

Project Administration Manual

Project Number: 46049-002
June 2015

People's Republic of China: Xinjiang Akesu Integrated
Urban Development and Environment Improvement
Project

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Attachment 1: Environmental Management Plan

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 Xinjiang Uygur Autonomous Regional Government (XUARG) as project executing agency and the Akesu Municipal Government (AMG) as the project implementing agency are 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 the XUARG and AMG 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 Loan 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 recommendation 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.

ABBREVIATIONS

ADB	Asian Development Bank
AHURCB	Akesu Housing and Urban and Rural Construction Bureau
AMG	Akesu municipal government
AP	affected persons
APLG	Akesu project leading group
APMO	Akesu project management office
AWG	Akesu Water Group Company Ltd.
CNY	Chinese yuan
DPA	direct project area
DRC	Development and Reform Commission
EIA	environmental impact assessment
EIS	environmental impact statement
EMDP	ethnic minority development plan
EMP	environmental management plan
EPB	environmental protection bureau
FSR	feasibility study report
GAP	gender action plan
GDP	gross domestic product
GRM	grievance redress mechanism
IDC	interest during construction
IEE	initial environmental examination
LAR	land acquisition and resettlement
MOF	Ministry of Finance
NDRC	National Development and Reform Commission
O&M	operations and maintenance
PLG	project leading group
PMO	project management office
PPTA	project preparatory technical assistance
PRC	People's Republic of China
PSP	private sector participation
XPMO	Xinjiang project management office
XUAR	Xinjiang Uygur Autonomous Region
XUARG	Xinjiang Uygur Autonomous Region Government

I. PROJECT DESCRIPTION

A. Background and Rationale

1. Located in the northwest of the People's Republic of China (PRC), Xinjiang Uygur Autonomous Region (XUAR) is a remote region linking the PRC to Central Asia. Despite recent economic development due to the expansion of agriculture and extractive industries, XUAR remains one of the poorest and least-developed regions in the PRC. In 2013, XUAR's average urban per capita disposable income was the second lowest in the PRC, at CNY19,874.¹ XUAR is one of the less-developed western regions targeted for accelerated socioeconomic development and poverty reduction by the preferential policies under the National Strategy for Development of the West. XUAR has a large ethnic minority population: the Uygur account for 45.73% of the total population and other ethnic minority groups for 14.77%. The regional capital, Urumqi, with a population of 3.1 million, and the populated urban centers in the northern part of the region are the main industrial hubs. They are also the primary points of public infrastructure investment and private sector activities. On the other hand, investments in the southern part of XUAR, mainly constituted of mountains and desert areas, lag behind. The development of an arc-shaped urban and transport corridor between the southern piedmont of Tianshan Mountain and the northern rim of Taklamakan Desert is an opportunity to achieve a more balanced level of development across the region.

2. Five oases cities exist along highway A314 and the national railway, each with an urban population between 300,000 and 700,000. Over time, agricultural expansion, poorly managed urbanization, and extractive industries have degraded the local environment, decreasing the sustainability of these cities. These cities are the only urban centers capable of clustering economic activities in the southern part of the region.

3. Akesu is a medium-sized city in southern XUAR established as an oasis town on the historic Silk Road. In 2013, its poverty incidence was 5.45% for the urban population, and 12.3% for the rural population. Akesu has a higher poverty rate than regional and national averages. The city has expanded in recent years following (i) economic growth in agricultural production, (ii) exploration and processing of oil and gas, and (iii) regional and intercity transport improvements. The urban population grew from 422,470 in 2005 to 509,200 in 2013, reaching an urbanization rate of 61.2%, while the built-up area expanded from 27 square kilometers (km²) to 46.5 km² over the same period. Although the burgeoning city benefits from a good economic outlook, inadequate infrastructure investment in existing areas and environmental degradation are contributing to a poorer quality of life.

4. Akesu's long-term sustainable development requires socially and environmentally responsible management of its urbanization. It urgently needs to tackle its significant deficiencies in urban infrastructure and services;² as current access to water, sanitation, and heating in Akesu is low and variable. Meanwhile, poor land use and waste management practices threaten environmental conditions in Akesu's rivers and wetlands. While improved services will reduce the negative impact of urbanization on the environment in Akesu, additional measures are needed to rehabilitate and preserve the water resources for the city and the larger watershed. The Akesu Duolang wetlands, located within the ecological conservation zone of the pilot Xinjiang Akesu Duolang River National Wetland Park, provide important ecosystem services. These include groundwater replenishment, flood retention, sediment and nutrient

¹ 2013 statistical bulletins of socioeconomic development in the PRC and XUAR.

