Technical Assistance Report

Project Number: 53109-002
Transaction Technical Assistance (TRTA)
November 2019

Republic of Tajikistan: Preparing the Irrigation and Drainage Modernization in the Vaksh River Basin Project

Asian Development Bank

CURRENCY EQUIVALENTS
(as of 29 October 2019)

Currency unit	–	somoni (TJS)
TJS1.00	=	$0.1031406323
$1.00	=	TJS9.6955

ABBREVIATIONS

ADB	–	Asian Development Bank
ALRI	–	Agency of Land Reclamation and Irrigation
I&D	–	irrigation and drainage
OFWM	–	on-farm water management
TA	–	technical assistance
WUA	–	water users' association

NOTE

In this report, "$" refers to United States dollars.

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TRANSACTION TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data — **Project Number:** 53109-002

Project Name	Preparing the Irrigation and Drainage Modernization in the Vaksh River Basin Project	**Department/Division**	CWRD/CWER
Nature of Activity	Project Preparation	**Executing Agency**	Agency for Land Reclamation and Irrigation
Modality	Regular		
Country	Tajikistan		

2. Sector

	Sector	Subsector(s)	ADB Financing ($ million)
✓	Agriculture, natural resources and rural development	Irrigation	0.70
		Rural water policy, institutional and capacity development	0.20
		Water-based natural resources management	0.10
		Total	**1.00**

3. Operational Priorities

- ✓ Addressing remaining poverty and reducing inequalities
- ✓ Accelerating progress in gender equality
- ✓ Promoting rural development and food security
- ✓ Strengthening governance and institutional capacity

Sustainable Development Goals

SDG 1.2, 1.4
SDG 2.3, 2.4
SDG 5.5, 5.b
SDG 6.4
SDG 10.1

Climate Change Information

Climate Change impact on the Project: High

Gender Equity and Mainstreaming

Gender Equity (GEN): ✓

Poverty Targeting

General Intervention on Poverty: ✓

4. Risk Categorization: Low

5. Safeguard Categorization: Safeguard Policy Statement does not apply

6. Financing

Modality and Sources	Amount ($ million)
ADB	**1.00**
Transaction technical assistance: Technical Assistance Special Fund	1.00
Cofinancing	**0.00**
None	0.00
Counterpart	**0.00**
None	0.00
Total	**1.00**

Currency of ADB Financing: US Dollar

I. THE ENSUING PROJECT

1. Tajikistan is mountainous with a population of 9.1 million in 2018, of which 47% lives on less than $1.33 per day.[1] Agriculture accounts for 20% of the national gross domestic product and employs about 51% of the population. With only 7% of land being arable, limited land per capita of 0.1 hectares and underdeveloped agriculture with low yields, it has the highest level of food insecurity in Central Asia. Irrigation and drainage (I&D) infrastructure is outdated and dilapidated further constraining agricultural productivity. Water users have low capacity in improved agriculture and water management practices. The proposed project will modernize the Yavan and (priority components of) Kumsangir I&D systems in the Lower Vaksh river basin in Tajikistan.[2] The project impact is food security and people's access to good quality nutrition increased. The project outcome is performance of Yavan and Kumsangir I&D systems improved. This will be achieved with: (i) climate resilient and modernized I&D infrastructure to improve water use efficiency; (ii) inclusive and reliable on-farm water management (OFWM); and (iii) policy and institutions strengthened for sustainable I&D management, focusing on the Agency of Land Reclamation and Irrigation (ALRI) and water users associations.[3]

2. The project is estimated to cost $26 million. The Asian Development Bank (ADB) will finance $25 million from its Special Funds resources (Asian Development Fund). The Government of Tajikistan will provide $1 million through provision of counterpart staff, office space, exemptions of taxes and duties, access to information and data, and other in-kind contributions. The transaction technical assistance (TA) and the ensuing grant are included in ADB's country operations business plan.

II. THE TECHNICAL ASSISTANCE

A. Justification

3. The TA will support the government to prepare feasibility studies of the Yavan and (priority components) of Kumsangir I&D systems. These studies will identify proposed interventions and include technical (engineering design) and environmental, social and economic and financial assessments.[4] A TA grant of $1 million will be required to prepare the ensuing grant project. It will identify targeted interventions for gender empowerment and inclusion in I&D modernization, decision making and income generation. The TA will identify suitable interventions to be made for improved OFWM, including land and water management initiatives and application of technologies, particularly for high value crops. It will also highlight areas for capacity building support in technical, procurement, financial management, etc., for ALRI.[5]

B. Outputs and Activities

4. **Output 1: Preparation of sector roadmap.** This output will support strategic actions for sustainable I&D management in Tajikistan. The output will develop: (i) a methodology for I&D asset inventory and management in the Vaksh river basin; (ii) an approach for operation and

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[1] World Bank. Employment in agriculture (% of total employment) (modeled ILO estimate) (accessed 22 July 2019).

[2] The Kumsangir I&D system comprises three stages of pumping (with separate pumping stations), each with an associated command area. The TA will focus on developing the priority stage of pumping as agreed with ALRI.

[3] ALRI is the mandated agency for operation, maintenance and management of I&D systems and flood management infrastructure.

[4] The TA will prepare advanced designs for main elements of I&D systems which will be sufficient for preparing bid documents and cost estimation to within a +/- 10% range.

[5] The TA first appeared in the business opportunities section of ADB's website on 8 November 2019.

maintenance cost rationalization which can be applied to I&D systems to improve cost estimation for annual, periodic and emergency maintenance; and (iii) volumetric measurement of irrigation water supplies, pricing and cost recovery mechanisms on a suitable area identified within Yavan or Kumsangir I&D systems.[6] The output will also develop a gender sensitization program for ALRI and other relevant agencies (such as the Ministry of Agriculture and the Ministry of Water Resources). A multimedia knowledge product on women irrigators will be prepared as a capacity building tool. A study tour to Australia for relevant government counterparts will strengthen understanding of modernized approaches to I&D management.[7]

5. **Output 2: Preparation of investment project.** This output will develop Yavan and (priority components of) Kumsangir I&D systems. This will include: (i) topographic and geotechnical surveys; (ii) feasibility-stage engineering design for I&D modernization; (iii) development of relevant on-farm interventions; (iv) targeted gender interventions to improve women's access to knowledge, skills and inputs for improved agricultural productivity and economic empowerment;[8] (v) economic and financial analysis; (vi) preparation of financial and procurement management due diligence and action plan; (vii) preparation of project safeguards in line with ADB and government requirements; (viii) preparation of sector assessment and development coordination report; (ix) preparation of project cost estimate, financing plan, risk assessment and management plan, gender action plan, procurement plan, implementation schedule, implementation arrangements including role of ALRI and other stakeholders, and design and monitoring framework; (x) preparation of technical specifications and draft bidding documents for first procurement package; and (xi) draft documentation for ADB Board consideration and feasibility design report for internal government project approval as required.

