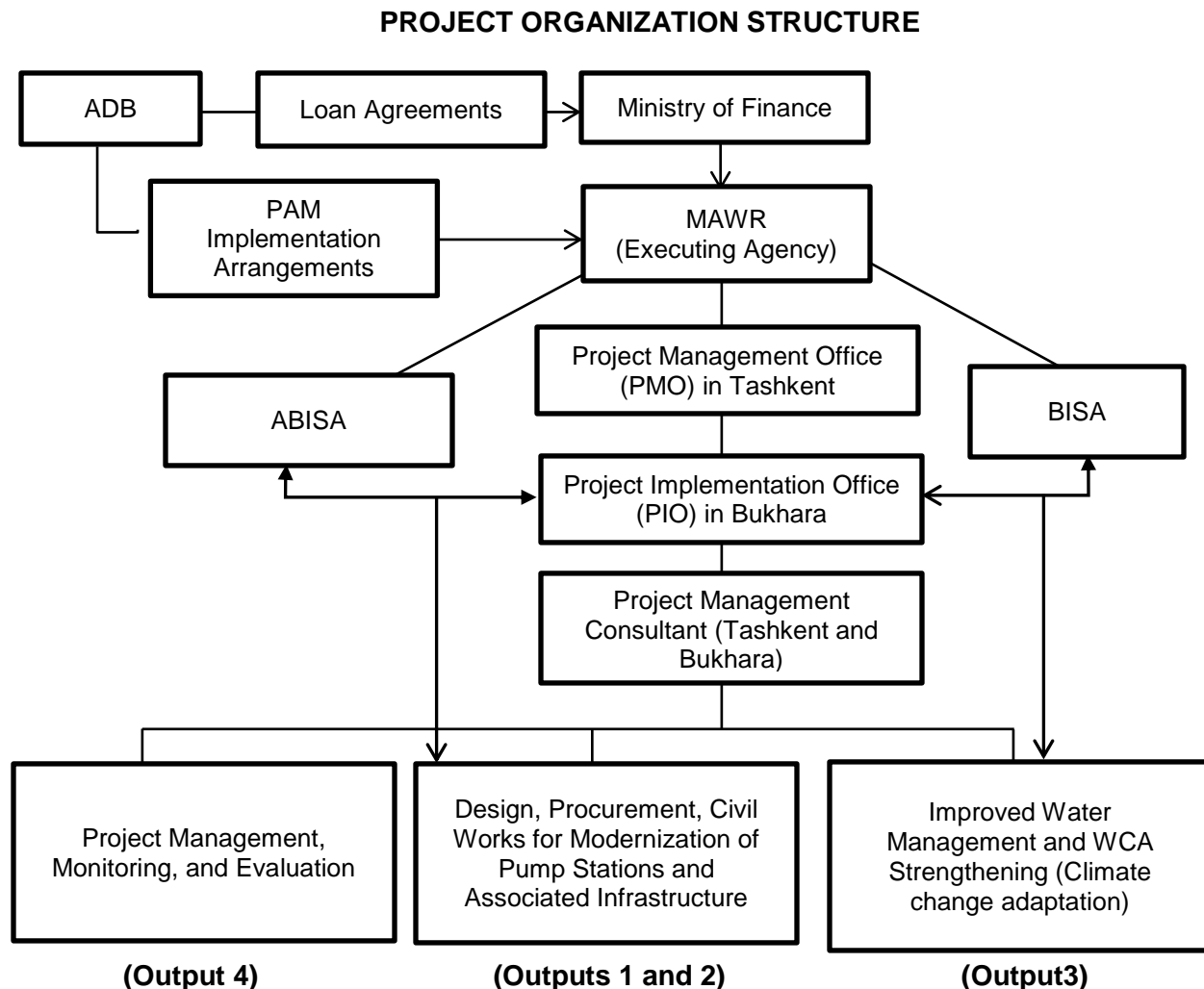
Makoto Ojira
Director
+632 632 4444
Ryutaro Takaku
Senior Water Resources Specialist
Environment, Natural Resources and Agriculture Division (CWER)
Central and West Asia Department (CWRD)
Asian Development Bank
Tel +63 2 632-5158 / Fax +632 636-2017
Email: rtakaku@adb.org

Mission Leader

Resident Mission Focal

Tal'at Nasirov
Portfolio Management Officer
Uzbekistan Resident Mission
Asian Development Bank
Tel +998 71 140-1920 / Fax +998 71 140-1976
Email: tnasirov@adb.org

C. Project Organization Structure



12. MAWR will establish a dedicated full-time PMO in Tashkent. The PMO will be responsible for overall project management and coordination including administering all consulting and procurement contracts. The PMO, assisted by the Consultant (consulting services for the project) will be responsible for preparing project plans, bid evaluation reports, progress reports, applications for withdrawal of funds, and any other required reports to ADB.

13. The Manager of the PMO will report directly to the Project Director (Deputy Minister) of MAWR. The PMO will be the main point of contact for working communication between MAWR and ADB.

14. The PMO Manager and staff will have appropriate academic qualifications with adequate experience of working on large investment projects. The PMO will include the following positions and a team: Project Manager, Deputy Project Manager, Water Resources Engineer, Construction Management Engineer, Information Technology/Communications Engineer, Chief Accountant and Procurement Officer, Financial Specialist, Environmental & Social Safeguards, Poverty & Gender Team, and Translators.

1. Government and ADB

15. Government and ADB – will provide strategic direction, commit resources and financing as agreed, and review progress. Furthermore, they will ensure that the program complies with the relevant statutory requirements, Government and ADB's policies and procedures, including ADB's anticorruption policy, as appropriate.

2. PMO and PIO Roles and Responsibilities

16. The following are key PMO and PIO management and operations units and staff representing the MAWR for the implementation, monitoring, and completion of all project related activities. A PIO will be established and staffed in Bukhara with the primary aim of direct supervision and management of project activities for accomplishing the timely and quality conclusion of all works. It is the responsibility of MAWR to identify key staff and support staff to accomplish implementation of the project. The following describes the roles and tasks of key MAWR staff assigned to the PMO and PIO.

3. Management

17. **Project Director** (Deputy Minister, MAWR) will:

- (i) manage the PMO team and ensure it is staffed appropriately;
- (ii) supervise and manage the strategic implementation of the project (planning, procurement, safeguards, finance and operations related implementation);
- (iii) liaise with MAWR and other agencies, as necessary;
- (iv) report on all procurement related matters and seek approval from Government or ADB, as necessary for procurements of works, goods, and services with the estimated over \$10 million;
- (v) report on all safeguards related matters and obtain approval from National Expertise agencies and ADB, as necessary;
- (vi) report on finance and disbursement related matters; and
- (vii) coordinate with PMO and PIO to ensure proper staffing by all project-related offices and contractors.

4. Operations

18. **The Project Management Office** (this unit is under MAWR) will:

- (i) monitor the progress of the performance and the project deliverables, and report to the Government and ADB;
- (ii) provide financial management of the project;
- (iii) coordinate procurement and recruitment of consultants;
- (iv) prepare periodic reports;
- (v) ensure compliance with ADB's and local safeguards requirements;
- (vi) establish a monitoring and evaluation and reporting system; and
- (vii) coordinate with relevant agencies.

19. **Project Manager** (PMO) will:

- (i) draft annual work programs for each component, submit them to the Project Director and obtaining his/her agreement to them;

- (ii) consult with the Chief Accountant to monitor budgetary expenditure, review disbursement requests, prepare the annual budget and submit these the Project Director for agreement;
- (iii) ensure the hiring of suitably qualified staff to implement the various components in accordance with ADB requirements and as support to the Project Director;
- (iv) guide and collaborate with the responsible staff (e.g. ABISA managers) to monitor component implementation in accordance with the agreed work program;
- (v) attend, hold or participate in seminars, workshops, media events etc to represent the project;
- (vi) make site visits as required to monitor and correct implementation of the project;
- (vii) develop and submit recommendations to the Project Director to resolve issues which arise in the course of project implementation;
- (viii) support the Project Director in the overall project management and preparation of reports for GOU and its relevant agencies;
- (ix) seek approval from Government or ADB, as necessary for procurements of works, goods, and services with the estimated cost less than \$10 million;
- (x) manage all staff directly working on the project, including staff grievance procedures and make recommendations to the Project Director on hiring decisions;
- (xi) coordinate with relevant key staff to maintain an overview of the day-to-day operations of the individual components;
- (xii) provide operational support to key staff members in the implementation of their responsibilities;
- (xiii) draft a comprehensive project reporting system, submit it to the Project Director for agreement and implementation;
- (xiv) coordinate implementation of project components with the relevant project related agencies;
- (xv) assist the Project Director to coordinate interaction with relevant GOU ministries and agencies, as may be required;
- (xvi) liaise with local government administrations participating in the project to ensure successful implementation of project activities;
- (xvii) draft project implementation reports and submit to the Project Director for agreement and distribution;
- (xviii) liaise with ADB staff and supervision missions to ensure successful completion of missions and ongoing project monitoring; and
- (xix) implement recommendations of ADB supervision missions and associated aide-memoires, as agreed by the Project Director.

20. **Deputy Project Manager / Project Implementation Office (PIO) Manager** - will report to the Project Manager and:

- (i) serve as the 'Engineer' and 'Coordinator' for all construction related contracts and activities;
- (ii) oversee all project component activities, specifically monitoring their implementation in relation to the agreed work plan;
- (iii) report any deviations from the work plan to the Project Manager;
- (iv) establish monitoring and evaluation system for project implementation;
- (v) support the Project Manager for the execution of the project;
- (vi) identify any operational problems and raise them with the Project Manager.
- (vii) coordinate with ABISA, BISA, ISAs, WCAs, local governments, but not limited to, carry out all project outputs including climate change adaptation output, inform

- them of the project status, and keep them advised of implementation and also address implementation issues with them;
- (viii) establish and maintain a high profile with local farming communities to ensure awareness of the aims and components of the project;
- (ix) receive feedback from the local farming community and pass this on to the Project Manager;
- (x) organize orientation or training programs to educate project participants; and
- (xi) cooperate with the Project Manager, to draft an annual work plan for the PIO, which will be submitted to the Project Director for approval.

21. **Chief Accountant and Procurement Officer (PMO)** – will identify procurement activities and types of services under the project in connection with the work program and annual budget;

- (i) responsible for taking care of financing, funds flow arrangements, payments, recording, and monitoring of both ADB and Government funds; establish monitoring and management procedures for the imprest account and Statement of Expenditure (SOE) procedures;
- (ii) ensure timely preparation of the annual audited project accounts and submission to ADB within 6 months of financial year end;
- (iii) cooperate with the Project Manager and the PMO staff to develop a strategy for guiding and supporting purchase operations made by the PMO in regard to project components;
- (iv) develop an Operational Manual covering the procurement policies, procedures and standard documents in order to minimize cost and ensure a scheduled carrying out of procurement activities in line with the requirements of the Government and ADB;
- (v) maintain an information database on procurements of technical services, suppliers of equipment, ADB procurement and disbursement guidelines, standard and model bidding documents, and other resources needed by staff in carrying out project components;
- (vi) negotiate and prepare standard bidding packages and specifications to evaluate, enter into contracts, oversee delivery, issue invoices, inspect/test procured items, and make payments to suppliers/contractors;
- (vii) coordinate with the specialists of the PMO, to develop and implement payment mechanisms and procedures to support purchases of goods, technical assistance, and construction services;
- (viii) establish a monitoring system within the procurement unit of the PMO for overseeing project procurement actions and coordinating necessary approvals or correcting shortcomings in procedures; and
- (ix) communicate through the Project Director information and/or documentation to the Government or ADB for their inspection, obtaining comments and/or for commencement of funding.

22. **Environmental & Social Safeguards, Poverty & Gender Team (PIO)** – will assume all responsibilities and tasks related to environment, land, social (including involuntary resettlement and indigenous people), and poverty and gender aspects. It will comprise of one deputy manager and two assistant managers. At least one female staff (gender position) is engaged under the team. The assistant manager for gender position will also responsible for poverty; and the other assistant manager will be responsible for safeguard with the following main tasks:

- (i) ensure that EMP will be updated during detailed design completed;
- (ii) ensure that bidding documents include all requirement to implement IEE and its EMP;
- (iii) ensure that the bidder selected will have adequate resources to implement and update EMP;
- (iv) undertake safeguards monitoring activities and prepare safeguard reports to be submitted to ADB;
- (v) ensure that all construction works will be taken place in the permanent land possession of ABISA;
- (vi) if additional land required for construction works, ensure that land acquisition and resettlement plan is prepared in accordance to ADB SPS 2009 as well as the Government law and regulation related with land acquisition; and
- (vii) ensure that other project-related tasks are complied with ADB SPS 2009 and Government requirement.

23. **Project Implementation Consultant (PMO and PIO)** – will assist the PMO and PIO to.