² The direct project areas cover 31 km² in central Akesu.

removal, micro-climate regulation, cultural services, and biodiversity conservation.³ The rehabilitation of these wetlands will enhance the National Wetland Park network in the PRC, provide a demonstration of wise wetland use as promoted by the Ramsar Convention, and contribute to improved water resources management within the Tarim River Basin.⁴

5. The proposed project aims to improve municipal services in the project area significantly: (i) the households with connection to piped urban water supply would increase from 52.6% to 88.6%, (ii) the households with sewerage connections would increase from 8.0% to 66.6%, (iii) the area with access to central heating would increase from 12.7% to 87.0%, and (iv) the households covered by solid waste management would increase from 18.7% to 100%. The urban road component is aligned with the Comprehensive Transportation Planning of the Urban Center Area of Akesu (2013–2030) to improve conditions and connectivity of the urban road network in Akesu for all users on arterial, secondary, collector, and lane-scale roads.⁵ The peri-urban communities targeted for improvement under the residential alley component are inhabited mostly by ethnic minorities. The improvement of services will have large environmental impacts, including interception of some 21,600 cubic meters of currently uncollected wastewater, reducing contamination of the Akesu water resources.⁶

6. **Strategic fit.** The project is consistent with the PRC's Twelfth Five-Year Plan (2010–2015), and these urbanization policies, priorities, and agendas will continue into the Thirteenth Five-Year Plan. The project supports environmentally sustainable and inclusive economic growth, which is a key priority of ADB's Strategy 2020 as well as the Midterm Review of Strategy 2020.⁷ It is in line with ADB's PRC country partnership strategy, 2011–2015 for inclusive and environmentally sustainable growth.⁸ It also conforms to (i) ADB's Water Operational Plan, as the project encourages water and wastewater management, and wetland and biodiversity protection; (ii) ADB's Urban Operational Plan, which fosters competitive, green, and inclusive cities by promoting connectivity, road safety, waste management, and urban sanitation; and (iii) ADB's Sustainable Transport Initiative Operational Plan by supporting road safety and social sustainability.⁹ The project also supports the PRC's new urbanization plan by supporting environmentally sustainable urban development. That plan aims to (i) improve the urban services of small towns and (ii) establish harmonious and pleasant living conditions in cities with improved infrastructure, public services, and environment.¹⁰ Finally, the project will also support the PRC's National Wetland Conservation Program (2004–2030).¹¹

³ The wetlands provide a critical link for migratory birds in the Central Asian flyway.

⁴ Ramsar Convention on Wetlands (1971). Ramsar, Iran. <http://www.ramsar.org/>

⁵ While there are no current plans to create new mass transit networks in Akesu, the urban road component supports existing bus networks and maintains adequate space for future development of rapid transit.

⁶ This will result in an estimated reduction of 9,280 tons per year of chemical oxygen demand, 39 tons per year of total phosphorus, and 32 tons per year of total nitrogen.

⁷ ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila; and ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila.

⁸ ADB. 2012. *Country Partnership Strategy: People's Republic of China, 2011–2015*. Manila.

⁹ ADB. 2012. *Water Operational Plan (2011–2020)*. Manila; ADB. 2013. *Urban Operational Plan (2012–2020)*. Manila; and ADB. 2010. *Sustainable Transport Initiative Operational Plan*. Manila.

¹⁰ Central Committee of the Communist Party of China and State Council. 2014. *National New-Type Urbanization Plan (2014–2020)*. Beijing.

¹¹ Ministry of Environmental Protection. 2008. *China's Fourth National Report on Implementation of the Convention on Biological Diversity*. www.cbd.int/doc/world/cn/cn-nr-04-zh.doc.

7. This is the fifth project of the strategic urban sector partnership between XUAR and ADB. ADB's value addition can be seen in the optimization of project design, reduction of resettlement impacts and costs, as well as the incorporation of lessons and special features.

8. **Incorporation of lessons.** The project design incorporates lessons from previous ADB-financed urban development projects, emphasizing holistic urban development approaches to support the development of livable cities with universal access.¹² The project focuses on improving access to urban water supply, sewerage, and heating services in existing urban areas rather than the establishment of new districts. The project has been informed by the lessons from ADB's water and wastewater tariff studies, which developed the National Guidelines on Water Tariffs.¹³ Akesu, being in an ethnic minority and poverty area, is currently exempted from the 1998 National Regulation for Urban Water Tariff Management. The project will, however, promote cost-recovery and progressive tariffs in line with national standards through institutional strengthening and capacity building.¹⁴ The project will follow the reduce, reuse, recycle (3R) principles adopted in previous ADB projects in XUAR.¹⁵

9. **Special features.** In line with the integrated nature of the project, several special features have been developed and are supported by capacity building. First, two "living street" pilots will be designed in low-income, ethnic minority communities of Akesu, aiming to create social and shared spaces where people can meet and children can play safely by reducing the speed and dominance of motorized transport in these areas. The pilot locations will be selected in a participatory process with affected communities. Second, the road component will be supported by urban traffic planning with an emphasis on nonmotorized traffic, including the preparation of a human-centered urban transport master plan for the city of Akesu, and the design and implementation of a public education program on traffic safety. Third, the project will contribute to the development of a citywide solid waste management road map, with defined short-, medium-, and long-term targets, including support to the development of a 3R-oriented integrated solid waste management plan. Finally, the wetland rehabilitation component will include guidance on preparing and implementing a detailed wetland management plan, including biodiversity monitoring plan, water source protection survey and protection plan, and public education for biodiversity protection. Knowledge sharing on these initiatives will be promoted through the production and dissemination of related knowledge products.