C. Cost and Financing

6. The TA is estimated to cost $1,100,000, of which $1,000,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF–6). The key expenditure items are in Appendix 1.

7. The government will provide counterpart support (the equivalent of $100,000) in the form of counterpart staff, office space, exemptions of taxes and duties, access to information and data, and other in-kind contributions. The government was informed that approval of the TA does not commit ADB to finance any ensuing project.

D. Implementation Arrangements

8. ADB will administer the TA. The TA will require 12 person-months of international and 6 person-months of national individual consultants for developing overall project design and conducting due diligence, and a national firm for preparing a feasibility study for selected subprojects. ADB's Central and West Asia Department will select, supervise and evaluate consultants. The TA consultants will procure limited goods (para. 10).

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[6] The World Bank is to undertake river basin planning of the Vaksh river. ADB activities will contribute and complement the activity.

[7] The study tour will be held in the Murray-Darling River Basin. It will comprise a maximum of three senior government representatives including at least one from ALRI.

[8] An advance study is being undertaken on the feminization of agriculture in the Lower Vaksh River Basin. The ADB grant financed study (amounting to $40,000) commenced in October 2019. Outputs will include a preliminary socio-economic baseline survey of the selected I&D subprojects and details of women's engagement in irrigated agriculture.

9. ALRI will be the executing agency of the TA, with a suitably qualified and experienced project director. The implementation arrangements are summarized in the table.

Implementation Arrangements

Aspects	Arrangements		
Indicative implementation period	December 2019–May 2020		
Executing agency	Agency for Land Reclamation and Irrigation		
Consultants	To be selected and engaged by ADB		
	Firm: Fixed budget selection (lump sum, output based contract)	Feasibility Design Services (66 person-months)	$400,000
	Individual: Individual consultant's selection (lump sum, output based)	Team Leader/Irrigation Modernization Engineer, Institutional Development Specialist, Project Economist , Climate Change Specialist, Water Users Association Specialist, and Remote Sensing Specialist (total 18 person-months)	$416,000
Procurement[a]	To be procured by consultants.		
	Shopping	One contract (IT equipment including printer (A3 color), wi-fi router, etc.)	$1,000
Advance contracting	Advance contracting will be used to recruit the TA consultants.		
Disbursement	The TA resources will be disbursed following ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time).		
Asset turnover or disposal arrangement upon TA completion	All office equipment will be handed over to the Agency for Land Reclamation and Irrigation upon completion of the TA.		

ADB = Asian Development Bank, IT = information technology, TA = technical assistance.
Source: ADB.

10. **Consulting services.** ADB will engage the consultants following the ADB Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions.[9] Consulting services will include a suitable firm to prepare feasibility studies for Yavan and (priority components of) Kumsangir I&D systems. Individual consultants will be directly engaged.

[9] Terms of Reference for Consultants (accessible from the list of linked documents in Appendix 2).

COST ESTIMATES AND FINANCING PLAN
($'000)

Item	Amount ($'000)
A. Asian Development Bank[a]	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	300.0
ii. National consultants	442.0
b. International and local travel	73.0
c. Reports and communications	6.0
d. Miscellaneous administration and support costs[b]	13.0
2. Equipment (rental and/or purchase)[c]	1.0
3. Surveys (geographical information systems data) and Studies	50.0
4. Knowledge product[d]	28.0
5. Training, seminars, and conferences	
a. International study tour[e]	33.0
b. Venue rental and related facilities	5.0
c. Participants	1.0
6. Contingencies	
	48.0
Subtotal (A)	**1000.0**
Total	**1000.0**

Note: The technical assistance (TA) is estimated to cost $1.0 million, of which contributions from the Asian Development Bank (ADB) are presented in the table. The government will provide counterpart support in the form of counterpart staff, office space, exemptions of taxes and duties, access to information and data, and other in-kind contributions. The value of the government contribution is estimated to account for 1% of the total TA cost.

[a] Financed by ADB's Technical Assistance Special Fund (TASF 6).

[b] These include office operation expenses, salaries of office administrative staff, translation and interpretation costs, etc.

[c] Including IT equipment, office printer (A3 color), wi-fi router, etc. These items will be handed over to the Agency of Land Reclamation and Irrigation (ALRI) upon completion of the TA.

[d] The knowledge product will comprise multimedia outputs to showcase women's engagement in irrigated agriculture in Tajikistan. It will be prepared as capacity building support for water resources, irrigation and drainage (I&D), and gender practitioners in a national, regional and international context.

[e] A study tour will be organized for a maximum of three persons from the Government of Tajikistan. At least one person will be from ALRI and the remaining from other relevant agencies. It will showcase I&D modernization achievements in a suitable developing member country. It will also provide insights to the role of policy and institutions in improved agriculture water productivity.

Source: ADB estimates.

LIST OF LINKED DOCUMENTS
http://www.adb.org/Documents/LinkedDocs/?id=53109-002-TAReport

1. Terms of Reference for Consultants

TERMS OF REFERENCE FOR CONSULTANTS

A. Feasibility Design Services

1. The services will be under the overall direction of the International Team Leader/Irrigation Modernization Engineer (to be engaged as an individual consultant). The main outputs will include: (i) feasibility design services for the two identified subprojects only at Yavan and Kumsangir. These will include technical appraisals of the selected subprojects, including data collection, surveys, studies, scheme modernization, engineering design, and management and operation and maintenance (O&M) aspects; (ii) relevant requirements to prepare social and gender assessments; (iii) economic and financial analysis; and (iv) financial management, procurement capacity and risk assessments, and social and environmental safeguards reporting. All outputs will be prepared in accordance with relevant ADB guidelines.

2. The feasibility design services (to be engaged under one package) will be implemented over a period of 5 months from about January 2020. A total of 66 person-months (pm) are required. The estimated staffing requirements are shown in Table 1.