- (i) conduct reconnaissance reviews and reports for all project related tasks and activities;
- (ii) undertake necessary technical and social surveys (geotechnical, hydrological and other investigations necessary for final designs), institutional analyses, environmental assessments, resettlement considerations, and preliminary designs necessary to establish the economic viability of the project;
- (iii) review specifications, detailed designs prepared by the turnkey contractor for all features associated with the pumping stations, including, but not limited to pump suction and discharge piping, surge protection, drainage and associated equipment for pumps, and electrical supply and control;
- (iv) analyze design options for all aspects of the Amu Bukhara main canal (ABMC) modernization works, and for the demonstration pilot area analyze and support inter-farm canal rehabilitation and upgrading including cross and head regulators, on-farm canal outlets, and associated flow measurement provisions, lining repair and replacement, with necessary reflections of climate change impacts;
- (v) develop a program for climate adaptive irrigation and agronomic practices, and coordinate with BISA, ISAs, WCAs, and selected farms to demonstrate and assess these practices;
- (vi) assist in assessing water balance by introducing remote sensing and water measurements in pilot areas;
- (vii) develop climate change adaptive water management and agriculture extension plan for the adaptation by BISA, ISAs, and WCAs;
- (viii) present all design options for the branch inter-farm canals, including associated measurement and control structures as well as on-farm canal outlets in conjunction with the concerned WCAs, reaching agreement on the package of improvements for the relevant works;
- (ix) review and accept finalize the detailed designs, construction drawings, bills of quantities, technical specifications and tender documentation for all aspects of each bid package;
- (x) provide construction supervision and necessary quality control testing for all installation and construction work;
- (xi) assist PMO and PIO in overseeing the work of support to WCAs in the project area and in carrying out an irrigation and drainage institutional study for

- formulating recommendations for required strengthening and providing necessary institutional based training to BISA, ISAs and WCAs;
- (xii) implement necessary actions and activities for carbon credit trade and commercialized as summarized in the design and monitoring framework (DMF);
- (xiii) building ABISA's capacity to integrate GHG monitoring-reporting-verification systems to ensure environmental integrity of the GHGs mitigated in the pumps' O&M;
- (xiv) develop water-energy efficient ABIS operation and management plan to be adopted by ABISA; and
- (xv) support PMO and PIO in monitoring and evaluation (M&E) of all aspects of project implementation and initial operations.

IV. COSTS AND FINANCING

24. The project costs consist of the following categories:

- (i) **Turnkey Contract (Plant-Design, Supply, and Installation Contract).** Five turnkey contracts (construction of new Khamza pump station, M&R of Khamza 2 pump station, M&R of Kuyu-Mazar pump station, M&R of Kizil-Tepa pump station and M&R of Kizil-Tepa auxiliary pump station) under output 1 of the project will provide all equipment, materials, and associated civil works. Implementation will be under MAWR's responsibility. These will be financed by ADB and JICA.
- (ii) **Civil Works.** M&R of 22 key regulatory and/or diversion structures under output 2 of the project, and for M&R of inter- and on-farm canals and regulation structures in three selected areas under output 3 of the project, financed by ADB.
- (iii) **Consulting Services.** Eight consulting services will be required during project implementation for ADB loans (OCR and ADF) and JICA's parallel financing each. A Consultant (a firm) to be financed by ADB loan (ADF) will be recruited to support the PMO and PIO in project implementation including capacity building for the scope financed by two ADB loans. A consultant for the audit of project accounts covered by two ADB loans will be required every year, that is, 7 consultants throughout project implementation.
- (iv) **Project Management and Monitoring.** Direct and indirect costs of PMO and PIO. The direct cost will be financed by ADB while the indirect cost will be covered by the Government.
- (v) **Environmental and Social Mitigation Measures.** This will be financed by Government.
- (vi) **Taxes and Duties.** Taxes and duties including value added taxes and customs payment will be covered under the government in the form of exemption.
- (vii) **Financial Charges.** The government will finance the financing charges during implementation.

A. Detailed Cost Estimates by Expenditure Category (\$ million)

Item	Local Currency	Foreign Exchange	Total Cost	% to Total Base Cost
A. Investment Costs^a				
1. Turnkey Contracts				
(a) New Khamza Pump Station (PS)	26.61	76.92	103.53	33.6%
(b) Khamza 2 PS	19.55	56.53	76.09	24.7%
(c) Kuyu Mazar PS	7.49	21.65	29.14	9.4%
(d) Kizil Tepa PS	15.11	43.69	58.80	19.1%
(e) Kizil Tepa Auxiliary PS	4.15	12.00	16.15	5.2%
2. Civil Works	4.25	1.82	6.07	2.0%
3. Equipment	0.79	3.87	4.65	1.5%
4. Environmental and Social Mitigation	1.98	0.00	1.98	0.6%
5. Consultanting Services				
(a) Project Implementation Support	2.94	5.95	8.89	2.9%
(b) Capacity Building	1.73	0.12	1.84	0.6%
6. Project Management and Monitoring	1.34	0.02	1.36	0.4%
Total Base Cost	85.93	222.57	308.50	100.0%
B. Contingencies				
1. Physical	7.89	22.49	30.38	9.8%
2. Price	6.40	18.23	24.62	8.0%
Subtotal B	14.29	40.72	55.01	17.8%
Base Cost including contingencies	100.21	263.29	363.50	117.8%
C. Financing Charges During Implementation				
1. Interest During Implementation	0.00	16.10	16.10	5.2%
2. Commitment Charges and Front-end fees	0.00	0.40	0.40	0.1%
Subtotal C	0.00	16.50	16.50	5.3%
Total Project Cost (A+B+C)	100.21	279.79	380.00	123.2%

^a in late 2012 prices.

^a Includes taxes and duties of \$41.5 million including value added tax and customs duties exempted by the Government, and the cost of environmental and social mitigation of \$2.0 million to be financed by the Government.

Source: Asian Development Bank.

B. Allocation and Withdrawal of Loan Proceeds

25. The financing plan is a combination of funds from ADB, and the Government. The OCR portion of the Loans will finance: (i) two turnkey contracts (construction of new Khamza pump station, and M&R of Kizil-Tepa pump station) under the output 1 of the project; and (ii) all required civil works for M&R of approximately 22 key regulatory and/or diversion structures under the output 2 of the project. The Asian Development Fund (ADF) portion of the Loans will finance: (i) one turnkey contract (M&R of Kuyu-Mazar pump station); (ii) all required equipment for M&R of approximately 22 key regulatory and/or diversion structures under the output 2 of the project; (iii) all required cost for the output 3 of the project; and (iv) all required cost for the output 4 of the

project except for the cost of the consulting services required for the design and construction supervision of M&R for Khamza 2 pump station and Kizil-Tepa auxiliary pump station.

26. The Government will finance taxes and duties including value added tax and customs duties as the form of exemption, interest during implementation, commitment charges, as well as the cost of land acquisition and resettlement compensation, the implementation of the environment management plan as required.

Allocation and Withdrawal of OCR Loan Proceeds

CATEGORY		Total Amount Allocated for OCR Financing (\$)	ADB FINANCING
Number	Item		Percentage for ADB Financing from the OCR Loan Amount
1	Turnkey Contracts		
	New Khamza Pump Station**	92,040,000.0	100% of total expenditure claimed*
	Kizil Tepa Pump Stations**	52,280,000.0	100% of total expenditure claimed*
2	Civil Works**	5,040,000.0	100% of total expenditure claimed*
3	Unallocated	24,640,000.0	
	Total	174,000,000.0	

OCR = ordinary capital resources

* Exclusive of taxes and duties imposed within the territory of the Borrower.

** The disbursement will be conditional upon: (i) establishment by MAWR of a fully staffed and operational organization structure for project implementation to ADB's satisfaction, including a PMO in the MAWR in Tashkent, a project implementation office (PIO) in ABISA in Bukhara Province; (ii) the appointment of the project manager by the Government acceptable to ADB; and (iii) the effectiveness of loan agreement between the government and the cofinancier.

Allocation and Withdrawal of ADF Loan Proceeds

CATEGORY		Total Amount Allocated for ADF Financing (SDR)	ADB FINANCING
Number	Item		Percentage for ADB Financing from the ADF Loan Amount
1	Turnkey Contract- Kuyu-Mazar		
	Pump Station**	17,199,000	100% of total expenditure claimed*
2	Civil Works**	212,000	100% of total expenditure claimed*
3	Equipment**	2,735,000	100% of total expenditure claimed*
4	Consulting Services	4,262,000	100% of total expenditure claimed*
5	Project Management and		
	Monitoring	903,000	100% of total expenditure claimed*
6	Unallocated	5,224,000	
	Total	30,535,000	

ADF = Asian Development Fund

* Exclusive of taxes and duties imposed within the territory of the Borrower.

** The disbursement will be conditional upon: (i) establishment by MAWR of a fully staffed and operational organization structure for project implementation to ADB's satisfaction, including a PMO in the MAWR in Tashkent, a project implementation office (PIO) in ABISA in Bukhara Province; (ii) the appointment of the project manager by the Government acceptable to ADB; and (iii) the effectiveness of loan agreement between the government and the cofinancier.

27. In addition, JICA will provide parallel financing of \$100.0 million equivalent for the costs of (i) two turnkey contracts (M&R of Khamza 2 pump station and M&R of Kizil-Tepa auxiliary pump station) under output 1 of the project; and (ii) the consulting services required for the design and construction supervision of item (i) above. JICA will fully administer the scope of works of its parallel financing.

C. Detailed Cost Estimates by Outputs/Components (\$ million)

Item	Total Cost	Output 1		Output 2		Output 3		Output 4	
		Amount	%	Amount	%	Amount	%	Amount	%
A. A. Investment Costs^a									
1. Turnkey Contracts									
(a) New Khamza Pump Station (PS)	103.53	103.53	100.0%	-		-		-	
(b) Khamza 2 PS	76.09	76.09	100.0%	-		-		-	
(c) Kuyu Mazar PS	29.14	29.14	100.0%	-		-		-	
(d) Kizil Tepa PS	58.80	58.80	100.0%	-		-		-	
(e) Kizil Tepa Auxiliary PS	16.15	16.15	100.0%	-		-		-	
2. Civil Works	6.07	0.00	0.0%	5.71	94.0%	0.36	6.0%	0.00	0.0%
3. Equipment	4.65	0.00	0.0%	2.99	64.1%	0.37	7.9%	1.30	27.9%
4. Environmental and Social Mitigation	1.98	1.41	71.6%	0.04	2.1%	0.01	0.5%	0.51	25.7%
5. Consulting Services									
(a) Project Implementation Support	8.89	0.00	0.0%	0.00	0.0%	0.00	0.0%	8.89	100.0%
(b) Capacity Building	1.84	0.00	0.0%	0.00	0.0%	1.22	66.4%	0.62	33.6%
6. Project Management and Monitoring	1.36	0.00	0.0%	0.00	0.0%	0.00	0.0%	1.36	100.0%
Total Base Cost	308.50	285.13	92.4%	8.73	2.8%	1.96	0.6%	12.67	4.1%
B. Contingencies									
1. Physical	30.38	28.22	92.9%	0.87	2.9%	0.21	0.7%	1.08	3.6%
2. Price	24.62	22.83	92.7%	0.66	2.7%	0.15	0.6%	0.99	4.0%
Subtotal B	55.01	51.05	92.8%	1.53	2.8%	0.36	0.7%	2.07	3.8%
Subtotal A+B	363.50	336.18	92.5%	10.26	2.8%	2.33	0.6%	14.74	4.1%
C. Financing Charges During Implementation									
1. Interest During Implementation	16.10	14.80	91.9%	0.50	3.1%	0.10	0.6%	0.70	4.3%
2. Commitment Charges and Front-end fees	0.40	0.40	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%
Subtotal C	16.50	15.20	92.1%	0.50	3.0%	0.10	0.6%	0.70	4.2%
Total Project Cost (A+B+C)	380.00	351.38	92.5%	10.76	2.8%	2.43	0.6%	15.44	4.1%

^a in late 2012 prices.

^a Includes taxes and duties of \$41.5 million including value added tax and customs duties exempted by the Government, and the cost of environmental and social mitigation of \$2.0 million to be financed by the Government.

Source: Asian Development Bank.

D. Detailed Cost Estimates by Financier (\$ million or \$ million equivalent)

Items	ADB (OCR)		ADB (ADF)		JICA		Sub-total	GOU		Total cost
	Amount	%	Amount	%	Amount	%		Amount	%	
A. Investment costs^a										
1. Turnkey Contracts										
(a) New Khamza PS	92.04	100.0%					92.04			92.04
(b) Khamza 2 PS					67.64	100.0%	67.64			67.64
(c) Kuyu Mazar PS			25.91	100.0%			25.91			25.91
(d) Kizil Tepa PS	52.28	100.0%					52.28			52.28
(e) Kizil Tepa Auxiliary PS					14.37	100.0%	14.37			14.37
2. Civil Works										
ADB OCR financing	5.04	100.0%					5.04			5.04
ADB ADF financing			0.32	100.0%			0.32			0.32
3. Equipment			4.12	100.0%			4.12			4.12
4. Environment and Social Mitigation							0.00	2.00	100.0%	2.00
5. Consulting Services										
(a) Project Implementation			4.76	62.0%	2.92	38.0%	7.68			7.68
ADB financing			4.76	100.0%			4.76			4.76
JICA financing					2.92	100.0%	2.92			2.92
(b) Capacity Building			1.66	100.0%			1.66			1.66
6. Project Management & Monitoring			1.36	100.0%			1.36			1.36
7. Taxes and Duties							0.00	41.50	100.0%	41.50
Total Base Cost	149.36	47.3%	38.13	12.1%	84.93	26.9%	272.42	43.50	13.8%	315.92
B. Contingencies	24.64	51.8%	7.87	16.5%	15.08	31.7%	47.58	0.00	0.0%	47.58
C. Financing Charges during Implementation								16.50	100.0%	16.50
D. Total Project Cost (A+B+C)	174.00	47.3%	46.00	12.1%	100.00	26.9%	320.00	60.00	13.8%	380.00

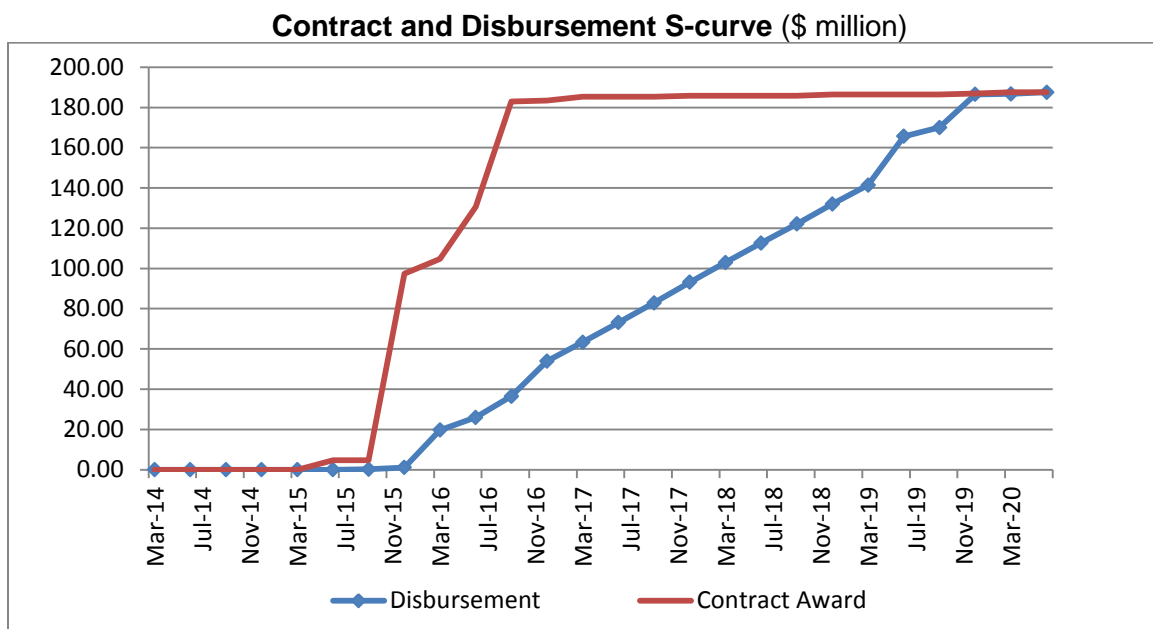
ADB = Asian Development Bank, ADF = Asian Development Fund, GoU = Government of Uzbekistan, JICA = Japan International Cooperation Agency, OCR = ordinary capital resources.