B. Impact and Outcome

10. The project impact will be socially inclusive and environmentally sustainable urbanization in Akesu. The project outcome will be the improvement of municipal services and environment quality.

¹² Universal access is the ability of all citizens to reach every destination served by the public road system.

¹³ ADB. 1997. *Technical Assistance to the People's Republic of China for a Water Supply Tariff Study*. Manila; ADB. 1999. *Technical Assistance to the People's Republic of China for a Water Tariff Study II*. Manila; and ADB. 2001. *Technical Assistance to the People's Republic of China for National Guidelines on Urban Wastewater Tariffs and a Management Study*. Manila.

¹⁴ The 2004 water tariffs are as follows: domestic water use is CNY1.11, public use CNY2.14, industrial use CNY1.25, special sectors CNY7.05 and green space sprinkling use CNY0.54. The planned 2015 water tariff adjustment is proposed to be: domestic use is CNY1.96, public use CNY2.46, industrial use CNY3.06, and special sectors CNY8.56.

¹⁵ ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Xinjiang Altay Urban Infrastructure and Environment Improvement Project*. Manila; and ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Xinjiang Integrated Urban Development Project*. Manila.

C. Outputs

11. The project will take a strategic and holistic approach to urban development where the inadequate and outdated urban services and degraded ecosystems have constrained the opportunities for the city to develop in an environmentally sustainable and socially inclusive manner. The project interventions are expected to produce three primary outputs.

12. **Output 1: Urban infrastructure and services improved.** This comprises of six components with inclusive employment opportunities: (i) about 75 kilometers (km) of urban roads constructed or upgraded—19 roads upgraded, two new roads built, alleys upgraded in four ethnically concentrated, peri-urban communities, and two pilot “living streets” developed; about 162 bus stops, 19 km of separated motorized and nonmotorized lanes, one pedestrian overpass, and two new bridges constructed; associated traffic signals, street lights, and utility pipelines built or upgraded, plus landscaping; (ii) public park and green spaces upgraded, and a tree nursery established; (iii) about 38 km of urban water supply pipes laid; (iv) about 78 km of urban sewerage infrastructure constructed; (v) about 44 km of central heating pipelines and associated heat exchange stations built; and (vi) street cleaning, waste collection, transportation equipment and vehicles procured, and one waste transfer station constructed.

13. **Output 2: Akesu Duolang wetland rehabilitated and protected.** Interventions toward this output will be within the ecological conservation and restoration zone of the Akesu Duolang River National Wetland Park, and involve (i) rehabilitating about 95 hectares (ha) of degraded wetland; (ii) establishing about 4 ha of forest shelter belts; (iii) constructing wetland protection infrastructure; (iv) improving wildlife protection through wetland monitoring facilities; and (v) establishing a wildlife rescue and disease control center, and public wetland education facilities.

14. **Output 3: Project and urban environmental management and inclusive capacity enhanced.** The capacity of local project partners for the successful implementation, operation, and management of project facilities will be enhanced by (i) preparing and updating a project performance management system; (ii) undertaking tendering, procurement, contract management, and financial management; (iii) carrying out construction supervision; (iv) conducting stakeholder consultations; (v) ensuring environmental and social safeguards; (vi) undertaking regular monitoring and evaluation; (vii) meeting reporting requirements; (viii) providing about 2,000 person-times of public training, including 50% women and ethnic minorities; and (ix) providing technical guidance on environmentally sustainable and socially inclusive urban infrastructure.¹⁶

15. The planned specific interventions and expected outputs are summarized in the following table.

Interventions and Outputs

Intervention	Output
1. Urban infrastructure and services improved	
1.1 Urban road network and associated infrastructures	- approximately 75 km of urban roads constructed and upgraded, including two new roads constructed with a length of approximately one km, 19 roads upgraded with an approximate length of 31 km and approximately 43 km of alleys upgraded in four ethnically concentrated peri-urban communities, 162 bus stops constructed, approximately 19 km of separated motorized and non-motorized lanes, and two pilot “living

¹⁶ While the public training target is 50% female participation, the staff training target is 30%.

Intervention	Output
	streets”
	- two bridges constructed
	- one pedestrian overpass constructed
	- associated infrastructures constructed, including traffic signals, street lights, urban utility pipelines, and landscaping
1.2 Urban water supply network	- approximately 38 km of urban water supply pipelines constructed and/or upgraded
1.3 Urban sewerage network	- approximately 78 km of urban sewerage pipelines and 2,024 inspection manholes constructed
1.4 Urban central heating network	- approximately 44km of central heating pipes and associated heat exchange stations constructed
1.5 Public parks	- public parks and green space upgraded
	- one tree nursery established
1.6 Urban solid waste management	- purchase of street cleaning and waste collection and transportation equipment and vehicles
	- one waste transfer station constructed
2. Akesu Duolang wetland rehabilitated and protected	
2.1 Wetland rehabilitation and restoration	- approximately 95 ha of wetlands restored and rehabilitated
2.2 Wetland protection forest belt	- approximately 4 ha of wetland protection forest belt established
2.3 Wetland research	- laboratory and monitoring equipment purchased
2.4 Wetland management	- management station constructed
	- patrol roads constructed
3. Project and urban environmental management and inclusive capacity enhanced	
3.1 Project management	- project performance management system prepared and updated
	- tendering, procurement and contract management, and financial management undertaken
	- construction supervision undertaken
	- stakeholder consultations conducted
	- environmental and social safeguards compliance ensured
	- regular monitoring and evaluation undertaken
	- Reporting requirements met
3.2 Capacity building	- approximately 2,000 person-times of training provided, including 50% women and ethnic minorities
	- 2 pilot “living streets” designed and piloted
	- human-centered traffic master plan prepared
	- ISWM plan prepared
	- public education and / or outreach programs on “living streets”, road safety, waste 3Rs, and wetland and biodiversity protection implemented
	- policy notes and/or knowledge products (“living streets”, human-centered traffic planning, 3R-oriented integrated solid waste management, and wetland and biodiversity protection) produced and disseminated