Table 1. Summary of Indicative National Staff Requirements for Feasibility Design Services

National Key Staff Positions	No. of person-months
Deputy Team Leader/Irrigation Engineer	5
Hydraulic Engineer (2 positions)	8
Drainage Engineer	3
Canal Structures/Structural Engineer	4
Agronomist/On-farm Water Management Specialist	3
Social and Gender Development Specialist	2
Resettlement Specialist	2
Environment Specialist	3
National Economist	3
Procurement Specialist	3
Financial Management Specialist	3
National Non-Key Staff Positions	
Hydrogeologist/Groundwater Expert	2
Geotechnical/Foundation Design Engineer	3
Hydro-mechanical/Gates Expert	2
Mechanical Engineer/Pump Specialist	2
Electrical Specialist	2
Irrigation and Drainage Junior Design Engineers (2 positions)	8
CAD Technicians (2 positions)	8
Total	**66**

Source: Asian Development Bank estimates.

3. All deliverables prepared by the feasibility design services will be of a suitable quality standard as required by the Asian Development Bank (ADB). All relevant and required documents will be translated to the English language from Russian and Tajik text.

4. **Deputy Team Leader/Irrigation Engineer (5 pm)**. The specialist will have at least a

graduate qualification and preferably a post-graduate qualification in civil engineering, agricultural sciences, irrigation (or similar), with at least 15 years of experience in preparing and implementing irrigation projects. Preferably, the specialist will have experience with externally-funded development projects. The specialist will lead the feasibility study and design process and liaise closely with the International Team Leader who will provide guidance. The main tasks of the specialist will be:

i. Overall management of the national team;
ii. Collection and compilation of all relevant studies and data, with translations in English;
iii. Support the timely submission of the deliverables (reports) and ensure that these are in a suitable quality as required by ADB;
iv. Arrangement, support and supervision of the required surveys;
v. Support in the technical studies and design work required for feasibility, for the canal system and pressure pipe systems; and
vi. Managing relationships with government agencies as appropriate, and for obtaining approvals for design criteria to be adopted for the project, as well as unit rates. Note that it is anticipated that most of these will be standard and will not need specific approvals. However, for some modernization elements (metering, supervisory control and data acquisition [SCADA], and pressure pipe distribution) approvals may be required.

5. **Hydraulic Engineer (2 persons, 8 pm)**. The specialist will have a post-graduate qualification in civil engineering (or similar), with at least 10 years of experience in designing open channels and hydraulic structures. Experience with pressure piped systems would be an advantage. The main tasks of the specialist will be:

i. Hydraulic design of the canal system, including hydraulic design of canals and canal structures including gated cross and head regulators;
ii. Hydraulic design of pressure pipe systems, as required in conjunction with the international pipe design specialist;
iii. Supporting the Team Leader/Irrigation Engineer to prepare design guidelines/criteria and also standardized spreadsheets for hydraulic design of structures;
iv. Providing guidance to the junior engineers, including use of standard design tools/spreadsheets, and preparation of standard/typical drawings for hydraulic structures and bills of quantities; and
v. Preparing relevant reports of quality standard to document findings, as well as providing relevant contributions to feasibility studies.

6. **Hydrogeologist/Groundwater Expert (2 pm)**. The specialist will have a post-graduate qualification in civil engineering or earth sciences (or similar), with at least 10 years of experience in groundwater assessment and well design. The main tasks of the specialist will be to:

i. Collect data on groundwater quality, its use and aquifer characteristics;
ii. Assess and describe aquifer to the extent that data allows, including aquifer characteristics, thicknesses, parameters, depths to water table and water table fluctuations and trends;
iii. Assess existing groundwater use, pumping abstraction volumes, recharge and sustainability;
iv. Assess water quality of groundwater for irrigation and practical applicability;
v. Advise on (possible) conjunctive use of surface and groundwater and identify any possible adverse impact; and
vi. Prepare relevant reports of quality standard to document findings and also provide relevant contributions to feasibility studies.

7. **Drainage Engineer (3 pm)**. The specialist will have a post-graduate qualification in civil engineering (or similar), with at least 10 years of experience in designing drainage systems and for waterlogging and salinity control. The main tasks of the specialist will be:

i. Assess, based on local soil conditions, slope and vertical groundwater quality gradient (particularly salinity), drainage requirements and options for rehabilitation/upgrading of existing systems (vertical and/or horizontal) or need for new drainage systems. These should be based on value engineering concepts to minimize operation and maintenance costs;
ii. Design drainage systems and identify drainage design flows by assessment of percolation losses, removal of excess precipitation and leaching requirements to maintain a favorable salt balance; and
iii. Prepare relevant reports of quality standard to document findings as well as provide relevant contributions to feasibility studies.

8. **Geotechnical/Foundation Design Engineer (3 pm)**. The specialist will have a post-graduate qualification in civil engineering, or equivalent, and have at least 10 years of experience. The specialist will:

i. Carry out a geotechnical assessment of soils, particularly where these are known to be difficult, for example being very light (sandy), or alternatively heavy and exhibiting swelling/shrinking properties;
ii. Consider seismology of the area and implications for ground engineering and foundation design, etc.;
iii. Prepare geotechnical design criteria and advise in measure to ensure stability of canals/embankments and of structures. For structures, an assessment of foundation designs/bearing capacity, etc. is required. This will include consideration for seismic loading;
iv. Recommend for (earthen) design loading on structures, particularly for retaining walls; and
v. Prepare relevant reports of quality standard to document findings as well as provide relevant contributions to feasibility studies.

9. **Canal Structures/Structural Engineer (4 pm)**. The specialist will have a post-graduate qualification in civil engineering (or similar), with at least 10 years of experience in designing reinforced concrete structures. The main tasks of the specialist will be:

i. Structural design of selected canal and pressure pipe system structures, including designs for representative gated cross and head regulators, bridges, culverts, pump houses, etc.;
ii. Preparation of standard drawings for structural elements, including retaining walls, piers, breast walls, culverts, bridge decks, and bridge hand railing;
iii. Preparation of typical drawings for key structures that may be used to detail quantities, particularly for concrete, steel, shuttering, etc., and including cross and head regulators, flow measurement structures, pump houses, and so on;
iv. Preparation of structural design guidelines/criteria as well as standardized spreadsheets for design of structures and pressure pipe systems to include advice on concrete classes and steel reinforcement requirement in accordance with relevant standards;
v. Provision of guidance to junior engineers, including use of standard design tools/spreadsheets, and preparation of standard drawings for hydraulic structures and bills of quantities; and
vi. Preparation of relevant reports of quality standard to document findings and also provide

relevant contributions to feasibility studies.

10. **Hydro-mechanical/Gates Expert (2 pm)**. The specialist will have a post-graduate qualification in mechanical engineering (or similar), with at least 8 years of experience in designing gated structures. The main tasks of the specialist will be:

i. Preparation of standard drawings for gates of various types and sizes for canal structures;
ii. Support to the Team Leader/Irrigation Modernization Engineer in preparing design guidelines and criteria to include gate lifting arrangements, gate seals, electric energy/motor requirements for automation, and so on;
iii. Advice on procurement arrangements; and
iv. Preparation of relevant reports of quality standard to document findings and also provide relevant contributions to feasibility studies.