^a These are provisional.

Source: Asian Development Bank.

E. Contract and Disbursement S-curve

28. Projections of disbursement will be confirmed with the executing agencies (EAs) during ADB inception mission and the PAM will be updated accordingly. The forecasted contract award and disbursement profile at project design stage is shown below.

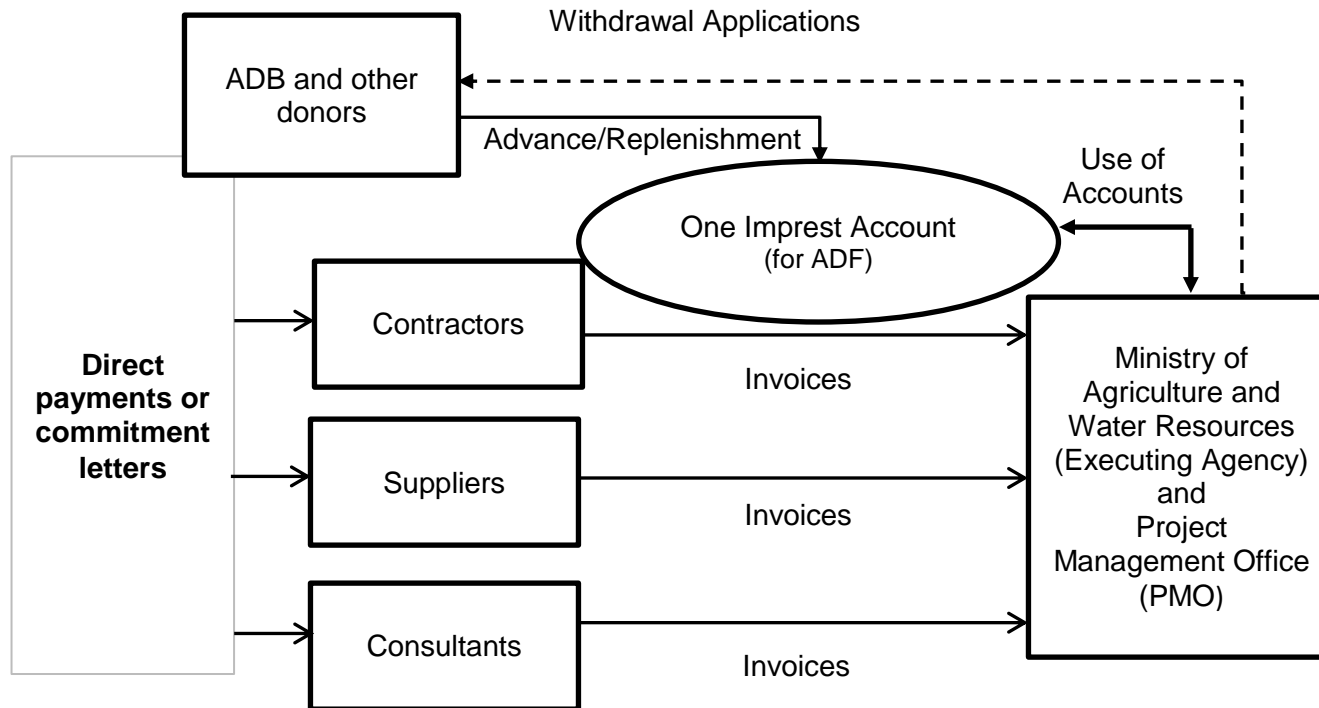


Projections for Contract Award (\$ million)

Year	Q1	Q2	Q3	Q4	Total
2014					0.0
2015		4.8		92.6	97.4
2016	7.4	25.9	52.3	0.6	86.1
2017	1.8			0.6	2.4
2018				0.6	0.6
2019				0.6	0.6
2020	0.5				0.5
Total					187.5

Projections for Disbursement (\$ million)

Year	Q1	Q2	Q3	Q4	Total
2014	0.0	0.0	0.0	0.0	0.0
2015	0.0	0.0	0.2	0.8	1.0
2016	18.6	6.3	10.4	17.6	52.9
2017	9.4	9.7	9.7	10.3	39.2
2018	9.7	9.7	9.4	9.9	38.8
2019	9.4	24.3	4.4	16.4	54.5
2020	0.2	0.8			1.0
Total					187.5

F. Fund Flow Diagram

V. FINANCIAL MANAGEMENT

29. The purpose of this Financial Management Assessment (FMA) is to assess the financial management capacity of the MAWR, the EA, and the financial accounting units to be established under MAWR for the upcoming ADB-financed ABIS Rehabilitation Project. The project with a cost of approximately \$380 million will be implemented over 7 years, starting early in 2014. The estimated project physical completion date is February 2020 and the loan closing date is 31 August 2020.

A. Financial Management Assessment

30. Within the framework of the FMA the following was undertaken: (i) review and analyze the results of Financial Management Assessment of MAWR, the executing agency;¹¹ (ii) review the EA's structure and management framework with regard to financial management; (iii) assessment of MAWR's resources, including its personnel, the scale of Government budgetary support and other sources of income, its information technology equipment and software; and (iv) MAWR's experience in implementing externally financed projects. Consequently, analyses of the EA and PMO's accounting, reporting, auditing, internal control systems, information systems, and capacity of the personnel were carried out. Additional follow-up interviews with MAWR and PMO staff, discussions with authorities, international financial institutions representatives, and reviews of relevant national legislation were also conducted.

31. The FMA is based on ADB's Guidelines for the Financial Governance and Management of Projects Financed by the Bank (2002). The instrument used for assessment was ADB's standard financial management assessment questionnaire.

B. Summary of Findings

32. It is concluded that MAWR currently satisfies ADB's minimum financial management requirements for EAs. The MAWR has a satisfactory financial management capability to: (i) record required financial transactions and balances; (ii) provide regular and reliable financial statements and monitoring reports; (iii) safeguard financial assets; and (iv) submit the required financial documents including separate financial records for the project, by funding source, for all expenditures incurred on the project and project financial statements to auditors with arrangements acceptable to ADB. A summary of the FMA is shown in Table below.

Summary of the FMA

Particulars	Rating	Conclusions
A. Executing Agency	Moderate	MAWR is a government ministry that is accountable to the Cabinet of Ministers (COM) of the Republic of Uzbekistan. MAWR has experience in managing large scale projects financed by ADB, World Bank, and other international funding institutes through their implementations by PMOs.
B. Funds Flow Arrangements	Satisfactory	MAWR has knowledge of and working experience in ADB funds flow arrangements. Preliminary funds flow and lending arrangements have been identified in consultation with MAWR and Ministry of Finance representatives.

¹¹ ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Republic of Uzbekistan for the Water Resources Management Sector Project*. Manila. Supplementary Appendix D.

Particulars	Rating	Conclusions
C. Staffing	Moderate	MAWR is moderately staffed with experienced financial specialists. However, it is getting difficult to retain competent staff due to relatively modest salary scale, which will hamper smooth project implementation. The establishment of the PMO and the PIO hiring key staff outside MAWR to support project director and manager with offering higher salary scale will avoid the delay of the project implementation.
D. Accounting Policies and Procedures	Satisfactory	The MAWR accounting policy is based on the Uzbekistan National Accounting Standards, which are progressively being modernized in accordance with International Accounting Standards. For the ABIS Rehabilitation Project PMO/PIO separate accounting policy, subject to annual updates, and a financial management manual will be established in accordance with requirements of ADB and MOF of Uzbekistan.
E. Procurement	Moderate	The MAWR has improved its capacity in procurement by participating in donor-financed projects and by involving its staff in the procurement evaluations in both the Tender Commission and the Tender Evaluation Committee established by the Government. However, the staff in MAWR still lack experiences and capacities to prepare bidding documents and evaluate bids for relatively high amount of contracts tendered through international competitive bidding, which requires complicated bidding process, such as two-stage two envelop bidding method.
F. Internal/External Audit	N.A.	There is no internal audit unit within the structure of the MAWR. MAWR has not been audited by external auditor but annual procedural audits are conducted by MOF. Operating PMOs under the Ministry are audited by independent external auditors on an annual basis. Audit of the project accounts will be done in accordance with the International Standards on Auditing (ISA), which complies with the requirements of ADB, and this shall be stipulated in the loan agreement.
G. Reporting and Monitoring	Satisfactory	MAWR and PMO reports comply with the reporting requirements of the MOF, the Ministry of Economy (MOE), and the State Taxation Committee. Acceptable reporting requirements for the proposed PMO and PIOs shall be stipulated in the Loan Agreement between ADB and Government of Uzbekistan.
H. Information Systems	Moderate	MAWR's financial system utilizes the <i>1S Buhgalteriya</i> accounting software supplemented with the use of excel spreadsheets and manual methods. Management and operational units of projects, being implemented under MAWR, use similar accounting software for internal and project operations, as well as financial reporting.

33. The following is the summary of the issues that will influence the implementation of the ABIS Rehabilitation Project:

- (i) The Law on Budgetary System¹² regulates the budgeting process in Uzbekistan. This law provides the legal basis for preparation, review, approval and execution of the state budget. In case of projects financed jointly with International Financial Institutions (IFI), the PMO is responsible for providing the forecasted project budget for the subsequent year to the MOE for approval in May of the current year.
- (ii) Government is taking strong measures to transform accounting standards in order to make them consistent with International Standards on Auditing (ISA). There is sufficient accounting personnel capacity, provided that they are trained and informed about ISAs, contemporary financial management techniques and accounting software.
- (iii) Internal audit in both the private and public sector is very poor in Uzbekistan. Government ministries and agencies do not have a unit responsible for internal control and audit. The Control Revision Department of MOF is responsible for internal audit of public sector organizations, but both the scope of its work and its human resources are limited.
- (iv) In Uzbekistan, the external audit system is being developed based on ISA. External audit is not compulsory for state ministries or agencies. However, Article 1 of the Auditing Law (2000) states that if a certain international agreement signed by the Republic of Uzbekistan lays down rules and regulations other than those contained in the legislation of the Republic of Uzbekistan on audit activity, the former is applicable. Projects financed by international financing institutions are subject to annual audit by an independent auditor, as long as the loan agreement between the Government and institutions stipulates this condition.
- (v) Existing legal and organizational arrangements discussed in Country Diagnostic Studies Review (CDSR) pose considerable risks, and make the public procurement process vulnerable. Institutional and human resources capacity at the level of executing and implementing agencies should be evaluated and possible institutional and procurement arrangements need to be defined at the stage of project appraisal. Procurement of smaller packages should be subject, at least, to Shopping method.

C. Disbursement

34. Pursuant to ADB's Safeguard Policy Statement (SPS) (2009),¹³ ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS. All financial institutions will ensure that their investments are in compliance with applicable national laws and regulations and will apply the prohibited investment activities list to subprojects financed by ADB.

35. The proceeds of the ADB loan will be disbursed according to ADB's Loan Disbursement Handbook (2012, as amended from time to time)¹⁴. For large scale contracts for consulting services

¹² Law of the Republic of Uzbekistan No. 158-II on Budgetary System dated 14 December 2000 and amended on 23 May 2005.

¹³ Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>

¹⁴ Available at: http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf

and equipment following ICB procedures, loan funds may be disbursed through direct payment. For civil works following NCB procedures and small expenditures related to the PMO, reimbursement and imprest fund procedures may be applied. For minor goods or services procured at provincial levels payments to suppliers can be done through corresponding PIO.

36. To facilitate project implementation through timely release of loan proceeds, the MAWR will establish one imprest account for ADF after loan effectiveness at a commercial bank acceptable to ADB.¹⁵ The ceiling of the imprest account will be 10% of the ADF loan amount. The currency of the imprest account will be US dollar. The imprest account is to be used exclusively for ADB's share of eligible expenditures. The MAWR who established the imprest account in its name is accountable and responsible for proper use of advances to the imprest account. The EA may request for initial and additional advances to the imprest account based on an estimate of expenditure sheet setting out the estimated expenditures to be financed through the imprest account for the forthcoming 6 months. Supporting documents should be submitted to ADB or retained by the EA in accordance with ADB's Loan Disbursement Handbook when liquidating or replenishing the imprest account. As per banking regulations in Uzbekistan, the PMO will be required to establish two bank accounts, one for foreign exchange and second account for local currency. The foreign currency account will be used by PMO as its imprest account.