3R = reduce, reuse, recycle; ha = hectare; ISWM = integrated solid waste management; km = kilometer; *mu* = a Chinese unit of measurement (1 *mu* = 666.7 square meters); t/d = ton-per-day.

II. IMPLEMENTATION PLANS

B. Project Readiness Activities

Indicative Activities	2014												2015												Agency Responsible
	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N						
Implementation arrangement																									XUARG, AMG
Advance contracting actions																									ADB, XUARG, AMG
Management review meeting																									ADB
Approval of FCUR																									NDRC
Approval of PEOR																									MOF
Loan negotiations																									ADB, government
ADB Board consideration																									ADB
Loan signing																									ADB, government
Government legal opinion																									XUARG, government
Counterpart funds available																									AMG
Loan effectiveness																									ADB, government

ADB = Asian Development Bank, AMG = Akesu municipal government, FCUR = foreign capital utilization report, MOF = Ministry of Finance, NDRC = National Development and Reform Commission, PEOR =project evaluation opinion report, XUARG = Xinjiang Uygur Autonomous Region Government.

C. Overall Project Implementation Plan

	2014				2015				2016				2017				2018				2019				2020				2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1. Urban Road Network and Associate Infrastructures																																
1.1 Design and tender documentation																																
1.2 Land acquisition and resettlement																																
1.3 Preparation for construction																																
1.4 Tendering, evaluation, and contract awards																																
1.5 Civil works construction and equipment																																
1.6 Acceptance inspection and commissioning																																
2. Water Supply Network																																
2.1 Design and tender documentation																																
2.2 Land acquisition and resettlement																																
2.3 Preparation for construction																																
2.4 Tendering, evaluation, and contract awards																																
2.5 Civil works construction and equipment																																
2.6 Acceptance inspection and commissioning																																
3. Sewerage Network																																
3.1 Design and tender documentation																																
3.2 Land acquisition and resettlement																																
3.3 Preparation for construction																																
3.4 Tendering, evaluation, and contract awards																																
3.5 Civil works construction and equipment																																
3.6 Acceptance inspection and commissioning																																
4. Central Heating Network																																
4.1 Design and tender documentation																																
4.2 Land acquisition and resettlement																																
4.3 Preparation for construction																																
4.4 Tendering, evaluation, and																																

	2014				2015				2016				2017				2018				2019				2020				2021								
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
contract awards																																					
4.5 Civil works construction and equipment																																					
4.6 Acceptance inspection and commissioning																																					
5. Public Parks																																					
5.1 Design and tender documentation																																					
5.2 Land acquisition and resettlement																																					
5.3 Preparation for construction																																					
5.4 Tendering, evaluation, and contract awards																																					
5.5 Civil works construction and equipment																																					
5.6 Acceptance inspection and commissioning																																					
6. Solid Waste Management																																					
6.1 Design and tender documentation																																					
6.2 Land acquisition and resettlement																																					
6.3 Preparation for construction																																					
6.4 Tendering, evaluation, and contract awards																																					
6.5 Civil works construction and equipment																																					
6.6 Acceptance inspection and commissioning																																					
7. Wetland Restoration and Rehabilitation																																					
7.1 Design and tender documentation																																					
7.2 Land acquisition and resettlement																																					
7.3 Preparation for construction																																					
7.4 Tendering, evaluation, and contract awards																																					
7.5 Civil works construction and equipment																																					
7.6 Acceptance inspection and commissioning																																					
8. Project Management and Capacity Building																																					
8.1 Design and tender documentation																																					

	2014				2015				2016				2017				2018				2019				2020				2021							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
8.2 Tendering, evaluation, and contract awards																																				
8.3 Project management Support																																				
8.4 Capacity building																																				