11. **Mechanical Engineer/Pump Specialist (2 pm)**. The specialist will have a post-graduate qualification in mechanical engineering (or similar), with at least 8 years of experience in selection and specifications for pumps. The main tasks of the specialist will be:

i. Assessment of pumping stations and rehabilitation/ modernization requirements including choice of new pumps (as required), pumping control systems and pipework;
ii. Estimation of power and energy requirements for pumping;
iii. Preparation of drawings, quantities and cost estimates for required works to feasibility level;
iv. Advice on procurement arrangements; and
v. Preparation of relevant reports of quality standard to document findings and also provide relevant contributions to feasibility studies.

12. **Electrical Specialist (2 pm)**. The specialist will have a suitable post-graduate qualification in electrical engineering (or similar) and at least 10 years of applicable experience. The specialist's main tasks include:

i. Determination of the power requirements of the proposed engineering works, including for pumping, as well as for any gate automation;
ii. Consult with electric power authorities on the: (a) collection of electrical data, and (b) map alignments of existing high-tension lines and equipment, including substations;
iii. Assessment of connectivity options taking into consideration the: (i) effective metering arrangements for (bulk) supply of power, (ii) reliability of supply, and (iii) estimated connectivity costs, etc.;
iv. For the preferred option, preparation of feasibility level designs for: (i) high voltage system including any substations, power transmission lines, control systems, switchyards, etc.; and (ii) low voltage system including transformers, power transmission lines and arrangement at pump houses, etc.;
v. Preparation of drawings, cost estimates and draft specifications;
vi. Advice on procurement arrangements; and
vii. Preparation of relevant reports of quality standard to document findings as well as provision of relevant contributions to feasibility studies.

13. **Agronomist/On-farm Water Management Specialist (3 pm)**. The specialist will preferably have a post-graduate qualification in Agronomy (or similar) with relevant experience in agro-economics. The specialist must have a minimum of 10 years of experience in agro-economics/agronomy. The specialist should have experience in irrigated agriculture, on-farm

water management and value chains and marketing. They will work closely with the international Water Users' Association Specialist and other relevant staff. The specialist's main tasks include:

i. Assessment of current cropping systems and farmers' cropping practices, as well as recommendation of opportunities for improving on-farm water management (e.g. optimum furrow length, suitable land preparation activities), crop production and crop diversification;
ii. Working with the Team Leader/Irrigation Modernization Engineer to determine crop water requirements with/without project and, as appropriate, in carrying out water balance for the command area;
iii. Supporting international and national economists as required with any relevant information relating to cropping;
iv. Identification of providers of agricultural services; e.g. for machinery, marketing, and finance and what interventions could be undertaken to improve on-farm productivity;
v. Identification of constraints to raising agricultural productivity and for crop diversification, including irrigation constraints and on-farm water management interventions;
vi. In conjunction with relevant international specialists, identify suitable options to improve agricultural productivity including mechanisms to improve access to agriculture extension services; and
vii. Preparation of relevant reports of quality standard to document findings and proposed activities to be implemented under the project. Also provide relevant contributions to feasibility studies.

14. **Irrigation & Drainage Junior Design Engineers (2 persons, 8 pm)**. The junior engineers will have a post graduate qualification in civil engineering (or similar), with at least 2 years of experience in designing engineering structures, such as hydraulic structures, pipe systems, etc. The junior engineers will work as directed by the Team Leader/Irrigation Modernization Engineer on the following:

i. Assessment of water distribution along the canal system, by analysis of water levels/gate openings at key structures;
ii. Water accounting/water balance for the command area;
iii. Carrying out field work, including condition assessment of irrigation and drainage systems and structures in the subproject areas;
iv. Design of the canal systems, including drawings, quantities and cost estimates. Detailed design is expected to be completed for a portion of the canal and/or drainage systems, usually including the main canal and a selection of smaller/off-taking canals so as to build up cost estimates to feasibility level;
v. Feasibility level design of selected hydraulic canal and drainage structures including drawings, quantities and cost estimates; and
vi. Feasibility level design of representative pressure pipe systems including drawings, quantities and cost estimates.

15. **Social and Gender Development Specialist (2 pm).** The social and gender development expert will have a master's degree in social science or other related fields and at least 8 years of relevant experience in carrying out gender analysis preferably on development partner financed projects. The expert will provide support to ensure that the project embodies commitment to achieving gender equality and women's empowerment with gender targeted interventions in irrigated agriculture and water management. The specialist will build on the outcomes of the "Feminization of Irrigated Agriculture in the Lower Vaksh River Basin Study" and the "Time-Use Study of Rural Women in the Lower Vaksh River Basin, both financed by ADB and conducted in 2019. Specifically, the consultant will:

i. Facilitate implementation and analysis of any additional more detailed socio-economic surveys, household surveys and/or focus group discussions and provide, at the minimum, the following detailed information: (a) Basic demographic / household information of the project area -Yavan and Kumsangir – e.g., number of households, number of women-headed households, size of households, availability of municipal services (water supply, sanitation, and energy) for household use, decision making patterns in households, especially on matters related to agriculture and expenses, women's economic activities, etc.; (b) Extent of women farmers' ownership/management of lands in the project area, i.e., how much are women-led farms, what are the agricultural and water-related services currently available to women-led farms, extent of productivity of women-led farms, crops grown on women-led farms, condition of women-led farms in terms of land grading, accessibility to irrigation, level of salinity, etc.; and (c) Women's participation in WUAs, i.e., how many existing WUAs, percentage of women membership in WUAs, number/percent of women in WUA management, specific roles of women in WUAs as members, how often do they participate in meetings and on voting on specific issues of the WUAs, current trainings that involve women, training needs relevant to OFWM;
ii. Based on the earlier ADB study consult closely with ALRI and other related agencies and project beneficiaries to develop gender targeted interventions to be implemented under the ensuing grant project. Include social mobilization, consultation and implementation methodology details and any policy or strategy actions to support women's empowerment in irrigated agriculture and water management;
iii. Assess institutional characteristics of key agencies e.g. ALRI, district agencies, WUAs and recommend a program for gender sensitization training for all project stakeholders; and
iv. Based on collected data and information (including prior ADB study's household's survey, focus group discussions and in-depth interviews), prepare/submit the following reports following ADB's standard format: poverty and social assessment report, including gender analysis and all relevant project documents including initial poverty and social analysis/ summary poverty reduction and social strategy, design and monitoring framework (relevant parts/indicators), and gender action plan.