37. As discussed in the CDSR, in line with the state budgeting process the PMO should identify the project expenditure budgeted for in the upcoming year and send it to the MOE (through MAWR) in May of the current year. Later the request for funds will be sent to MOF. Expenditure needs for the upcoming 2013 year were not considered in the state budget for year 2012, since the feasibility study is not yet approved by the COM. Therefore before the loan agreement is finalized, it will be essential to ensure that the budget for project start up is available for the initial fiscal year.

38. The overall budget for project implementation is included in the Presidential Decree for the Project as an annex, to ensure that sufficient funds are budgeted for each component for each year of implementation.

39. Since the project is a non-revenue earning project (for MAWR), the Government will take the responsibility for repaying the ADB loans. The project beneficiaries are not expected to provide reimbursement of loans and or to pay for services provided by the project.

40. The SOE procedure may be used for reimbursement of eligible expenditures or liquidation of advances to the imprest account. The ceiling of SOE procedure is the equivalent of \$100,000 per individual payment. Supporting documents and records for the expenditures claimed under the SOE should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit. Reimbursement and liquidation of individual payments in excess of the SOE ceiling should be supported by full documentation when submitting the withdrawal application to ADB.

41. Before the submission of the first withdrawal application, MOF should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is US\$100,000, equivalent under reimbursement and imprest fund procedures, unless otherwise approved by ADB. MAWR is to consolidate claims to meet this limit for reimbursement and imprest account claims. Withdrawal

¹⁵ Bank charges to be incurred in the operation of the imprest account may be financed from the ADB loan proceeds.

applications and supporting documents will demonstrate, among other things that the goods, and/or services were produced in or from ADB members, and are eligible for ADB financing.

42. The disbursement of the proceeds of the Loans except for consulting services and project management and monitoring will be conditional upon: (i) establishment by MAWR of a fully operational organization structure for project implementation to ADB's satisfaction, including a PMO in the MAWR in Tashkent, a project implementation office (PIO) in ABISA in Bukhara Province; (ii) the appointment of the project manager by the Government acceptable to ADB; and (iii) the effectiveness of loan agreement between the government and the cofinancier.

43. The disbursement arrangement for JICA's parallel financing will follow JICA's guideline.

D. Accounting

44. MAWR through the PMO will establish financial management and accounting systems for the project in accordance with Financial Reporting and Auditing of Projects Financed by the ADB. The PMO will also be responsible to maintain project accounts and financial statements. MAWR through the PMO will maintain, or cause to be maintained, separate financial records for the project, by funding source, for all expenditures incurred on the project and prepare project financial statements in accordance with financial reporting arrangements acceptable to ADB.

45. MAWR and its PMO use the accrual method of accounting in their regular and project operations. The accounting system of MAWR, as well as of all state and private legal entities in Uzbekistan, is based on the NAS and the national accounting guidelines of the MOF. As it is practiced in other ADB-financed projects, the PMO will develop a project accounting manual in accordance with ADB and MOF requirements. The manual will be updated annually to include project accounting policy changes issued by the MOF.

46. All reports and supporting documents on all transactions will be stored and retained by the project financial manager until documents are inspected by state controlling agencies (District Tax Inspection, MOF), after which documents will be stored in archives.

47. Clear segregation of duties will be implemented at PMO level. The Project Manager is authorized to execute the project transactions while the financial manager and the accountant handles recording of the transactions. Payments are approved and made by the project manager and the financial manager. In order to increase transparency and reduce potential misappropriation the double checking system (i.e. requiring the documents to be signed by two persons) for bank reconciliations has been found to be the best alternative in MAWR, since the number of PMO accounting personnel is limited in the case of non-revenue earning projects.

E. Auditing and Public Disclosure¹⁶

48. The MAWR will cause the detailed consolidated project accounts to be audited in accordance with International Standards on Auditing and/or in accordance with the Government's audit regulations by an independent auditor acceptable to ADB. The audited project financial statements will be submitted in the English language to ADB within 6 months of the end of the fiscal year by the executing agency.

¹⁶ The disclosure of audited project financial statements is guided by ADB's Public Communication Policy 2011, which is effective 2 April 2012.

49. The annual audit report will include an audit management letter and auditor's opinions which cover (i) whether the project financial statements present a true and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting framework; (ii) whether loan and grant proceeds were used only for the purposes of the project or not; (iii) the level of compliance for each financial covenant contained in the legal agreements for the project; (iv) compliance with the imprest fund procedure; and (v) compliance with use of the SOE procedure certifying (a) to the eligibility of those expenditures claimed under SOE procedures, and (b) proper use of the procedure in accordance with ADB's Loan Disbursement Handbook and the project documents.

50. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

51. The Government and MAWR have been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.¹⁷ ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower/grantee), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

52. Public disclosure of the project financial statements, including the audit report on the project financial statements, will be guided by ADB's Public Communications Policy (2011).¹⁸ After review, ADB will disclose the project financial statements for the project and the opinion of the auditors on the financial statements within 30 days of the date of their receipt by posting them on ADB's website. The Audit Management Letter will not be disclosed.

¹⁷ ADB Policy on delayed submission of audited project financial statements:

- When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (i) the audit documents are overdue; and (ii) if they are not received within the next six months, requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.
- When audited project financial statements have not been received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (i) inform the executing agency of ADB's actions; and (ii) advise that the loan may be suspended if the audit documents are not received within the next six months.
- When audited project financial statements have not been received within 12 months after the due date, ADB may suspend the loan.

¹⁸ Available from <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>.

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting

53. Any advance contracting will be undertaken in conformity with ADB's Procurement Guidelines (2013, as amended from time to time)¹⁹ and ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).²⁰ The issuance of invitations to bid under advance contracting will be subject to ADB approval. The borrower and MAWR have been advised that approval of advance contracting financing does not commit ADB to finance the project. From the loan signing date, the following two advertisement processes and necessary advanced actions with possible advance contracting will commence: (i) the consultant services package (one contract) for (a) procurement and construction supervision; (b) improved water management and water consumers' association (WCA) strengthening; and (c) project management and implementation support; and (ii) the first turnkey contract for the construction of new Khamza pump station.

54. The project does not envisage retroactive financing.

B. Procurement of Goods, Works and Consulting Services

55. All procurement of goods will be undertaken in accordance with ADB's Procurement Guidelines. Bidders must be nationals of member countries of ADB, and offered goods and services must be produced in and supplied from member countries of ADB. The procurement plan will be updated quarterly for the next 18 months of procurement activities.

56. **Upgrading and Modernization of Pump Stations.** The Executing Agency will employ turnkey contractors for construction of new Khamza Pump Station and M&R of Kuyu Mazar, Kizil Tepa, and Kizil Tepa auxiliary Pump Stations.²¹ The procurement will follow International Competitive Bidding procedures using ADB's two-stage two envelope bidding method. ADB's standard bidding documents for *Plant: Design, Supply, Install* will be used.

57. **Procurement of works and equipment.** International competitive bidding procedures will be used for civil works and supply contracts valued at \$2 million and above. Civil works valued and goods valued at \$100,000–\$2,000,000 will be procured through national competitive bidding (NCB) according to the NCB annex in the procurement plan, which summarizes modifications or clarifications needed in the Borrower's procedures to enable it to carry out NCB under ADB-financed projects. Shopping procedures will be allowed for works, materials, and equipment packages costing up to \$100,000.

58. **Consulting Services.** All consultants will be recruited according to ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). Quality- and cost-based selection (QCBS) method will be the default method for recruiting consulting firms with quality:cost ratio of 90:10. ADB's prior approval is needed for determining the selection method. Individual consultants may be engaged for specific assignments with prior approval of ADB. The terms of reference for all consulting services are detailed in Section D.

59. Project Implementation Consultant (consulting firm) is required to assist the EA and PMO with (i) project management, monitoring, and evaluation, (ii) procurement and construction

¹⁹ Available at: <http://www.adb.org/Documents/Guidelines/Procurement/Guidelines-Procurement.pdf>.

²⁰ Available at: <http://www.adb.org/Documents/Guidelines/Consulting/Guidelines-Consultants.pdf>.

²¹ The cost of the M&R of Khamza 2 and Kizil Tepa auxiliary pump stations will be financed by JICA, and its procurement will be administered by JICA in accordance with JICA's relevant guidelines.

supervisions, and (iii) improved water management and WCA strengthening. Estimated contract duration is 72 months.

60. **Participation by Government-owned enterprises.** Government-owned enterprises in Uzbekistan shall be eligible to participate as bidders only if they can establish that they are legally and financially autonomous, operate under commercial law, and are not a dependent agency of the contracting authority. They will be subject to the same bid and performance security requirements as other bidders.

C. Procurement Plan

Basic Data

Project Name: Amu Bukhara Irrigation System Rehabilitation	
Country: Uzbekistan	Executing Agency: Ministry of Agriculture and Water Resources
Loan Amount: \$220 million	Loan Number: TBD
Date of First Procurement Plan: 20 February 2013 (draft)	Date of this Procurement Plan: 23 July 2013

A. Process Thresholds, Review and 18-Month Procurement Plan

1. Project Procurement Thresholds

61. Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works

Method	Threshold
International Competitive Bidding (ICB) for Works	Over \$2,000,000
International Competitive Bidding for Goods	Over \$1,000,000
National Competitive Bidding (NCB) for Works	\$100,000 and \$2,000,000
National Competitive Bidding for Goods ¹	\$100,000 and \$1,000,000
Shopping for Works	Below \$100,000
Shopping for Goods	Below \$100,000

2. ADB Prior or Post Review

62. Except as ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the project.

Procurement Method	Prior or Post	Comments
Procurement of Goods and Works		
ICB Works	Prior	Prior review applies to the procurement of the first two NCB contracts. If the first two contracts are procured satisfactorily it will be determined by ADB if post-review may be used.
ICB Goods	Prior	
NCB Works	Prior	
NCB Goods	Prior	Prior review applies to the procurement of the first two NCB contracts. If the first two contracts are procured satisfactorily it will be determined by ADB if post-review

Procurement Method	Prior or Post	Comments
Shopping for Works Shopping for Goods	Post Post	may be used.
Recruitment of Consulting Firms		
QCBS	Prior	Quality and cost based on 90:10 quality–cost weighting. Applied in accordance with Guidelines on the Use of Consultants (2013, as amended from time to time).
Other selection methods: CQS, LCS, FBS, and SSS	Prior	
Recruitment of Individual Consultants		
Individual Consultants	Prior	
CQS = consultants qualifications selection, FBS = fixed budget selection, ICB = international competitive bidding, LCS = least-cost selection, NCB = national competitive bidding, QCBS = quality- and cost-based selection, SSS = single source selection.		

3. Goods and Works Contracts Estimated to Cost More Than \$1 Million

63. The following table lists goods and works contracts for which procurement activity is either on-going or expected to commence within the next 18 months.

General Description ^a	Contract Value ²²	Procurement Method	Prequalification of Bidders (y/n)	Advertisement Date (quarter/year)	Comments
Plant-Design, Supply, Install Contract for Construction of Khamza New Pump Station	\$92 million	ICB	N	Q2 2014	Advance action, Post qualification required
Plant-Design, Supply, Install Contract for M&R of Kuyu-Mazar Pump Station	\$26 million	ICB	N	Q1 2015	Post qualification required
Plant-Design, Supply, Install Contract for M&R of Kizil Tapa main pump stations	\$53 million	ICB	N	Q2 2015	Post qualification required
M&R of ABMC regulation structures	\$7.7 million	ICB	N	Q4 2014	Post qualification required Approximately 22 structures

ABMC = Amu Bukhara Main Canal, ICB = international competitive bidding.

^a The procurement of the M&R of Khamza 2 pump station with estimated contract value of \$68 million and the M&R of Kizil-Tapa auxiliary pump station with estimated contract value of \$15 million will be administered by JICA in accordance with JICA's relevant guidelines.

²² These amounts are indicative.

4. Consulting Services Contracts Estimated to Cost More Than \$100,000

64. The following table lists consulting services contracts for which procurement activity is either on-going or expected to commence within the next 18 months.

General Description ^a	Contract Value	Recruitment Method	Advertisement Date (quarter/year)	International or National Assignment	Comments
Project Management, Procurement, Construction Supervision, and Capacity Building	\$6.5 million	QCBS 90:10	Q1 2014	International	Advance action, FTP

FTP = full technical proposal, QCBS = quality- and cost-based selection.

^a The recruitment of design and construction supervision consultant with the estimated contract value of \$3 million covering JICA's scope of works will be administered by JICA in accordance with JICA's relevant guidelines.

5. Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000

65. The following table groups smaller-value goods, works and consulting services contracts for which procurement activity is either on-going or expected to commence within the next 18 months.

General Description	Value of Contracts (cumulative)	Number of Contracts	Procurement / Recruitment Method	Comments
Office Equipment	TBD	1-2	Shopping	For PMO and PIO offices
Civil Works for inter-farm and on-farm irrigation system rehabilitation	\$649,200	3	NCB	Demonstration activities
Equipment for inter-farm and on-farm irrigation system rehabilitation	\$331,500	3-4	Shopping	Demonstration activities
Vehicles	TBD	1-2	Shopping	For PMO and PIO offices
Audit of Project Accounts	\$90,000	7	LCS, National	The shortlist shall be based on the WB's qualified list of audit firms

LCS = least-cost selection, NCB = national competitive bidding, PIO = project implementation office, PMO = project management office, TBD = to be determined.

B. Indicative List of Packages Required Under the Project

66. The following table provides an indicative list of all procurement (goods, works and consulting services) over the life of the project. Contracts financed by the Borrower and others should also be indicated, with an appropriate notation in the comments section.