III. PROJECT MANAGEMENT ARRANGEMENTS

B. Project Implementation Organization – Roles and Responsibilities

Project Implementation Organization	Management Roles and Responsibilities
1. Project Execution	The executing agency will be XUARG.
Xinjiang project leading group	<p>XUARG has established the Xinjiang PLG, led by the Vice Governor of XUARG and including high level officials from Xinjiang Finance Department, Development and Reform Commission, Housing and Urban- Rural Construction Department, with others seconded as necessary to:</p> <ul style="list-style-type: none"> - Provide overall project direction and any required policy guidance. - Facilitate inter-agency coordination and resolve any major problems affecting project implementation at the autonomous region level.
2. Project Coordination and Supervision	
Xinjiang project management office	<p>The XPMO, comprising staff from Xinjiang Housing and Urban-Rural Construction Department, Xinjiang Finance Department, and Xinjiang Development and Reform Commission, has the responsibility to:</p> <ul style="list-style-type: none"> - Supervise APMO and provide support as needed. - Liaison with MOF, NDRC, and XUARG agencies on matters related to the project. - Supervise project procurement.
Xinjiang Finance Department	Xinjiang Finance Department is responsible for operation of the imprest account, submission of the withdrawal applications, retention of supporting documents, and any financial reporting requirements, including, the annual audit report and financial statements.
3. Project Implementation	
Implementing Agency: Akesu municipal government	AMG is the implementing agency for all components. It assumes the debt servicing responsibility as the end-user of the ADB loan.
Akesu project leading group	<p>The APLG is established to:</p> <ul style="list-style-type: none"> - Provide direction, guidance, and support on the implementation of the project components. - Ensure timely provision of counterpart funds and any other resources needed for project implementation.
Akesu project management office	<p>APMO has been established, with the responsibility to:</p> <ul style="list-style-type: none"> - Liaise with XPMO. - Coordinate the work of all agencies and POAs within the city that are involved in the project. - Be responsible for day-to-day liaison and communication with ADB for daily operational matters. - Manage the implementation of the project. - Supervise the progress and quality of construction and equipment installation. - Undertake procurement, construction, financial, and contract management. - Recruit and manage loan implementation consulting services. - Ensure compliance with loan covenants, including environmental and social safeguard requirements. - Meet all reporting requirements.

ADB = Asian Development Bank, AMG = Akesu municipal government, APLG = Akesu project leading Group, APMO = Akesu project management office, MOF = Ministry of Finance, NDRC = National Development and Reform Commission, PLG = project leading group, POA = project operating agency, XPMO = Xinjiang project management office, XUARG = Xinjiang Uygur Autonomous Region Government.

Note: Each POA will nominate at least one person responsible for overseeing the implementation of the ethnic minority development plan and the social and gender action plan, and to coordinate the social monitoring during implementation and operation.

C. Proposed Project Operation and Maintenance Arrangements

Component	Subcomponent	Project Operating Agency	Type
Urban infrastructure and services improved	Urban road network and associated infrastructures	Akesu Municipal Housing and Urban Rural Construction Bureau, Engineering Maintenance Division	public institution
	Urban water supply network	Akesu Water Supply and Drainage Co., AWG	SOE
	Sewerage network	Akesu Water Supply and Drainage Co., AWG	SOE
	Central heating network	Akesu Yangguang Heating Co. Ltd., AWG	SOE
	Solid waste management	Environmental Sanitation Management Division, Akesu Administrative Enforcement Bureau	public institution
	Public and street parks	Akesu Landscape Management Division, Akesu Forest Bureau	public institution
Akesu Duolang wetland rehabilitated and protected		Akesu River Basin National Wetland Park Management Station, Akesu Forest Bureau	public institution

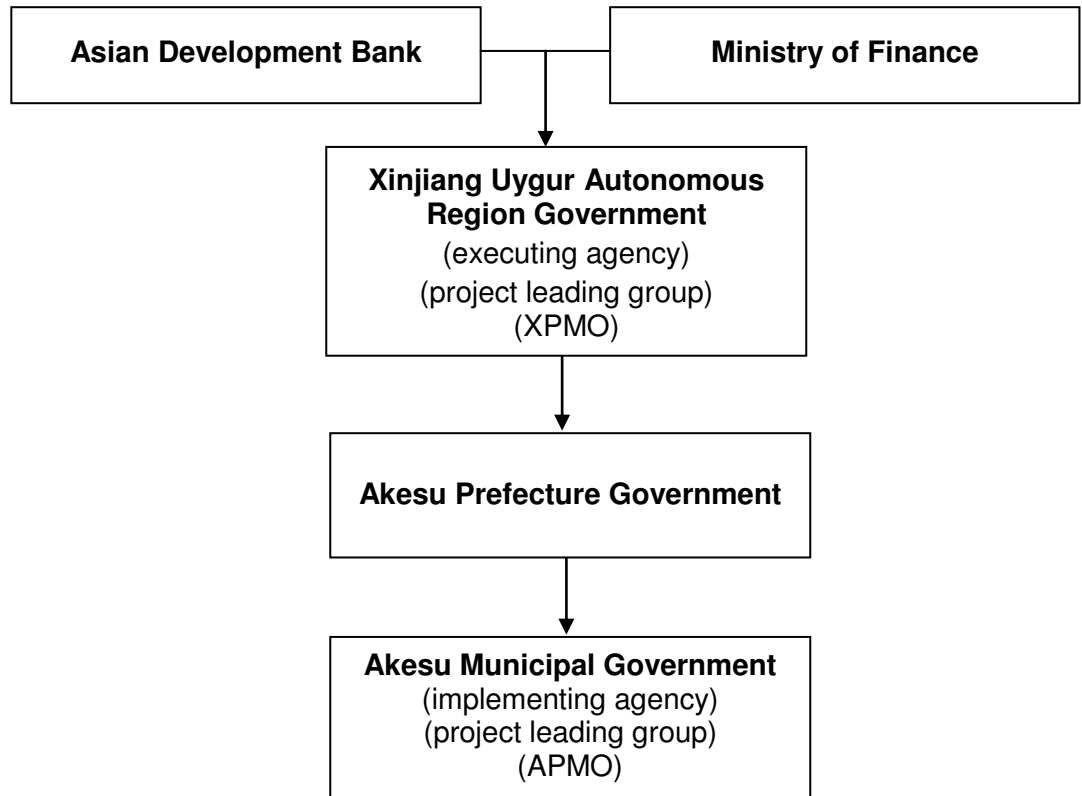
AWG = Akesu Water Group Co., SOE = state-owned enterprise.