16. **Resettlement Specialist (2 pm).** The specialist will undertake relevant activities to assess land acquisition and resettlement safeguards in line with ADB and government's requirements. The specialist must have at least a graduate degree (preferably post graduate degree) in social sciences, development studies, engineering, or related field, with 5 years' experience in social safeguards due diligence in IFI's funded projects. Country and regional experience in similar projects is preferred. Familiarity with ADB Safeguard Policy Statement 2009 and English is required. The specialist will undertake relevant activities to assess land acquisition and resettlement safeguards in line with ADB's Safeguard Policy Statement (SPS, 2009) and government's requirements. The specialist's tasks are expected to include but not be limited to:

i. Ensure careful review of feasibility design of the selected subprojects in terms of impact minimization and mitigation
ii. Preparing and undertaking stakeholder consultations and surveys relating to resettlement impacts of project interventions (Detailed Measurement Survey-DMS, census, socio-economic survey-SES, valuation etc.), if any;
iii. Preparing relevant land acquisition and resettlement (LAR) due diligence reports and land acquisition and resettlement documents based on project impacts for the representative subprojects. Within the preparation of LAR documents (i) conduct gap analysis of legal framework for national laws and regulations and ADB SPS 2009; (ii) develop Grievance Redress Mechanism (GRM) for the project; (iii) develop appropriate entitlement matrix

based on impact assessment, (iv) ensure the proper cost estimates done based on replacement cost principle and (v) develop social monitoring framework for the project;

iv. Completing the involuntary resettlement and indigenous peoples' checklists to ensure compliance with ADB social safeguard requirements;
v. Provide input also to the preparation of bidding documents in regard with safeguards, as well as to preparation of TORs for social safeguards specialists under the project finalization and implementation as needed
vi. During the assignment, work closely with Implementing Agency, as well as ensure that the lessons learnt and good practices from other similar projects implemented in the country are applied during the implementing of this TRTA tasks.

17. **Environment Specialist (3 pm).** The specialist will, following ADB SPS 2009:

i. Review all components to be considered in each subproject, and prepare environmental impact assessment (EIA) or initial environmental examination (IEE) with environmental management plan (EMP) needed to mitigate environmental impacts and their corresponding costs, all of which are in accordance with national environmental laws and SPS in each subproject, depending on environment category;
ii. Confirm the ADB environment categorization of each proposed subproject;
iii. Assume overall responsibility for obtaining approval of the above documents by the relevant agency and for submission of the EIAs/IEEs and Summary EIAs/IEEs to ADB for public disclosure;
iv. Propose any environmental mitigation measures deemed necessary, prepare the requisite EMP, and provide full details of the cost of monitoring, management, and mitigation measures;
v. Assist ALRI to carry out public consultation following SPS for preparing EIAs/IEEs;
vi. Assess the institutional capacity of ALRI (including its district representatives) in (a) undertaking scoping of potential environmental impacts, (b) preparing and supervising environmental assessment studies, (c) implementing measures recommended in IEEs/EIAs, and (d) recommending detailed implementation arrangements, and essential staffing and training requirements; and
vii. Identify environmental issues related to the features of the project requiring loan covenants to ensure appropriate management and compliance.

18. **National Economist (3 pm).** The economist will support the international Project Economist to assess financial viability for each subproject. Activities will be in accordance with ADB Guidelines for the Economic Analysis of Projects, 2017. This includes identification of rationale, conduct of demand analysis, least cost/alternative analysis (to compare non-climate resilient vs. climate resilient designs of infrastructure), benefit-cost analysis, sustainability analysis, risk and sensitivity analysis, etc. The with the without project analysis should reflect the value added of investing on climate resilient subproject designs. The economist will:

i. Coordinate closely with the national Agronomist for information on agricultural data, practices etc. and farmer willingness to pay for irrigation service fees;
ii. Field data collection to understand farmers' current agronomic practices; collect data on crop yields and farm budgets in conjunction with the international Project Economist; gather information on markets, etc., to be used to develop cost estimation with and/or without the project in consultation with other relevant experts for each subproject;
iii. Conduct a willingness to pay survey based on current irrigation water use, power source for irrigation water delivery and current water fees information for farmers in the project area.

iv. Support the international Project Economist to develop project benefits, financial sustainability aspects, relevant assumptions and calculation of economic and financial internal rates of return for each subproject; and
v. Contribute to relevant reporting requirements and support international Project Economist as required. All outputs will be prepared in accordance with relevant ADB guidance documents for economic analysis.

19. **Procurement Specialist (3 pm).** The specialist will preferably have a degree in civil engineering or equivalent, with 15 years of experience on similar development projects. The specialist should have demonstrated experience with procurement processes for externally financed projects, mainly those funded by ADB or the World Bank, as well as with procurement training of executing agencies. The specialist will:

i. Prepare the representative projects procurement plans, procurement capacity assessments and strategic procurement assessment;
ii. Prepare the required tender documents and request for proposal for consulting services etc., and;
iii. Support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval.

20. **Financial Management Specialist (3 pm).** Following ADB's Guidelines for Financial Management Systems, Financial Analysis and Financial Performance Indicators (OM Section G2), and ADB's policy on governance, and ADB's updated technical guidance note for Financial Management Assessment (2015), and other relevant financial due diligence guidance material, the specialist will share relevant information with the national and international economists particularly on O&M costs. The specialist will:

i. Prepare cost estimates and financing Plan;
ii. Prepare project financial viability or sustainability analysis;
iii. Prepare financial reporting and auditing;
iv. Assess financial management and financial sustainability capacity of ALRI —the latter can be based on prior assessments (including any recent work by ADB), including (a) assessing whether previous financial management assessments have been conducted by ADB or other agencies and, if so, reviewing the results and ascertaining whether these can be used as input, (b) assessing capacity for planning and budgeting, management and financial accounting, reporting, auditing, internal controls, and information systems (c) reviewing proposed disbursement and funds-flow arrangements, and (d) concluding on the financial management risk rating and identifying and confirming measures for addressing identified deficiencies;
v. Undertake their financial management and sustainability assessments utilizing ADB's financial management assessments questionnaire and other methods;
vi. Review audited and unaudited financial statements of ALRI, if applicable;
vii. Review information on past 5 years O&M budget allocations and expenditures by ALRI to understand the gaps between cost recovery and O&M budget for irrigation and drainage (I&D) systems;
viii. Assess the adequacy of financial management and sustainability arrangements and potential risks and suggest mitigation measures strengthening institutional capacities to be addressed during project implementation;
ix. Support the preparation and agreement of cost estimates and a financing plan, which are based on verifiable data and are sufficient to support project implementation;
x. Prepare financial projections and conduct financial analyses of ALRI, and incremental

recurrent costs, to determine financial sustainability, and review proposed cost-recovery and tariff policies, including affordability and willingness to pay;
xi. Conduct financial evaluations (financial cost-benefit analyses) including sensitivity analyses of project components that have a cost-recovery objective;
xii. Where significant risks are identified to project financial sustainability or viability, propose relevant financial performance indicators to be incorporated in financial covenants; and
xiii. Assess and reach agreement on financial reporting, auditing and public disclosure arrangements for the project, and, as appropriate, identify and agree on arrangements for receiving financial statements from executing and/or implementing agencies.