General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Domestic Preference Applicable	Comments
Goods					
Office Equipment	TBD	1-2	Shopping	N	For PMO and PIO offices
Equipment for inter-farm and on-farm irrigation system rehabilitation	\$331,500	3-4	Shopping	N	Demonstration activities
Vehicles	TBD	1-2	Shopping	N	For PMO and PIO offices
Works					
Plant-Design, Supply, Install Contract for pump stations	\$170 million	3	ICB (Plant)	Y	Construction of Khamza new and M&R of Kuyu Mazar, Kizil Tepa pumps stations
M&R of ABMC regulation structures	\$7.7 million	1	ICB	N	
Civil Works for inter-farm and on-farm irrigation system rehabilitation	\$649,200	3	NCB		Demonstration activities

General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Recruitment Method	Type of Proposal	Comments
Consulting Services:					
Project Management, Procurement, Construction Supervision, and Capacity Building	\$6.5 million	1	QCBS 90:10	FTP	Advance action
Audit of Project Accounts	\$90,000	7	LCS	BTP	The shortlist shall be based on the WB's qualified list of audit firms

BTP = bio-data technical proposal, FTP = full technical proposal, ICB = national competitive bidding, NCB = national competitive bidding, QCBS = quality- and cost-based selection, PIO = project implementation office, PMO = project management office, TBD = to be determined.

C. National Competitive Bidding

1. General

67. The procedures to be followed for national competitive bidding shall be those set forth in the applicable resolutions of the COM of Republic of Uzbekistan with the clarifications and modifications described in the following paragraphs required for compliance with the provisions of the ADB Procurement Guidelines (2013, as amended from time to time).

2. Eligibility

68. The eligibility of bidders shall be as defined under section I of the Procurement Guidelines; accordingly, no bidder or potential bidder should be declared ineligible for reasons other than those stated in section I of the Procurement Guidelines. Bidders must be nationals of member countries of ADB, and offered goods, services, and works must be produced in and supplied from member countries of ADB.

3. Prequalification

69. Normally, post-qualification shall be used unless explicitly provided for in the loan agreement/procurement plan. Irrespective of whether post qualification or prequalification is used, eligible bidders (both national and foreign) shall be allowed to participate.

4. Registration and Licensing

- (i) Bidding shall not be restricted to pre-registered/licensed firms.
- (ii) Where registration or licensing is required, bidders (i) shall be allowed a reasonable time to complete the registration or licensing process; and (ii) shall not be denied registration/licensing for reasons unrelated to their capability and resources to successfully perform the contract, which shall be verified through post-qualification.
- (iii) Foreign bidders shall not be precluded from bidding. If a registration or licensing process is required, a foreign bidder declared the lowest evaluated bidder shall be given a reasonable opportunity to register or to obtain a license.

5. Bidding Period

70. The minimum bidding period is 28 days prior to the deadline for the submission of bids.

6. Bidding Documents

71. Procuring entities should use standard bidding documents for the procurement of goods, works and services acceptable to ADB.

7. Preferences

72. No domestic preference shall be given for domestic bidders and for domestically manufactured goods.

8. Advertising

73. Invitations to bid shall be advertised in at least one widely circulated national daily newspaper or freely accessible, nationally known website allowing a minimum of 28 days for the preparation and submission of bids.

74. Bidding of NCB contracts estimated at \$500,000 equivalent or more for goods and related services of \$1,000,000 equivalent or more for civil works shall be advertised on ADB's website via the posting of the procurement plan.

9. Bid Security

75. Where required, bid security shall be in the form of a bank guarantee from a reputable bank.

10. Bid Opening and Bid Evaluation

- (i) Immediately after the date and time set for the deadline for bid submission, bids shall be opened in public. A record of bid opening shall be prepared by the executing agency, or implementing agency, or the contracting authority, and such record shall be distributed to all bidders.
- (ii) Evaluation of bids shall be made in strict adherence to the criteria declared in the bidding documents and contracts shall be awarded to the lowest evaluated bidder.
- (iii) Bidders shall not be eliminated from detailed evaluation on the basis of minor, non-substantial deviations.
- (iv) No bidder shall be rejected on the basis of a comparison with the contract cost estimate(s) and budget ceiling(s) set by the borrower/executing agency without ADB's prior concurrence.
- (v) A contract shall be awarded to the technically responsive bidder that offers the lowest evaluated price, and meets the qualifying requirements. Negotiations shall not be permitted.
- (vi) Price verification shall not be applied.

11. Rejection of All Bids and Rebidding

76. Bids shall not be rejected and new bids solicited without ADB's prior concurrence.

12. Participation by Government-Owned Enterprises

77. Government-owned enterprises in Uzbekistan shall be eligible to participate as bidders only if they can establish that they are legally and financially autonomous, operate under commercial law and are not a dependent agency of the contracting authority/executing agency/implementing agency. Furthermore, they will be subject to the same bid and performance security requirements as other bidders.

13. Right to Inspect/Audit

78. A provision shall be included in all NCB works and goods contracts financed by ADB requiring suppliers and contractors to permit ADB to inspect their accounts and records and other documents relating to the bid submission and the performance of the contract, and to have them audited by auditors appointed by ADB.

14. Fraud and Corruption

- (i) The Borrower shall reject a proposal for award if it determines that the bidder recommended for award has, directly or through an agent, engaged in corrupt,

fraudulent, collusive, or coercive practices in competing for the contract in question.

- (ii) The Asian Development Bank (ADB) will declare a firm or individual ineligible, either indefinitely or for a stated period, to be awarded a contract financed by ADB, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for, or in executing, ADB-financed contract.

15. Pre-Shipment Inspections

79. Pre-shipment inspections, if necessary, shall be carried out by an independent reputable testing authority/surveyor in the supplier's country for reasons of sound engineering practice and economy and efficiency in project implementation.

16. Disclosure of Decision on Contract Awards

80. At the same time that notification on award of contract is given to the successful bidder, the results of bid evaluation shall be published in a local newspaper or a well-known freely accessible website identifying the bid and lot numbers and providing information on (i) name of each bidder who submitted a bid, (ii) bid prices as read out at bid opening; (iii) name of bidders whose bids were rejected and the reasons for their rejection, and (iv) name of the winning bidder, and the price it offered, as well as duration and summary scope of the contract awarded. The executing agency/implementing agency/contracting authority shall respond in writing to unsuccessful bidders who seek explanations on the grounds on which their bids are not selected.

D. Consultant's Terms of Reference

81. The Implementation Consultant's complete terms of reference is presented in Appendix 1.

82. A single consulting services package will be provided to support the PMO to implement the project's (i) infrastructure and (ii) management improvements. It will also help the PMO to develop its capacity to (iii) manage the overall project and (iv) prepare reports.

83. The consultants will assist the MAWR in:

- (i) Preparation of detailed designs as necessary, pre-qualification and bidding documents, evaluation of pre-qualification and tender submissions, construction supervision and management;
- (ii) Improving the management the Amu Bukhara Irrigation System (ABIS) through: (a) strengthening ABISA, BISA, ISAs, and WCAs staff capacities; (b) introducing improved O&M procedures; (c) supporting the establishment of WCAs; and (d) developing and installing a decision support system (DSS), comprising supervisory control and data acquisition (SCADA) system, and an optimized water resources management model;
- (iii) Supporting the M&R of priority ABIS pumping infrastructure through supervision of turnkey contractor for: (a) complete replacement of the pumps, motors and other ancillary facilities with modern units for three pumping stations, which includes a New Khamza Pump Station, and rehabilitation of Kuyu Mazar Pumping Station; (b) improvement to maintenance of facilities through the

installation of modern and efficient pump sets and ancillary equipment; and (c) improvements to selected pump station buildings for management monitoring and reducing greenhouse gas emissions;

- (iv) Rehabilitation of the ABMC infrastructure for upgrading of the ABIS main system. The ABMC rehabilitation component will replace/repair or upgrade worn-out existing control and measurement infrastructure at critical locations in the main conveyance system. The rehabilitation will improve the reliability of irrigation water service and, along with the rehabilitation of the main pump stations, make the main conveyance system more efficient, cost-effective and safer.
- (v) Supporting capacity building to BISA, ISAs, and WCAs by organizing trainings for management staff and leadership on the procedures for effective O&M of the system and on WCA development. Also providing direct support to the operation of ISAs and their WCAs in three selected pilot demonstration areas. The PPTA has identified one pilot demonstration area. The Consultants are required to propose the other two suitable pilot demonstration areas within the ABIS.
- (vi) Training and advising PMO and PIO staff and providing implementation support during project implementation including project financial management. Assisting with establishment within the PMO of a monitoring and evaluation (M&E) unit to carry out project performance monitoring, including the environmental and social impacts as specified in the summary initial environment examination and the poverty and social assessment, and the progress and performance of various reform measures introduced under the project, according to the specific monitoring indicators.

84. The consultants will be engaged as a firm in accordance with ADB's *Guidelines on the Use of Consultants* using the quality-and-cost-based selection method, and other arrangements for the selection and engagement of national consultants.

VII. SAFEGUARDS

85. Government of through MAWR will ensure that all safeguard requirements prescribed for the project that have been prepared are implementation. The project, in accordance to ADB SPS 2009, was categorized as a “B” project for environment, and as “C” project for Involuntary Resettlement and Indigenous People impacts. Therefore, the following safeguard document was prepared during project preparation:

- (i) The Initial Environmental Examination (IEE) including its Environmental Management Plan was prepared. This report identified potential impacts related with the project and proposed mitigation measures and monitoring plan that presented in the Environmental management Plan (EMP); and
- (ii) The social safeguard due diligence covering: (i) the social safeguard audit to ensure that there has been no past and present claim on land that were used by the existing facilities, and (ii) confirming that based on present/initial design engineering, the proposed rehabilitation and reconstruction will not require any land acquisition.

86. The Government through MWAR oblige to implement recommendation from these two safeguard reports that were prepared with adequate consultation with people living in surrounding project areas. The following paragraphs describe briefly the activities to be implemented during project implementation and operation.

A. Environment

87. MAWR will ensure that the design, construction, and operation and maintenance of the facilities under the project are carried out in accordance with ADB’s SPS (2009), applicable laws and regulations in Uzbekistan, and recommendation from IEE and its EMP. MAWR will ensure that potential adverse environmental impacts arising from the project are minimized by implementing all mitigation and monitoring measures as presented in the environment management plan (EMP) included in the IEEs. MAWR will ensure that:

- (i) EMP is updated prior to implementation of civil works.
- (ii) The MAWR and the PMO have sufficient resources to implement and record the implementation of the EMPs prepared for the project.
- (iii) Starting from project commencement, the PMO will submit semi-annual environmental reports prepared by the environment safeguard specialist to ADB, within 3 months of the close of each half of the calendar year during implementation of each individual project under the Investment Program. The report will include, among other things, a review of progress made on environmental measures detailed in the IEEs and EMPs, and monitoring thereof; and problems encountered and remedial measures taken.
- (iv) Detailed engineering designs, civil works and other contracts for the project incorporate applicable environmental measures identified in the IEEs and EMP.
- (v) Civil works contractors are supervised to ensure compliance with the requirements of the IEEs and EMPs.
- (vi) ensure that bidding document include all safeguards requirement as describe in the IEE and its EMP and Social Audit Compliance Report;
- (vii) ensure the winner bidder will have adequate resources to implement safeguards requirement; and

- (viii) ensure that all construction works will be taken place in the permanent land possession of ABISA, and if additional land required for construction works, ensure that land acquisition and resettlement plan is prepared in accordance to ADB SPS 2009 as well as the Government law and regulation related with land acquisition.

B. Land Acquisition and Resettlement, and Indigenous peoples

88. The Due diligence report showed that the project will be implemented only in the existing areas, and no temporary or permanent land acquisition will be needed for the project. Therefore, MAWR will ensure that:

- (i) the project will neither involve land acquisition nor involuntary resettlement within the understanding of the SPS 2009, applicable laws and regulations in Uzbekistan.
- (ii) PMO has to monitor that the project will be implemented only in the areas under the permanent possession of MWAR on ABIS.
- (iii) In case, based on detailed design, additional land is required triggering any land acquisition and resettlement or loss of assets, the MAWR will prepare land acquisition and resettlement plan (LARP) in accordance with Government's requirement and comply with ADB SPS 2009, The LARP will need to be prepared in consultation with affected people, disclosed to affected people, and approved by ADB. If land will be required due change on design, the civil work contract will be fielded only after compensations are fully paid.

89. The project areas is not involve any territory, habitat, or common property that are managed by ethnic minority or indigenous people, and the project is not expected to generate impacts to indigenous people as described in ADB SPS 2009, because there is no such community living in surrounding project areas. Therefore, no arrangement to address indigenous people impacts as described in ADB SPS 2009 was prepared.

VIII. GENDER AND SOCIAL DIMENSIONS

90. MAWR will ensure that the project monitors the social impacts throughout the implementation financed by the Loan, in consultation with local governments, local communities and nongovernment organizations. In this respect, MAWR will ensure that all civil works contractors including turnkey contractors: (i) comply with all applicable labor laws and do not employ child labor for construction and maintenance activities, and provide appropriate facilities for children in construction campsites if required; (ii) use their best efforts to set employment targets for poor and vulnerable people, particularly women, for all construction and maintenance activities, require contractors to use local unskilled labor; (iii) disseminate information at worksites on health safety for those employed during construction; (iv) maintain equal pay to men and women for work of equal type; (v) provide safe working conditions and separate culturally appropriate facilities for male and female workers; and (vi) abstain from child labor. A specific clause shall be included in bidding documents, and compliance shall be strictly monitored during project implementation.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project Design and Monitoring Framework

91. Project DMF is in Appendix 2.

B. Monitoring

(i) Project performance monitoring

92. **Project Performance Monitoring.** The PMO and project implementation consultants will prepare separate progress reports for the project and submit to ADB on a quarterly basis within 30 days from the end of each quarter. The reports will provide a narrative description of progress made during the period, changes in the implementation schedule, problems or difficulties encountered, performance of the project management and implementation consultants, and the work to be carried out in the next period. The progress reports will also include a summary financial account for the project, consisting of project expenditures for the year to date and total expenditure to date. Performance will be evaluated on the basis of indicators and targets stipulated in the design and monitoring framework.²³

93. The PMO through the project performance monitoring system (PPMS), and ADB through the new project management information system (i.e. eOps) will rigorously monitor the overall performance of the project. The PMO will establish a PPMS within 6 months from project commencement and collect and update baseline data for performance monitoring. The international and national M&E consultants will establish the system, with on-going support to the PMO from the national consultant. The system will be tailored to project-specific requirements and prepared in consultation MAWR and specialists within PMO. The key indicators and targets, assumptions, and risks outlined at the impact, outcome, and output levels in the project's DMF will be the primary data required for analysis. In addition, a database of key benchmark indicators will be established by the PMO and become a part of the project monitoring system and be routinely updated and monitored at least twice a year and in greater detail immediately prior to midterm review and project completion. For this purpose, ADB inception mission will provide to MAWR and the PMO a checklist of the above data in a word file, which will be updated in track changes and reported quarterly through the MAWR's quarterly progress reports and after each ADB review mission. These quarterly reports will provide information to regularly update ADB's eOps.