D. Key Persons Involved in Implementation

Executing Agency		
XUARG	Officer's Name:	Li Xiangqun
	Position:	Director, Xinjiang Project Management Office
	Telephone:	(86) 991 282 7585
	Email address:	jstjhcwc@sina.com
	Office Address:	Room 1203, Xinjiang Regional Department of Housing and Urban-Rural Construction, No.462 Zhongshan Road, Urumqi, Xinjiang, 830002
Implementing Agency		
AMG	Officer's Name:	Mr. Yang Ping
	Position:	Director, Akesu Project Management Office
	Telephone:	(86) 13899299616
	Email address:	xjaksxmb2013@sina.com
	Office Address:	7 Xida Street, Akesu City, Xinjiang
ADB		
EASS Division director	Staff Name:	Mr. Sangay Penjor
	Position:	Director, EASS
	Telephone No.:	(632) 632 6584
	Email address:	spenjor@adb.org
Mission leader	Staff Name:	Ms. Kristina Katich
	Position:	Urban Development Specialist, EASS
	Telephone No.:	(632) 632 4998
	Email address:	kkatich@adb.org

ADB = Asian Development Bank, AMG = Akesu municipal government, EASS = East Asia Regional Department Urban and Social Sectors Division, XUARG = Xinjiang Uygur Autonomous Region Government.

E. Project Implementation Organization Structure



APMO = Akesu project management office, XPMO = Xinjiang project management office.

IV. COSTS AND FINANCING

A. Project Investment Plan

1. The project is estimated to cost \$250.99 million. Loan proceeds will be disbursed according to ADB's *Loan Disbursement Handbook* (2015, as amended from time to time), and subject to the provisions of the Loan Agreement.

Table 1: Project Investment Plan

Item	Amount ^a	Share of Total (%)
A. Base Cost^b		
1. Urban infrastructure and services improved	178.34	71.06
2. Akesu Duolang wetland rehabilitated and protected	43.24	17.23
3. Project and urban environmental management and inclusive capacity enhanced	1.75	0.69
Subtotal (A)	223.33	88.98
B. Contingencies^c	21.81	8.69
C. Financing Charges during Construction^d	5.85	2.33
Total (A+B+C)	250.99	100.00

^a Includes taxes and duties estimated at \$11.95 million, to be financed from government resources and Asian Development Bank (ADB) loan resources. The amount of taxes and duties to be financed by ADB is based on the principles that (i) the amount of taxes and duties financed by the ADB loan does not represent an excessive share of the project, (ii) the taxes and duties apply only to ADB-financed expenditures, and (iii) the financing of taxes and duties is relevant to the project success.

^b In July 2014 prices and an exchange rate of \$1 = CNY6.15.

^c Physical contingencies computed using 4.7% on base cost. Price contingencies computed using foreign cost escalation factors of 1.25% for 2015, 2.52% for 2016, and 3.95% for 2017; and local currency escalation factors of 2.80% for 2015, 5.88% for 2016, and 9.09% for 2017.

^d Includes interest and commitment charges. Interest during construction for ordinary capital resources loan(s) has been computed at the 5-year US dollar fixed swap rate plus an effective contractual spread of 0.5% and maturity premium of 0.1%. Commitment charges for an ordinary capital resources loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

B. Financing Plan

2. The government has requested a loan of \$150 million from ADB's ordinary capital resources to help finance the project. The loan will have (i) a 26-year term, including a grace period of 5 years; will follow the straight-line method; (ii) an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; (iii) a commitment charge of 0.15% per year on undisbursed funds; and (iv) such other terms and conditions as are set forth in the draft loan and project agreements. The average maturity is 15.75 years, and the maturity premium payable to ADB is 0.10% per annum. The ADB loan will cover civil works, equipment, engineering installation, project management and capacity building, and financing charges during construction. The ADB loan will also finance taxes and duties included in the base cost. The financing charges during construction are estimated at \$5.85 million; of which \$3 million will be financed through ADB loan as capitalized interest and charges. The loan will finance 59.76% of the total project cost and the Akesu Municipal Government (AMG) will finance the remaining 40.24% (Table 2).