21. The following guidance will be followed. Please refer to the following PFFM guidance material:

i. Technical guidance note (TGN) for Financial Management Assessment (2015);
ii. TGN (2015) for project financial reporting; and
iii. TGN (2014) for preparation of cost estimates, and eLearn module for Cost Estimates preparation and presentation.

22. **CAD Technicians (2 persons) (8 pm).** The specialists will have a qualification in AutoCAD (or similar), with at least 5 years of experience in drawing preparation. Experience with irrigation/ hydraulic structures will be an advantage. The technicians will work as directed by the Team Leader/other specialists to prepare drawings for engineering works, including canal and pressure pipe systems, on-farm requirements and in taking-off of quantities.

B. International and National Individual Consultants

23. The international and national consultants will be engaged as individual consultants. Their inputs relate to institutional aspects (specifically development of an asset management plan, strategic planning, operation and maintenance, cost recovery etc.), I&D modernization and on-farm water management. Climate risk and vulnerability assessment and economic and financial analyses of feasibility studies and the overall project will also be undertaken by individually engaged consultants. They will interface closely with the feasibility design services. The International Team Leader/Irrigation Modernization Engineer will provide overall leadership, coordination between individual consultants and the feasibility design services and manage final deliverables of the TA.

24. The total individual consulting inputs are 18 pm and are summarized in Table 2 below.

Table 2. Summary of Staff Requirements for Feasibility Design Services

Positions	No. of person-months
International Specialists	
Team Leader/Irrigation Modernization Engineer	4
Institutional Development Specialist	3
Project Economist	3
Climate Change Specialist	2
National Specialists	
Water User's Associations Specialist	3
Remote Sensing Specialist	3
Total	**18**

Source: Asian Development Bank estimates.

25. **Team Leader/Irrigation Modernization Engineer (4 pm).** The specialist will have a graduate degree and preferably post-graduate qualification in civil engineering, agricultural sciences, irrigation (or similar), with at least 15 years of experience in preparing and implementing irrigation projects. Country and regional experience is preferred. The specialist will have experience with preparatory technical assistance of development partner financed projects. The specialist will lead the feasibility study and design process and coordinate with other specialists to prepare the overall project documents. This will include leading feasibility engineering design, with special attention to guiding the pipe network design.

26. The International Team Leader will lead the consultant team and coordinate all transaction technical assistance (TRTA) inputs and outputs. They will also manage relationships with ALRI and other relevant water sector agencies. These include the Ministry of Energy and Water Resources – as required, ADB, and other stakeholders. This is expected to include but not be limited to (i) communication with the responsible ADB project officer and government counterpart focal points; (ii) planning and coordinating TRTA scheduling and resource inputs; (iii) integrated project formulation including engineering, capacity building, institutional strengthening and strategy related components; (iv) oversight of due diligence, institutional assessment, safeguards, project packaging, document formulation, and reporting; and; (v) manage all deliverables to be provided for the TA.

27. **Institutional Development Specialist (3 pm).** The specialist will have a graduate degree in water resources management or related subject. They will have at least 15 years practical experience in institutional aspects of water agencies, including in Central Asian countries and prior experience with ADB or other development partners on (at least 5) water resources management and irrigation and drainage projects in Asia region. The specialist will undertake required field activities and consultations. Working knowledge of Russian language is an advantage. Specific responsibilities include:

i. In conjunction with relevant team members undertake a detailed review of institutional structures, performance, constraints and challenges for irrigation and drainage management in Tajikistan. This will include more specific details for the Vaksh river basin and highlight interfaces with all agencies associated with water resources management (including hydrometeorology, groundwater management, etc.) and agriculture.
ii. Based on the assessment recommend any institutional strengthening actions to focus ALRI's role as a service provider e.g. strengthening the existing Water Users' Support Department of ALRI, mechanisms to access to extension services etc., capacity building to transition of role from infrastructure developer to provider of irrigation and drainage management services etc. and any other key agencies which also require similar strengthening;
iii. Institutions and policies: lead activities on institutional assessment and policy framework by guiding the national institutional development specialist. This will include developing review of the policy framework for O&M including the financing of irrigation services from all sources including users, system operations, and asset management planning;
iv. Recommend a methodology for O&M rationalization, including data-based water management, planned asset management, and sustainable financing of irrigation services covering both agency and WUA management - with cognizance of approaches undertaken in other river basins. The latter will be piloted on a suitable area within Yavan and/or Kumsangir irrigation and drainage systems;
v. Review the implementation status of the National Water Information System as it applies to data-based irrigation management and recommend any needed changes to support effective irrigation system O&M;

vi. Recommend options for strategic planning of investments in the lower Vaksh river basin in the context of the basin planning approach being implemented by MEWR - this may lead to a programmatic approach of investments in I&D modernization;
vii. In conjunction with the national WUA specialist, assess WUAs structure, legal mandate and functional requirements including financial sustainability. Recommend actions that may be undertaken during project implementation to strengthen policy framework and capacity building of WUAs for improved water management and increased productivity; and
viii. Support the international team leader in preparing relevant project documents focusing on those relating to strategy, policy, institutions and O&M planning and execution, including data-based system operations and asset management.

28. **Project Economist (3 pm).** The specialist will be engaged on an intermittent basis to undertake activities in accordance with ADB Guidelines for the Economic Analysis of Projects, 2017. This includes identification of rationale, conduct of demand analysis, least cost/alternative analysis (to compare non-climate resilient vs. climate resilient designs of infrastructure), benefit-cost analysis, sustainability analysis, risk and sensitivity analysis, etc. The with and the without project analysis should reflect the value added of investing in climate resilient and modernized designs.

i. Guide the national economist and agronomist on data collection requirements;
ii. Provide overall supervisory role of economic analysis work;
iii. Prepare the selected I&D projects and overall project economic and financial analyses conjunction with the national economist;
iv. Provide guidance to the national consultants to produce quality economic and financial analyses;
v. Consider options and benefits of adjustment in irrigation subsidies for e.g. for power and implications on financial and economic viability of investments in I&D;
vi. Assess impacts of adjustments in irrigation service fees and consider suitable options which may facilitate cost recovery and ALRI fiscal situation; and
vii. If necessary, work together with ADB staff to produce quality economic and financial analysis acceptable to ADB.