94. MAWR will involve the beneficiaries in the collection of data on impacts and outcomes. During each review mission, the updated project performance will be shared with the interested representatives of project beneficiaries.

95. An M&E Expert to be recruited will report directly to the Project Director of the PMO and submit monthly and quarterly reports after extensive on site visits, which will also be sent to ADB. By adopting this mechanism there is opportunity for close monitoring and result oriented approach for achieving project required objectives. This exercise shall continue at least first year of the project.

²³ ADB's project performance reporting system is available at: <http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool>.

(ii) Compliance monitoring

96. **Compliance Monitoring. Loan covenants**—policy, legal, financial, economic, environmental, and others—will be monitored through semi-annual project meeting and the midterm review.

(iii) Safeguards monitoring

97. **Safeguards monitoring** will be performed by the Safeguards Unit of the PMO and implementation consultants, and the results will be included in the quarterly progress reports. Such monitoring should adhere to the requirements in the IEE and LARPs.

(iv) Gender and social dimensions monitoring

98. The project will not have an adverse impact on women and girls and will be gender-neutral. Classification is “some gender elements.” The project design was developed to (i) include a gender specialist in the PMO; (ii) set out an information campaign that clearly identifies the role of women in the project; (iii) establish and train monitoring groups; and (iv) disaggregate key input, output, and outcome indicators by gender.

(v) Evaluation

99. **Inception Mission.** ADB will field an inception mission after loan signing to (i) establish a working relationship between ADB and the executing agency; and (ii) to ensure that the borrower and executing agency understand ADB's procedures.

100. **Review Missions.** ADB will field review missions at least once a year to review overall implementation of the project and update project implementation schedule based on mission findings.

101. **Midterm Review Mission.** ADB will field a midterm review mission after two years of loan signing to assess whether attainment of the project's immediate objective (purpose in terms of the design and monitoring framework) is still likely.

102. **Project Completion Review Mission.** ADB will field a project completion review mission upon physical completion of the project to commence preparation of ADB's project completion report. Within six (6) months of project completion, MAWR through the PMO shall submit a project completion report to ADB that includes information on (a) project implementation; (b) the use of Loan proceeds; and (c) the accomplishments in relation to the project's outcome and impact.²⁴

C. Reporting

103. The MAWR will provide ADB with (i) quarterly progress reports in a format consistent with ADB's eOps; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) updated procurement plan and (d) updated implementation plan for next 12 months; and (iii) a project completion report within 6 months of physical completion of the project. To ensure the project continues to be both viable and sustainable project accounts and the executing agency AFSs, together with the associated auditor's report, should be adequately reviewed.

²⁴ Project completion report format is available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>.

104. The MAWR shall also provide other reports and information relating to the project as ADB may reasonably request.

105. Within six months of the Effective Date, MAWR through the PMO shall establish the PPMS to monitor the project's progress in achieving the planned outputs, outcome, and impact. MAWR shall also ensure that the M&E team within the PMO shall measure results of the project progress and report its findings to MAWR and ADB. A matrix of indicators shall be established and the baseline data for the agreed indicators shall be gathered and updated every six months. The data shall be reported to stakeholders and the public. During the project review missions, the indicators shall be validated and may be modified to ensure more accurate reflection of the project performance and results.

D. Stakeholder Communication Strategy

106. Project information will be strategically disseminated through media at main milestones including loan signing, contract awards and project completion. Grievance redress mechanism will be established at the PMO, by phone and email, and through public consultation events.

107. During Public Consultations two Local Government Units, Makhallas, agreed to establish Project Progress Monitoring Units in Bukhara and Romitan Districts to inform local stakeholders including CSOs, in particular, community based organizations such as WCAs and to ensure appropriate actions are carried out to maintain progress. The PMO shall provide project performance updates on progress every six months.

ADB Public Communications Strategy

Project Documents	Means of Communication	Responsible Party	Frequency	Audience(s)
Project Information Document (PID)	ADB's website	ADB	initial PID no later than 30 calendar days of approval of the concept paper; quarterly afterwards	General Public
Design and Monitoring Framework (DMF)	ADB's website	ADB	draft DMF after post fact-finding mission	Project-affected people
Environmental Impact Assessments	ADB's website	ADB	at least 120 days before Board consideration	General Public, project-affected people in particular
Resettlement Planning Documents	ADB's website	ADB	post fact-finding mission	General Public, project-affected people in particular
Reports and Recommendations of the President	ADB's website	ADB	within 2 weeks of Board approval of the loan	General Public
Legal Agreements	ADB's website	ADB	no later than 14 days of Board approval of the project	General Public
Initial Poverty and Social Assessment	ADB's website	ADB	within 2 weeks of completion	General Public, project-affected people in particular

Project Documents	Means of Communication	Responsible Party	Frequency	Audience(s)
Documents Produced under Technical Assistance	ADB's website	ADB	within 2 weeks of completion	General Public
Project Administration Memorandum	ADB's website	ADB	After loan negotiations	General Public
Social and Environmental Monitoring Reports	ADB's website	ADB	routinely disclosed, no specific requirements	General Public, project-affected people in particular
Major Change in Scope	ADB's website	ADB	within 2 weeks of approval of the change	General Public
Progress Reports	ADB's website	ADB	within 2 weeks of Board or management approval	General Public
Completion Reports	ADB's website	ADB	within 2 weeks of circulation to the Board for information	General Public
Evaluation Reports	ADB's website	ADB	routinely disclosed, no specific requirements	General Public
Performance of the investment program with clearly defined information requirements and indicators, policy construction and reconstruction, 5-year investment plan, business opportunities, bidding process and guidelines, results of bidding process, and summary progress reports of the ongoing projects.	The borrower's Website	The borrower (Executive Agency)	per project progress, no longer than monthly	General Public

X. ANTICORRUPTION POLICY

108. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the Project.²⁵ All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.²⁶

109. To support these efforts, relevant provisions are included in the loan agreement and the bidding documents for the project. Procurement will follow ADB's Procurement Guidelines; consultant selection will adopt ADB's Guidelines on the Use of Consultants; and disbursement will be made in accordance with ADB's disbursement policies, guidelines, practices, and procedures.

110. MAWR will provide updated information on the project on MAWR's website, including information on the performance of the project, business opportunities, bidding process and guidelines, outcome of biddings and summary progress reports of the project.

²⁵ Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

²⁶ ADB's Integrity Office web site is available at: <http://www.adb.org/integrity/unit.asp>

111. ADB reserves the right of query on the use of bank accounts in third country and the third country payment to the account outside of ADB's member countries.

XI. ACCOUNTABILITY MECHANISM

112. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.²⁷

XII. RECORD OF PAM CHANGES

113. All revisions/updates during course of implementation should retained in this Section to provide a chronological history of changes to implemented arrangements recorded in the PAM.

²⁷ For further information see: <http://www.adb.org/Accountability-Mechanism/default.asp>.

APPENDICES:

Appendix 1 Outline Terms of Reference of Consultants

Appendix 2 Design and Monitoring Framework

OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES¹

I. INTRODUCTION

1. The project will require 204 person-months (p-m) of international and 681 p-m of national consulting services to assist the Ministry of Agriculture and Water Resources (MAWR), the executing agency (EA). ADB will finance to recruit a consultant firm with estimated 173 p-m of international and 535 p-m of national consulting services to assist the MAWR to implement the scope of works financed by ADB while the rest of required consultant inputs will be financed by JICA to assist the MAWR to implement the scope of works financed by JICA.

2. The overall project period is about seven years. The Consultancy assignment shall span this entire period although the inputs of individuals will vary according to need. In case of a delay, the project implementation period may go beyond the completion date subject to ADB approval.

3. The list of experts and their person-months inputs are summarized in the Table below.

Summary of Experts and person-months inputs

	Expertise	person-months		
		International	National	Total
	Project Management, Monitoring and Evaluation			
1.	Water Resources Engineer/Team Leader	33		33
2.	Hydrotechnical Engineer/Deputy Team Leader		72	72
3.	Social and Economic (M&E) Specialist	2	18	20
4.	Financial Management Specialist		18	18
5.	Environmental (M&E) Specialist	12	18	30
6.	Social Safeguards and Gender Specialist	2	12	14
7.	Climate Change Adaptation Specialist	4	4	8
8.	Climate Change Mitigation Specialist/Carbon Credit Specialist	1	9	10
	Engineering Procurement & Construction Supervision			
9.	Chief Resident Engineer	48	60	108
10.	Mechanical Engineers- design	12	12	24
11.	Electrical Engineers (HV + Switch Gear)	8	4	12
12.	HVAC Specialist		4	4
13.	Electrical Engineers (Motors and Auxiliary Facilities)	8	12	20
14.	Civil Engineer (Structural Design)	12	12	24
15.	Bridge Engineer (Design)		4	4
16.	Hydrologist	4	8	12
17.	Geotechnical Specialist	3	8	11
18.	DSS & SCADA Preparation Specialist	2		2
19.	Survey Engineer	2	7	9
20.	Procurement Specialist	12	24	36
21.	Construction Supervision Engineer(s)		180	180
22.	Instrumentation Engineer	4	5	9
23.	Electrical Engineer (Installation of Pump and other facilities)		36	36

¹ The terms of reference for consulting services include the services covering ADB's scope of works financed by ADB to be administered by ADB and the services covering JICA's scope of works financed by JICA to be administered by JICA.

24.	Pump Station Civil Works Inspectors (Measurement and Quality control)		60	60
25.	Mechanical & Electrical Works Inspectors		53	53
26.	Electrical Engineer (Transmission and installation facilities)		16	16
27.	Civil Works Inspectors		18	18
28.	Canal and Bridge Construction Inspector		8	8
Institutional Support, Capacity Building and Training				
29.	Extension Specialist	4	20	24
30.	Irrigation Drainage and On-farm management Sp.	4	36	40
31.	Institutional Development Specialist		20	20
32.	Monitoring and Change Management Specialist	4	12	16
33.	Agronomist		36	36
34.	WCA Specialist	8	22	30
35.	Hydrometeorologist	3	9	12
	Unallocated	12	36	48
	TOTAL	204	681	885

DSS = decision support system, HV = high voltage, HVAC = heating, ventilation, air conditioning heating, ventilation, air conditioning, M & E = monitoring and evaluation, SCADA = supervisory control and data acquisition, WCA = water user's associations.

Sources: Asian Development Bank.

II. SCOPE OF SERVICES

4. The services will be provided by an international consulting firm in association with national consultants (either as individuals or national consulting firm[s]). The Consultant will work within the Project Management Office (PMO) based in Tashkent and within the Project Implementation Office (PIO) in Bukhara. The Consultant shall carry out such other activities, which may not be mentioned below, but are required for the due completion of its assignment and mutually agreed with the PMO and MAWR. The scope of the Consultant assignment is as follows:

5. The consultants will assist the MAWR in:

- (i) Replacement/Rehabilitation/Upgrade of six prioritized Main Pump Stations (New Khamza and its Auxiliary, Khamza 2, Kuyu Mazar, and Kizil Tepa and its Auxiliary) to provide reliable water for irrigation, domestic, municipal, and industrial uses, reduce operation and maintenance (O&M) costs, including power consumption, and reduce green gas emissions.
- (ii) Support, training and advising PMO and PIO staff in project implementation and management including project financial management in accordance with project administration manual and other project documents. Assisting with establishment within the PMO of a monitoring and evaluation (M&E) unit to carry out project performance monitoring, including the environmental, social and safeguards impacts as specified in the summary initial environment examination and the poverty and social assessment, and the progress and performance of various reform measures introduced under the project, according to the specific monitoring indicators.
- (iii) Preparation of bidding documents, evaluation of bid proposals, construction supervision and management.

- (iv) Improving the management of the Amu Bukhara Irrigation System (ABIS) through: (i) strengthening Amu Bukhara Irrigation System Authority (ABISA), Basin Irrigation System Administration (BISA), Irrigation System Administration (ISA), and Water Consumers Association (WCA) staff capacities; (ii) introducing improved operation and maintenance (O&M) procedures; (iii) supporting the establishment of WCAs; and (iv) developing and installing a DSS, comprising SCADA system, and an optimized water resources management model.
- (v) Supporting the M&R of priority ABIS pumping infrastructure through supervision of turnkey contractor for: (i) complete replacement of the pumps, motors and other ancillary facilities with modern units for pumping stations; (ii) improvement to maintenance of facilities through the installation of modern and efficient pump sets and ancillary equipment; and (iii) improvements to selected pump station buildings for management monitoring and reducing greenhouse gas emissions.
- (vi) Rehabilitation of critical Amu Bukhara Main Canal (ABMC) infrastructure for upgrading of the ABIS main system. The ABMC rehabilitation component will replace/repair or upgrade worn-out existing control and measurement infrastructure at critical locations in the main conveyance system. The rehabilitation will improve the reliability of irrigation water service and, along with the rehabilitation of the main pump stations, make the main conveyance system more efficient, cost-effective and safer. The consultants will assist MAWR/PMO in the supervision of the contractor selected for the ABMC civil works.
- (vii) Supporting capacity building to BISA, ISAs, WCAs by organizing training for management staff and leadership on the procedures for effective O&M of the system. Supporting WCA strengthening and development towards sustainability and the implementation of Integrated Water Resources Management (IWRM) principles. Supporting to establish a plan for climate change adaptive water management and agricultural extension with active participation of WCAs and farmers, including the poor and vulnerable.