3. The People's Republic of China (PRC) is the borrower of the loan and will relend the entire loan to the Government of Xinjiang Uygur Autonomous Region, which will onlend the loan proceeds to the Akesu prefecture government, which in turn will onlend to the AMG on the same terms and conditions as those for the ADB loan. The AMG will bear the foreign exchange and

interest rate variation risks in proportion to the loan amount it receives. The PRC, XUARG, and AMG have assured ADB that counterpart funding will be provided in a timely manner, including any additional counterpart funding required for any shortfall of funds or cost overruns.

Table 2: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank	150.00	59.76
Akesu Municipal Government	100.99	40.24
Total	250.99	100.00

Source: Asian Development Bank estimates.

C. Detailed Cost Estimates by Expenditure Category (\$ million)^a

	CNY (million)			(\$ million) ^a			% of Base Costs	% of Total Costs
	Foreign Exchange Costs	Local Currency Costs	Total Costs	Foreign Exchange Costs	Local Currency Costs	Total Costs		
A. Base Costs^b								
1 Civil works								
a. Urban roads and associated infrastructures	103.21	412.85	516.06	16.78	67.13	83.91	37.57	33.43
b. Public and street parks	14.72	58.89	73.62	2.39	9.58	11.97	5.36	4.77
c. Urban water supply network improvement	2.27	9.10	11.37	0.37	1.48	1.85	0.83	0.74
d. Sewerage network improvement	6.34	25.36	31.70	1.03	4.12	5.15	2.31	2.05
e. Central heating network improvement	3.93	15.74	19.67	0.64	2.56	3.20	1.43	1.27
f. Solid waste management	1.00	4.01	5.01	0.16	0.65	0.81	0.36	0.32
g. Wetland rehabilitation	25.94	103.74	129.68	4.22	16.87	21.09	9.44	8.40
Subtotal	157.42	629.68	787.10	25.60	102.39	127.98	57.31	50.99
2 Equipment	175.35	116.90	292.26	28.51	19.01	47.52	21.28	18.93
3 Engineering installation	14.70	58.80	73.50	2.39	9.56	11.95	5.35	4.76
4 Design, monitoring, and evaluation	16.53	66.12	82.65	2.69	10.75	13.44	6.02	5.35
5 Land acquisition and resettlement		127.19	127.19	-	20.68	20.68	9.26	8.24
6 Project management and capacity building ^c	2.15	8.61	10.76	0.35	1.40	1.75	0.78	0.70
Subtotal (A)	366.16	1,007.31	1,373.46	59.54	163.79	223.33	100.00	88.98
B Contingency^d								
1 Physical contingencies	17.63	48.51	66.15	2.87	7.89	10.76	4.82	4.29
2 Price contingencies	18.13	49.88	68.01	2.95	8.11	11.06	4.95	4.41
Subtotal (B)	35.76	98.39	134.16	5.84	16.00	21.81	9.77	8.69
C. Financing charges during construction^e	18.42	17.53	35.95	3.00	2.85	5.85	2.62	2.33
Total Project Cost (A+B+C)	420.34	1,123.23	1,543.57	68.35	182.64	250.99	112.39	100.00

Note: Numbers may not add up precisely due to rounding.

^a Includes taxes and duties estimated at \$11.95 million, to be financed from government resources and Asian Development Bank (ADB) loan resources. The amount of taxes and duties to be financed by ADB is based on the principles that (i) the amount of taxes and duties financed by the ADB loan does not represent an excessive share of the project, (ii) the taxes and duties apply only to ADB-financed expenditures, and (iii) the financing of taxes and duties is relevant to the project success.

^b In July 2014 prices and an exchange rate of \$1 = CNY6.15.

^c Physical contingencies computed using 4.7% on base cost. Price contingencies computed using foreign cost escalation factors of 1.25% for 2015, 2.52% for 2016, and 3.95% for 2017; and local currency escalation factors of 2.80% for 2015, 5.88% for 2016, and 9.09% for 2017.

^d Includes interest and commitment charges. Interest during construction for ordinary capital resources loan(s) has been computed at the 5-year US dollar fixed swap rate plus an effective contractual spread of 0.5% and maturity premium of 0.1%. Commitment charges for an ordinary capital resources loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

D. Detailed Cost Estimates by Financier (\$ million)^a

Items	ADB		Counterpart Fund		Total ^a	
	\$ (million)	%	\$ (million)	%	\$ (million)	%
A. Base Cost^b						
1. Civil Works						
a. Urban roads and associated infrastructures	58.61	69.84	25.31	30.16	83.91	33.43
b. Public and street parks	8.36	69.84	3.61	30.16	11.97	4.77
c. Urban water supply network improvement	1.29	69.84	0.56	30.16	1.85	0.74
d. Sewerage network improvement	3.60	69.84	1.55	30.16	5.15	2.05
e. Central heating network improvement	2.23	69.84	0.96	30.16	3.20	1.27
f. Solid waste management	0.57	69.84	0.25	30.16	0.81	0.32
g. Wetland rehabilitation	14.73	69.84	6.36	30.16	21.09	8.40
Subtotal(A)	89.39	69.84	38.60	30.16	127.98	50.99
2. Equipment	47.52	100.00	-	-	47.52	18.93
3. Engineering installation	8.35	69.84	3.60	30.16	11.95	4.76
4. Design, monitoring, and evaluation	-	-	13.44	100.00	13.44	5.35
5. Land acquisition and resettlement	-	-	20.68	100.00	20.68	8.24
6. Project management and capacity building ^c	1.75	100.00	-	-	1.75	0.70
Total Project Cost(A)	147.00	65.82	76.33	34.18	223.33	88.98
B. Contingency^d	-	-	21.81	100.00	21.81	8.69
C. Financing charges during construction^e	3.00	51.24	2.85	48.76	5.85	2.33
Total Disbursement	150.000	59.76	100.99	40.24	250.99	100.00