29. **Climate Change Specialist (2 pm).** The specialist will have a master's degree or higher in hydrology or a related area with preferably 10 years of relevant experience in the areas directly related to water resources availability assessment, analysis and planning, assessment of flow in ungauged rivers, flood forecasting, groundwater and other form of water use and experience in environment and climate change adaptation and conducting climate change vulnerability and impact assessments. The specialist will undertake field activities (as required) and support in:

i. Define key climate variables for the project feasibility and performance and develop applicable climate projections;
ii. Work with relevant team members to guide design processes based on results of analysis-particularly with regards to crop water requirements and seasonal variations;
iii. Review of selected hydrological methodologies and studies and ensure quality control;
iv. Identification of climate change risks and assessing the impacts on selected projects in coordination with relevant project team members;
v. Developing measures to improve climate change resilience and promote adaptation and mitigation in coordination with relevant team members; and
vi. Preparing the climate risk and vulnerability report in consultation with other relevant specialists.

30. **Water Users' Association Specialist (National, 3 pm).** The specialist will have a background in irrigation engineering, water resources management or other relevant discipline. This will include at least a master's degree and 10 years of experience in field work. The specialist will have demonstrable experience with international development agencies in the field of river basin management, institutional strengthening, etc. Prior experience with ADB activities is preferred and knowledge of Russian or other Central Asian languages is an advantage. Main tasks will be to support the international river basin specialist, specifically:

i. Gathering information on water resources conditions and issues (surface and groundwater, water quantity and quality, water source conditions, land degradation, etc.), usage, water productivity in the Vaksh river basin. Particular focus will be on the lower Vaksh, which is downstream of Nurek hydropower dam;
ii. Assessment of policies and laws relevant to WUAs in Tajikistan and the broader water reform agenda and interfaces with other aspects of the TA like gender, etc.;
iii. Support international Institutional Development Specialist in assessment of departments and agencies involved in managing Tajikistan's I&D and water resources (organogram, unit responsibilities and activities, gender disaggregated staffing and technical capacity, water related knowledge and information systems, budgets, reporting);
iv. Based on regional and international best practices assess the challenges and opportunities of existing WUAs. Recommend suitable approaches for project implementation which will facilitate their capacity building, inclusiveness and evolution into entities that can increase agricultural productivity and improve cost recovery. Recommendations may include policy and structural enhancements, establishment of self-sustaining O&M funds, participatory processes for WUA strengthening etc. capacity building, access to agriculture extension services and associated mechanisms, etc.;
v. Close coordination with other relevant specialists (e.g. gender, agronomist, etc.) from the feasibility design services team. This is particularly in relation to developing gender targeted interventions and improving agricultural productivity; and
vi. Contribution to relevant reporting outputs.

31. **Remote Sensing Specialist (National, 3 pm).** The specialist will have a background in water resources management or other relevant discipline. This will include at least 8 years' experience of field work. The specialist will have demonstrable experience with international development agencies in the field of river basin management, remote sensing activities for river basin planning etc. Prior experience with ADB activities is preferred as is experience in Central Asia and other regions. The specialist will:

i. Guide and develop geodatabase for the two I&D projects. This will include cropped area, crop water productivity, salinity level, irrigation system layout, location of water bodies and communities, institutional boundaries and other agreed features;
ii. Support the National WUA Specialist and International Institutional Development Specialist and others on any data that may be required from the geo maps, e.g. WUA boundaries, verify for national and international economists the actual cropped areas and type of cropping, etc.;
iii. Coordinate with ADB Project Officer and other relevant agencies to guide development of outputs;
iv. Identify suitable baseline indicators from remote sensed and GIS data which may contribute to design and monitoring framework indicators; and
v. Finalize all deliverables.

C. Reporting requirements

32. **Reports.** The International Team Leader/Irrigation Modernization Engineer will provide overall leadership, coordination between individual consultants and the feasibility design services and manage final deliverables of the TA. The following reports will be prepared and submitted as a minimum:

i. Draft inception report to be submitted one week prior to the inception workshop. The report will include a review of the proposed approach and methodology for key tasks under each output, detailed workflow, staffing schedule, and schedule of deliverables. The final inception report is to be submitted within 1 week of receiving comments on the draft report;
ii. Draft midterm report to be submitted two weeks prior to the midterm workshop. The midterm report is expected to present interim deliverables as per agreed work schedule. A final midterm report is to be submitted within 1 week of receiving comments on the draft report;
iii. Draft final report to be submitted two weeks prior to the final workshop. The final report is expected to present draft final deliverables under all three outputs, including all documentation for ADB Board consideration. The final report is to be submitted within 1 week of receiving comments on the draft final report; and
iv. Progress summaries will be submitted every 4 weeks after the inception workshop. The report will record information required by ADB on project progress, including but not limited to (a) status of progress of each output in relation to the schedule, (b) record of key meetings and consultations, (c) assessment of challenges and ways to overcome them, (d) upcoming major tasks, meetings, etc., and (e) financial status.

33. **Meetings and workshops.** The consulting team will organize and participate in meetings and workshops with ADB, the government counterparts, local community organizations and other stakeholders, and development partners in order to foster quality project outputs and stakeholder ownership.

34. The meetings and workshops listed below are the minimum of such sessions expected. If appropriate, the consultant firm is encouraged to conduct additional workshops and stakeholder sessions as necessary.

i. An inception workshop will be conducted to summarize and discuss the initial findings for the draft inception report and agree next steps, within 3 weeks of the commencement of services. The workshop is expected end January 2020;
ii. A midterm workshop will be conducted to summarize and discuss the findings of the draft midterm report and agree next steps, expected end of March 2020;
iii. A final workshop will be conducted to summarize and agree the findings of the final report, expected in end May 2020; and
iv. Extensive stakeholder consultations will be undertaken with government counterparts, WUAs, local community organizations, and development partners as part of the delivery of each output.

D. Preparation of Proposal

35. Shortlisted entities are requested to prepare a proposal for the fixed budget, output based contract. The proposal will include a detailed description of how they propose to deliver on the outputs of the contract in the section of their proposal called “Approach and Methodology”. In this narrative, entities should be explicit in explaining how they will achieve the outputs, any

information on their existing activities upon which they may eventually build, and details of what staff will comprise the project team.