6. Initiation of far-reaching reforms of farming practices, with the overarching goal of attaining a 40% reduction in overall water usage by 2050, as a sustainable response to declining water availability from the Amu Darya, and to changing climate. Also providing direct support to the operation of ISAs and their WCAs in two selected pilot demonstration areas by training and providing advisory services to more than 124 WCAs in Bukhara Province, but with direct attention on WCAs within the ABIS. The project preparation technical assistance (PPTA) Consultant has identified one pilot demonstration area. The Consultants are required to propose a second suitable pilot demonstration area within the ABIS.

7. The consultants will be engaged as a firm in accordance with ADB's Guidelines on the Use of Consultants using the quality-and-cost-based selection method, and other arrangements for the selection and engagement of national consultants.

III. OUTLINE TERMS OF REFERENCES DESCRIPTION OF TASKS

A. Project Management, Monitoring and Evaluation

8. The PMO will be stationed at Tashkent, the Project headquarters, to facilitate coordination, with other agencies involved in design, construction management and supervision. The Consultant will assist with facilitating coordination of PMO with EA staff, PIO, contractors, design institutes, local administration, the beneficiaries and other consultants hired under the technical assistance associated with the project. The Consultant in coordination and support of the PMO and PIO will, *inter alia*, undertake the following main tasks:

1. Project Management and Team Leadership

- (i) Assist PMO in coordinating all matters related to project implementation with relevant ministries of the Government of Uzbekistan (MAWR, Ministry of Finance, State Committee on Nature Protection and others), PIO, design institutes, the consultants hired under the technical assistance associated with the project, the local administration, ADB, and other organizations related to project implementation.
- (ii) Provide EA staff with on-the-job training in implementing the ADB guidelines and procedures, efficient project management and scheduling techniques.
- (iii) Assist PMO in programming project activities, estimating the financial requirements for these activities and the release of funds on time.
- (iv) Assist the PMO in coordination with PIO and other agencies to ensure that the tendering procedures for procurement of works, services, equipment, and materials are in line with ADB procedures, and that all steps are taken expeditiously and in a transparent manner.
- (v) Assist the PMO to ensure that the accounting standards for the project meet ADB requirements and that the withdrawal applications sent to ADB are complete and are sent on a timely basis.
- (vi) Assist the PMO to ensure that all periodic reports are prepared systematically, submitted on time, reflect the real picture of project implementation; that major issues relating to project implementation are brought to the attention of the concerned parties; and that necessary remedial measures are implemented.

2. Social, Economic, and Environmental Monitoring & Evaluation

- (i) Assist the PMO to develop a project monitoring and evaluation (M&E) system, including: (a) long-term environmental and social impact monitoring programs; and (b) quantifiable indicators to monitor and measure the performance, level of maintenance and efficiency of the rehabilitated system.
- (ii) Assist the PMO to ensure that such an evaluation system will be compatible with or improve the existing Government's system to monitor development progress in the agricultural sector so that the project impact monitoring can be performed effectively by the Government after project completion.

- (iii) Develop in coordination with the PMO a standard format for reports that will clearly reflect project progress in the context of each its components.
- (iv) Prepare manuals in coordination with the PMO and conduct training for PMO and PIO staff (monitoring and evaluation unit/MEU) to conduct regular monitoring of the project activities and prepare project progress reports.
- (v) Assist the PMO to assess the environmental impacts of all rehabilitation works under the project.
- (vi) Assist the PMO to identify key environmental problems requiring further investigations and prepare plan on ecological mitigation measures.
- (vii) Assist the PMO to make projection of environmental status for the post-implementation period.
- (viii) Assist the PMO to evaluate the requirements for environmental monitoring and prepare a long-term environmental monitoring program.
- (ix) Assist the PMO to update as necessary the environment management plan prepared by the PPTA.
- (x) Provide on-the-job training to the PMO and PIO staff on the modern methods of socio-economic survey.
- (xi) Assist PMO and PIO staff to plan and conduct a midterm socioeconomic survey that updates the survey prepared by the PPTA for the project area.
- (xii) Assist the PMO to review and comment on the analyses of the midterm socio-economic survey data collected and reported for the Social Impact Assessment.
- (xiii) Assist the PMO to use the PPTA Socioeconomic Survey to compile a benchmark database incorporating information on economic and social conditions including public health parameters in the project area to provide a comprehensive socio-economic profile of the beneficiary communities.
- (xiv) Assist the PMO to assess the social and economic impact of the project, through information collection and personal interviews.

3. Safeguards and Gender

- (i) Assess all potential land acquisition impacts from the interventions foreseen under upgrading and modernization contracts.
- (ii) Support the Specialists to incorporate social and gender dimensions in preparing the relevant training programs project staff and support organizations.
- (iii) Develop and promote a gender agenda that among other things promotes women's involvement in WCAs, and assist with planning and delivering livelihood programs aimed at women and disadvantaged persons within the project area.

B. Engineering, Procurement, Construction Supervision

1. Procurement and Contract Management

- (i) Familiarize the project staff with procurement requirements of the project, including specific ADB guidelines and procedures on procurement and use of consulting services. Develop contracting capacity at the MAWR, paying particular attention to on-the-job transfer of knowledge, as well as organizational and management considerations.
- (ii) Based on the procurement requirements of the project components, assist the PMO to prepare detailed procurement plans and packages, and determine realistic time-bound schedules for procurement, including parallel and sequential steps for completing procurement activities from initial planning to delivery of goods and services.
- (iii) Provide advice and assistance to PMO and MAWR staff in organizing and managing procurement activities, and review the appropriateness of various procurement packages with respect to their methods of procurement, to ensure that procurement can be undertaken in the most efficient and cost-effective manner in accordance with ADB guidelines applicable to the project.
- (iv) Provide guidance and assistance to PMO and MAWR staff in the preparation of bidding documents for procurement of goods and civil works, which may generally include: (a) invitation to bid; (b) instructions to bidders; (c) form of bid; (d) form of contract; (e) conditions of contract including both special and general; (f) specifications and drawings; (g) list of goods or bill of quantities; (h) delivery time or schedule of completion; and (i) all of the necessary appendices and formats.
- (v) Provide advice and guidance to PMO and MAWR in connection with the application of procedures and requirements related to prequalification, bid opening, evaluation and award of contracts, contract registration in authorized agencies, custom clearance of the goods and their delivery to the final recipients. Particular attention should be paid to time allowance for preparation of bids, bid opening procedures, circumstances related to clarifications or alterations of bids, confidentiality, examination of bids, evaluation and comparison of bids, and applicable domestic preferences.
- (vi) Assist PMO staff with interpretation of various contract provisions and settlement of disputes with the contractors as necessary.
- (vii) Assist the PMO staff to establish a procurement monitoring system, to allow collection and recording of procurement data for: (a) timely information flow, submission and approval of terms of reference, shortlists, and other requirements; (b) tracking all necessary and critical procurement actions and activities; (c) prompt reporting of contract award information by the EA to ADB; (d) preparation of quarterly reports to ADB; and (e) revision of timing of procurement actions including advertising, bidding, contract award, and completion time for individual contracts. This procurement monitoring system will be maintained and kept up-to-date by the PMO. The PMO Staff will be trained by the Consultant to use this system.
- (viii) In relation to contracts, develop in coordination with PMO and MAWR staff administrative and technical procedures for review of contract performance as an integral part of the approval process for justifying contract payments.

- (ix) Assist PMO staff to develop a contract management system to ensure that records and data are stored systematically, and cross-referenced with the financial accounts of the project. The system must allow safekeeping of procurement documentation for easy retrieval and referencing, with adequate paper trails in accordance with generally accepted standards. The contract management system must also be designed to support loan disbursement, reporting, and accounting requirements of the project. Familiarize the PMO staff with the documentation requirements of loan disbursement applications, as well as the necessary records that must be kept by the project to support these loan disbursement applications.

2. Survey Engineering (Survey Engineer)

- (i) Assist the PMO and PIO in review the scope of the surveys and investigations (S&I) works developed by the Turnkey Contractor and make any improvements for due completion of the tasks.
- (ii) Assist the PMO and PIO to coordinate and supervise the S&I as described by the turnkey contractors. The S&I works may include but not limited to: topographical and geodesic investigations, seismic stability investigations, hydro-geological, geological engineering surveys and investigations (geotechnical surveys), soil and water investigations, and conditional survey.

3. Rehabilitation of the ABMK Main System

9. The Consultant's team will assist the PMO and PIO staff to review the feasibility study and defects acts for the ABMK. For scheduling and execution of works consideration will be given to the operational expedient that the ABMK system operates 12 months a year without interruption. Therefore, works should be implemented while pump units are under operation. Hence due to continuous water supplies to canals and structures, structures will be under water permanently and works arranged to be implemented with this condition. The Consultant's team will assist PMO and PIO staff to prepare, bidding documents, technical specifications, bills of quantities, bid drawings and conditions of contract, required for the completion of the works. The design team will be based in Bukhara and coordinate all design work with PMO in Tashkent. The Consultant's will assist the PMO/PIO in the supervision of the contractor for ABMK works, included will be review and approval of structure designs prepared by a design and construct contractor.

4. Modernization and Rehabilitation of Pumping Stations

- (i) Assist PMO and PIO to guide and supervise contractors to undertake all required S&I at 1:1000 scale; verify the PPTA Consultant's assessment survey for all hydraulic structures, mechanical, pump/motor, electrical equipment and ancillary systems at each pump station.
- (ii) Based on the results of S&I, and the feasibility study findings, assist the PMO to ensure that the contractors make detailed designs for upgrading and modernization of the pump stations that will: a) improve pumping efficiency; b) ensure a more reliable water supply; and c) reduce maintenance needs.

- (iii) Ensure that contracts include the design for modernization and upgrading pump stations replacement of pump sets and all auxiliary equipment, including: a) hydraulic and lubricating systems, technical water systems, and electrical systems; b) provision of flow metering equipment; c) replacement of discharge pipelines; and d) improvements to buildings and equipment to comply with Clean Development Mechanism (CDM) recommendations (these recommendations are detailed in the Climate Change Mitigation CDM Report contained in the PPTA Final Report).
- (iv) Ensure that the detail design for rehabilitation works includes: a) replacement of surge valves on each pipeline; and b) a structural survey and stress analysis of discharge pipelines to ensure adequate surge and water hammer protection.
- (v) Assist the PMO and PIO to prepare tender design; technical specifications for equipment; drawings, bill of quantities and bidding documents for supply, delivery and installation of equipment and required civil works for rehabilitation of the main pumping stations.
- (vi) Assist the PMO and PIO in evaluation of bids and award of contracts, undertake contracts supervision.

5. Construction Supervision and Contract Management

10. The Consultant will assist the PIO located in Bukhara in construction management and supervision of rehabilitation works. The Chief Resident Engineer shall be designated as “The Engineer”² during the implementation of the construction contracts, including the turnkey contracts, and will be responsible for inspection and supervision of the construction works, installation of equipment and the testing of construction materials, in order to ensure that the works are implemented and goods supplied in accordance with the designs, specifications and terms and conditions of the relevant civil works and supply contracts. The Engineer would ensure that procurement of goods, services, and civil works contracts are in accordance with the Asian Development Bank’s procedures and guidelines.

6. Support to O&M, Water Resources Management, Agricultural Extension

11. The consultant will advise PMO to support improvements in water resources management within the system through: (i) development and installation of a decision support system (comprising a SCADA system and an integrated water management model) to provide operational staff with access to real-time information and the ability to manage flows throughout the system; (ii) strengthening of the management organization through capacity building, training and introduction of improved O&M procedures; (iii) strengthening of WCAs to properly carry out on-farm and inter-farm water management and O&M; and (iv) provision of essential maintenance equipment. These general tasks will be carried out in the context of climate change adaptation and measures undertaken will include adaptation to climate change. These tasks will include the support to development a plan for climate change adaptive water management and agricultural extension with active participation of WCAs and farmers, including the poor and vulnerable.

² The term “The Engineer” is used in the sense as it is defined in the standard Asian Development Bank/FIDIC construction contracts.

C. Institutional Support, Capacity Building and Training

1. Strengthening WCAs Capacities

12. The Consultant will work as a team with PIO staff and have the following responsibilities:
 - (i) Support the strengthening and development of WCAs within the pilot areas and provide focused training to their representatives. All training sessions and interactions with WCAs by the Consultant and PMO/PIO staff will emphasize awareness for climate change adaptation;
 - (ii) Organize the training and capacity building to broaden the knowledge base and provide skills training to prepare farmer representatives for their jobs in the WCA. Target groups to be covered by training would include staff from the WCAs within the pilot areas and an additional 20 of the 124 for the entire ABIS project area. Training (based on a training needs assessment of the target WCAs) may include business planning, budgeting, bookkeeping, financial administration, operation and maintenance, and agriculture. Advice on organization and management, conflict resolution, and the legislative framework could be also provided;
 - (iii) Assist WCAs, where necessary, in establishing financial and water balance accounting;
 - (iv) Review the existing institutional and management arrangements for O&M, and assess the appropriateness and relevance of existing laws for the formation of WCAs (the Consultant is requested to review the Draft WCA Law prepared by the PPTA consultants for appropriateness);
 - (v) Prepare and test guidelines for WCA development and comprehensive training programs and training materials for WCA development. In this respect particular attention will be given to: Instrumental installation and maintenance, management of siltation, optimized crop calendar and agricultural practices, quantitative water management with minimal water wastage, salinity management, introduction to the full range of water conservation technologies, progressive transition to more thermo-tolerant and halo-tolerant cultivars, and access to micro-finance for more efficient water usage. The WCA guidelines will uphold the principles of Integrated Water Resources Management (IWRM), with robust attention to the provision of adequate technical support, women's involvement, and climate change adaptation. Both draft and final WCA guidelines will be prepared by the consultant as an iterative stakeholder-consultative process, with appropriate stakeholder training, as required;
 - (vi) Study water charge and fee collection systems in the project area; identify problems and analyze underlying causes; assist PMO and PIO to develop an appropriate water charge system and fee collection mechanisms, and organize workshops to present the plans to farmer beneficiaries and build up consensus; develop step-by-step procedures for negotiating and contracting with individual farmers and cost recovery of their on-farm rehabilitation; and
 - (vii) Identify performance indicators for O&M activities and recommend mechanisms to monitor O&M activities with particular emphasis on involvement of project beneficiaries.

2. Inter- and On-farm Canal Development for Climate Change

13. Measures for climate change adaptation have been identified during the PPTA. The Consultant is required to review these measures and modify them to more closely meet the requirements within the pilot demonstration areas and, in general, the entire project. These measures might include capacity building, water management planning, O&M of the on-farm system, crop husbandry, and infrastructure rehabilitation. The Consultant will assist PMO and PIO with the following:

14. **Improvements and Rehabilitation of Inter-farm Canal System (within the Pilot Demonstration Areas).** To carry out demonstrations related to climate change within the existing deteriorated canal supply network at the inter- and on-farm levels requires rehabilitation. The PPTA Consultant identified general improvements required, but the Consultant must conduct a survey of the area and identify specific interventions required. These interventions / rehabilitation efforts must be designed to be climate resistant.

15. While drainage is vital to the sustainability of an irrigation system, drainage works under this project may be considered optional, as other projects and Government drainage programs are on-going and planned for the ABIS. The Consultant will be required to interact with the PMO, PIO, BISA, ISAs, and local government units to decide the extent of works that may be carried out.

16. The Consultant in collaboration with PMO and PIO staff will perform and assist with the following activities: (i) supervise and coordinate the field surveys and investigations on the inter-farm irrigation and drainage system, including inter-farm collectors and other portions and facilities of the drainage network; (ii) review the original design and existing status of the irrigation and drainage system, and performance monitoring of the systems; calculate irrigation and drainage requirements and prepare alternative designs to ensure climate change resilience with bill of quantities and costs for reconstruction/improvement of irrigation and drainage facilities; (iii) assist PIO staff to select the most cost-effective design with the collaboration of the staff, local administration agencies (e.g. WCAs, ISAs, Makhallas) and the farmer beneficiaries; (iv) assist to prepare detailed designs for the selected alternatives, prepare tender documents, evaluate proposals received, assist in award of contracts, and supervise and manage construction works; and (v) provide recommendations on the organization and sequencing of civil works for the rehabilitation/improvement of the irrigation and drainage system.

17. **On-farm Irrigation and Drainage System.** The Consultant will assist PIO staff with the following: (i) design and plan improvements to the on-farm irrigation and drainage systems; (ii) monitor and supervise the field surveys and investigations works; (iii) review the original design of the irrigation system, and performance monitoring of the system; calculate irrigation water requirements for the cropping pattern, and prepare detailed designs which are climate change resilient for reconstruction/improvement of irrigation and drainage facilities, with bills of quantities and costs; (iv) discuss the design and associated costs with the farmers of the area, explain to them the pros and cons of the alternatives and help them in selecting the designs most appropriate for their conditions; (v) prepare detailed designs for the selected alternatives, prepare tender documents, evaluate proposals received, assist in award of contracts, and supervise and manage construction works; and (vi) prepare a schedule for O&M of the irrigation facilities reconstructed/improved under the project and prepare an operational manual.

3. MAWR/BISA's Technical Support for WCAs, The Development of Effective Agricultural Extension Services

18. The consultant will investigate the existing MAWR/BISA technical support services with particular attention to information gaps, data availability, interaction with WCAs, the availability of instrumental and material support, and the role (if any) for NGO assistance. Recommendations will be prepared for more advanced technical support, particularly to meet the multiple challenges posed by climate change. A dedicated hydro-meteorological upgrade will certainly be required.

19. To sustain and disseminate all training and interventions demonstrated, will require capable Agricultural Extension Service personnel. To accomplish this will require the Consultant to aid PIO staff to establish and support an ABIS agricultural extension staff.

4. Climate Change Mitigation

20. The Carbon Credit Consultant will assist in the integration of the monitoring, reporting and verification (MRV) of greenhouse gas (GHG) in the ABIS pumps' operations and management system. The consultant will also prepare the documentation required for climate finance including the validation and registration of carbon credits under the Clean Development Mechanism (CDM) or other carbon finance instrument.

D. Audit of Project Accounts (Separate Consulting Services from A-C above)

21. The auditors are to be recruited in a manner acceptable to ADB. Independent auditors acceptable to ADB will audit yearly separate records and accounts for goods, works, and services to be financed out of the loan proceeds following sound accounting principles, all of which will be maintained by the PMO. Within 6 months of the close of the financial year, certified copies of the audit report, together with the auditor's opinion, will be submitted to the Government and ADB in English. The audit reports will include a management letter and a separate opinion on the use of the imprest accounts and statement of expenditures procedure.

IV. REPORTING REQUIREMENTS

22. The Consultant should submit to the MAWR/PMO and ADB inception, quarterly project progress, and final project completion reports in accordance with the requirements set out below. All reports should be submitted in English with a Russian translation of six copies of each.

23. Inception report should include results of analysis of current situation conducted in accordance with each project output.

24. The project progress reports should be presented on a quarterly basis. Reporting will include an annual quantitative assessment of progress in water conservation, together with a qualitative assessment of the appreciation of sustainability and the imperative for a substantive long-term reduction in usage of irrigation water. The reporting will also include a biennial update of climate change impacts upon the crop water demand and irrigation water availability.

25. The final report must be submitted at the end of the last year of the project and should clearly reflect the work completed in all aspects, and the recommendations of the Consultant. It

will include an update/review of the water conservation target for 2050, and the future institutional and practical requirements to meet this target.

26. All reports should also include assessment of the work done, recommendations on carrying-out of future activities as well as recommendations and proposals on timely and duly project implementation.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Sustained economic and social welfare improvement in communities dependent upon the ABIS	Average farm incomes of SUM91.6 million in 2012 maintained in 2025 ^a	Province and district statistics	Risk Crop sale prices at the farm level decline significantly.
Outcome Sustainable and reliable water supply in the ABIS command area	ABIS main irrigated area of 250,000 ha in 2012 maintained in 2020. Number of drinking water users, 725,000 in 2011, maintained in 2020.	Province and district statistics Province and district statistics	Assumptions Government support for agricultural production and drainage improvement in target areas continues. The bilateral O&M agreement between Uzbekistan and Turkmenistan is maintained. Approval of JICA financing and implementation of the JICA's financed part of the project is timely. Risk Climate change has serious adverse effects in project area.
Outputs 1. One new pump station built and four existing ones modernized and rehabilitated	3.850 km ³ of pumped water ensured by 2020, compared with 4.080 km ³ average during 2006–2011 Energy efficiency (1m ³ /kW) increased from 72% in 2012 to 87% in 2020 Annual GHG emissions reduced by 23% from 0.76 million tCO ₂ e in 2011 to 0.58 million tCO ₂ e in 2020 Carbon credits traded and/or commercialized for \$178,000 a year and used for ABIS O&M before 2020	M&E and PMO reports M&E and PMO reports M&E and PMO reports GHG MRV reports Climate emission reduction purchase agreement(s) and MAWR budget allocation reports	Assumptions Government financing is allocated and disbursed on time. JICA's financed activities are implemented on time. Risk Carbon credit market prices decline.
2. Conveyance efficiency in the ABIS main canal increased	Water conveyance efficiency increased from 85% in 2012 to 90% by 2020	M&E and PMO reports	Assumption Government financing is allocated and disbursed on time.

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
3. The capacity of BISA, ISAs, WCAs, and farmers to adapt to climate change increased	<p>Demonstrated climate change resilient agricultural practices and irrigation practices in 3 pilot OFIS areas adopted by 50% of farmers along each OFIS by 2019</p> <p>Climate change adaptive water management and agricultural extension plan covering up to 2040 operated by BISA, ISAs, and WCAs by Q1 2018</p> <p>Women make up an average of 20% of WCA secretariats in selected OFISs by 2020, compared with 0% in 2012.</p>	<p>M&E and PMO reports</p> <p>M&E and PMO reports</p> <p>BISA, M&E, and PMO reports</p>	<p>Assumption Government financing is allocated and disbursed on time.</p> <p>Risks Local governments have low commitment to the relaxation of cotton and wheat production quotas for selected farms.</p> <p>The BISA lacks commitment to adopting the water management plan.</p>
4. Project and ABIS managed efficiently	<p>Project management unit in Tashkent and project implementation office established by Q3 2013.</p> <p>M&E system established by Q4 2013.</p> <p>Water- and energy-efficient ABIS operation and management plan operational by Q1 2016</p>	<p>M&E and PMO reports</p> <p>M&E and PMO reports</p> <p>ABISA report</p>	<p>Assumptions Decision making for project implementation is timely.</p> <p>JICA's financed activities are implemented on time.</p> <p>Risk ABISA has a low commitment to adopting the ABIS operation and management plan.</p>
Activities with Milestones		Inputs	
<p>1. One new pump station built and four existing ones modernized and rehabilitated</p> <p>1.1 Complete tender document for turnkey contract of new Khamza pump station by Q2 in 2014</p> <p>1.2 Implement contract for new Khamza pump station by Q1 in 2015</p> <p>1.3 Replace Khamza 1 and its auxiliary pump stations with new Khamza pump station by Q4 2019</p> <p>1.4 Complete tender document for turnkey contract of Khamza 2 pump station by Q2 in 2014</p> <p>1.5 Complete tender document for turnkey contract of Kuyu-Mazar pump station by Q2 in 2014</p> <p>1.6 Complete tender documents for turnkey contract of Kizil-Tepa pump station by Q2 in 2014</p> <p>1.7 Complete tender documents for turnkey contract of Kizil-Tepa auxiliary pump station by Q2 in 2014</p> <p>1.8 Modernize and rehabilitate Khamza 2, Kuyu-Mazar, Kizil-Tepa, and Kizil-Tepa auxiliary pump stations by Q4 in 2019</p> <p>1.9 Submit letters of intent for CDM project development by Q4 2014</p> <p>1.10 Complete carbon project documentation by Q4 2014</p> <p>1.11 Complete carbon project validation and/or submission for CDM registration by Q4 2015</p> <p>1.12 Identify potential carbon credit buyers by Q4 2017</p>		<p>ADB loans: \$220 million OCR loan: \$174 million ADF loan: \$46 million equivalent Japan International Cooperation Agency (loan): \$100.0 million equivalent Government: \$60.0 million</p>	

Activities with Milestones	Inputs
<p>2. Conveyance efficiency in the ABIS main canal increased</p> <p>2.1 Complete detailed design and tender document for packaged single contract of regulatory and/or diversion structures M&R by Q3 in 2016</p> <p>2.2 Implement contract by Q1 in 2017</p> <p>2.3 Modernize and rehabilitate 22 regulatory and/or diversion structures by Q3 2019</p> <p>3. The capacity of BISA, ISAs, WCAs, and farmers to adapt to climate change increased</p> <p>3.1 Complete detailed design and tender document for contract of the first IFIS and OFIS M&R by Q1 in 2015</p> <p>3.2 Start demonstration of climate change adaptation in the first farm by Q4 in 2015</p> <p>3.3 Identify two other pilot areas and demonstration farms by Q3 in 2015</p> <p>3.4 Complete detailed designs and tender documents for contracts of the second and the third IFISs and OFISs M&Rs by Q1 in 2016</p> <p>3.5 Start demonstrations of climate change adaptation in the second and the third farms by Q4 in 2016</p> <p>3.6 Complete water balance assessment by remote sensing and measurements by Q2 in 2017.</p> <p>3.7 Develop climate change adaptive water management and agriculture extension plan by Q4 in 2017</p> <p>4. Project and ABIS managed efficiently</p> <p>4.1 Establish PMO in Tashkent and PIO in ABISA by Q4 2013</p> <p>4.2 Field implementation consultant to support PMO and PIO by Q2 2014</p> <p>4.3 Develop M&E system and contracting M&E by Q3 2014</p> <p>4.4 Oversee and monitor safeguards activities (2014–2020)</p> <p>4.5 Strengthen project management capacity (2014–2020)</p> <p>4.6 Develop water- and energy-efficient ABIS operation and management plan by Q4 in 2015</p>	

ABIS = Amu Bukhara Irrigation System, ABISA = Amu Bukhara Irrigation System Authority, ADB = Asian Development Bank, ADF = Asian Development Fund, BISA = basin irrigation system administration, CDM = Clean Development Mechanism, GHG = greenhouse gas, ha = hectare, IFIS = inter-farm irrigation system, ISA = irrigation system administration, JICA = Japan International Cooperation Agency, kW = kilowatt, m³ = cubic meter, MAWR = Ministry of Agriculture and Water Resources, M&E = monitoring and evaluation, M&R = modernization and rehabilitation, MRV = monitoring-reporting-verification, OCR = ordinary capital resources, OFIS = on-farm irrigation system, O&M = operation and maintenance, PIO = project implementation office, PMO = project management office, Q = quarter, tCO₂e = tons of carbon dioxide equivalent, WCA = water consumers' association.

^a Average farm income is based on 67 ha (the average farm size).