36. Firms should seek to draw on prior experience of ADB project preparatory activities. They may also describe their experience in Tajikistan, including language skills in Russian and Tajik. Importantly, firms may demonstrate required accreditation for preparation of feasibility studies including engineering designs as required by Government of Tajikistan.

E. ADB Due Diligence Requirements

37. The shortlisted entities are to be advised of the following information and specifications expected of deliverables required under the main output “preparation of investment project”.

38. **Environment safeguards.** The consultant team will (i) prepare IEE reports to meet the requirements of ADB's Safeguards Policy Statement (2009), including a costed EMP and grievance redress mechanism that is in line with the Republic of Tajikistan national regulations and will be a combined mechanism for handling both environmental and social concerns; (ii) assist the implementing agencies in conducting meaningful public consultation with the project affected people; (iii) assist the implementing agencies in consultation with relevant national authorities and getting necessary government environmental approval and permissions; and (iv) assist the implementing agencies in ensuring that the bidding documents, as well as the project administration manual, adequately address the cost and tasks for EMP implementation. Selection of investment subprojects should seek to avoid significant and/or complex environment issues.

39. **Land acquisition and resettlement safeguards.** The consultant team will (i) assess and compare government land acquisition and resettlement legislation, policies, and framework with those of ADB; (ii) assess all potential assets and people impacted with the project interventions; (iii) prepare due diligence report or land acquisition and resettlement plan for the representative subproject and land acquisition and resettlement framework for the project as required based on the national legislation, policies, and framework and ADB Safeguard Policy Statement (2009) including entitlement matrix, cost estimate, and monitoring framework; and (iv) assess the capacity of the executing agency to implement the resettlement plans and propose capacity building program. Selection of investment subprojects should seek to avoid significant and/or complex land acquisition and resettlement issues.

40. **Economic and financial analysis.** The consultant team will conduct economic and financial analysis of the project in line with ADB Guidelines for the Economic Analysis of Projects (2017) and ADB Preparing and Presenting Cost Estimates for Projects and Programs Financed by ADB (2014). The analysis is expected to include cost-benefit analysis, analysis of alternatives, sustainability analysis, risk and sensitivity analysis, analysis of distribution of project costs and benefits, and identification of indicators and baselines for project design and monitoring framework. The team’s activities are expected to include but not be limited to: (i) estimate project costs; (ii) identify and estimate project benefits; (iii) prepare financing plan and investment scenarios; (iv) carry out economic analysis of the project; (v) conduct sensitivity analysis using various scenarios of costs, benefits; and (vi) implementation schedules. The views expressed herein are those of the consultant and do not necessarily represent those of ADB’s members, Board of Directors, Management, or staff, and may be preliminary in nature.

41. **Financial management assessment.** The consultant team will conduct financial management assessment of the project in line with ADB Technical Guidance Notes on Financial Management Assessment (2015), Project Financial Reporting and Auditing (2015), and ADB Financial Management and Analysis of Projects (2005). The financial analysis should cover the

executing agency and (if applicable) any implementing agencies. A fiscal assessment of the government departments also needs to be conducted to assess their capacity to spend their budgets allocated. The team's activities are expected to include but not be limited to: (i) assessing whether previous financial management assessments have been conducted by ADB or other agencies and, if so, reviewing the results and ascertaining whether these can be used as input; (ii) assessing capacity for planning and budgeting, management and financial accounting, reporting, auditing, internal controls, and information systems; (iii) reviewing proposed disbursement and funds-flow arrangements; (iv) concluding on the financial management risk rating and identifying and confirming measures for addressing identified deficiencies; (v) supporting the preparation and agreement of cost estimates and a financing plan, which are based on verifiable data and are sufficient to support project implementation; (vi) preparing financial projections and conducting financial analyses of the executing and implementing agencies, and incremental recurrent costs, to determine financial sustainability, and where applicable reviewing proposed cost-recovery and tariff policies, including affordability; (vii) conducting financial evaluations (financial cost-benefit analyses) including sensitivity analyses of project components that have a cost-recovery objective; (viii) where significant risks are identified to project financial sustainability or viability, proposing relevant financial performance indicators to be incorporated in financial covenants; and (ix) assessing and reaching agreement on financial reporting, auditing and public disclosure arrangements for the project, and, as appropriate, identifying and agreeing arrangements for receiving financial statements from executing and/or implementing agencies.

42. **Procurement assessment and planning.** The consultant team will prepare: (i) a strategic procurement plan appropriate for project requirements; and (ii) sector-related market risk assessment for planned procurement activities. For the general strategic procurement plan format, see Appendix 1 of ADB Guidance Note on Procurement: Strategic Procurement Planning. The market risk assessment should follow the ADB Guidance Note on Procurement: Procurement Risk Framework. The consultant team will prepare the procurement section of the project administration manual, including contract packaging in line with best international practices, ADB's procurement procedures, and the ADB Guidance Note on Procurement: Strategic Procurement Planning. ADB Guidance Notes on Procurement can be found at: https://www.adb.org/documents/guidancenotes-on-procurement.

43. **Poverty, gender, and social assessment.** The assessment includes: (i) demographic profile of sampled communities in representative subprojects, including presentation of sex disaggregated data; (ii) socio-economic status of women and men, girls and boys; (iii) women's community involvement, including in irrigated agriculture and other related economic activities; (iii) mapping of stakeholders, identifying where women are and their extent of involvement as stakeholders; (iv) organizational diagnostic of executing agency and implementing agency on gender balance and policies and programs that impact positively on women.

F. Documents for ADB Board consideration

44. The draft documents to be produced by the consultant team for the draft final report are:

i. Summary Sector Assessment
ii. Detailed Sector Assessment
iii. Summary Economic and Financial Analysis
iv. Detailed Economic and Financial Analysis
v. Summary Poverty Reduction and Social Strategy
vi. Gender Action Plan

vii. Poverty, Gender, and Social Assessment
viii. Risk Assessment and Risk Management Plan
ix. Financial Management Assessment
x. Project Procurement Risk Assessment and Strategic Procurement Plan
xi. Summary Climate Risk and Vulnerability Assessment
xii. Technical Feasibility Studies for Yavan and (priority reaches) of Kumsangir Irrigation and Drainage Project
xiii. Initial Environmental Examination
xiv. Social Safeguards Due Diligence Report
xv. Resettlement Plan
xvi. Asset Management and Operation and Maintenance Action Plan

45. Sample documents are available for review on the ADB website: https://www.adb.org/projects/documents