ADB = Asian Development Bank.

Note: Numbers may not add up precisely due to rounding.

^a Includes taxes and duties estimated at \$11.95 million, to be financed from government resources and Asian Development Bank (ADB) loan resources. The amount of taxes and duties to be financed by ADB is based on the principles that (i) the amount of taxes and duties financed by the ADB loan does not represent an excessive share of the project, (ii) the taxes and duties apply only to ADB-financed expenditures, and (iii) the financing of taxes and duties is relevant to the project success.

^b In July 2014 prices and an exchange rate of \$1 = CNY6.15.

^c Physical contingencies computed using 4.7% on base cost. Price contingencies computed using foreign cost escalation factors of 1.25% for 2015, 2.52% for 2016, and 3.95% for 2017; and local currency escalation factors of 2.80% for 2015, 5.88% for 2016, and 9.09% for 2017.

^d Includes interest and commitment charges. Interest during construction for ordinary capital resources loan(s) has been computed at the 5-year US dollar fixed swap rate plus an effective contractual spread of 0.5% and maturity premium of 0.1%. Commitment charges for an ordinary capital resources loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

E. Detailed Cost Estimates by Year (\$ million)^a

	2015		2016		2017		Total
	\$ (million)	%	\$ (million)	%	\$ (million)	%	\$ (million)
A. Base Cost^b							
1. Urban infrastructure and services improved							
1.1 Urban roads and associated infrastructures	48.74	46.25	23.55	22.34	33.09	31.40	105.38
1.2 Public and street parks	10.10	75.28	2.85	21.21	0.47	3.51	13.42
1.3 Urban water supply network improvement	1.97	25.33	2.14	27.56	3.66	47.10	7.76
1.4 Sewerage network improvement	7.45	53.96	3.35	24.31	3.00	21.73	13.80
1.5 Central heating network improvement	-	-	27.84	100.00	-	-	27.84
1.6 Solid waste management	7.67	75.63	1.70	16.81	0.77	7.56	10.14
2. Akesu Duolang wetland rehabilitated and protected	14.46	33.44	5.61	12.99	23.16	53.58	43.24
3. Project and urban environmental management and inclusive capacity enhanced^c	0.58	33.33	0.58	33.33	0.58	33.33	1.75
Subtotal(A)	90.96	40.73	67.63	30.28	64.73	28.99	223.33
B. Contingency^d							
1. Physical contingency	4.38	40.73	3.26	30.28	3.12	28.99	10.76
2. Price contingency	2.30	20.76	3.40	30.71	5.37	48.53	11.06
Subtotal(B)	6.68	30.61	6.65	30.50	8.48	38.89	21.81
C. Financing charges during construction^e	0.86	14.66	2.01	34.41	2.98	50.93	5.85
Total Cost (A+B+C)	98.50	39.24	76.30	30.40	76.19	30.36	250.99

Note: Numbers may not add up precisely due to rounding.

^a Includes taxes and duties estimated at \$11.95 million, to be financed from government resources and Asian Development Bank (ADB) loan resources. The amount of taxes and duties to be financed by ADB is based on the principles that (i) the amount of taxes and duties financed by the ADB loan does not represent an excessive share of the project, (ii) the taxes and duties apply only to ADB-financed expenditures, and (iii) the financing of taxes and duties is relevant to the project success.

^b In July 2014 prices and an exchange rate of \$1 = CNY6.15.

^c Physical contingencies computed using 4.7% on base cost. Price contingencies computed using foreign cost escalation factors of 1.25% for 2015, 2.52% for 2016, and 3.95% for 2017; and local currency escalation factors of 2.80% for 2015, 5.88% for 2016, and 9.09% for 2017.

^d Includes interest and commitment charges. Interest during construction for ordinary capital resources loan(s) has been computed at the 5-year US dollar fixed swap rate plus an effective contractual spread of 0.5% and maturity premium of 0.1%. Commitment charges for an ordinary capital resources loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

F. Financing Plan by Component (\$ million)^a

Item	Urban Roads	Public Parks	Urban Water Supply Network	Sewerage Network	Central Heating Network	Solid Waste Management	Wetland Rehabilitation	Subtotal	Capacity Building	Total
A. Base Costs^b										
1 Civil works	83.91	11.97	1.85	5.15	3.20	0.81	21.09	127.98		127.98
2 Equipment	10.74	0.20	3.62	4.35	18.31	8.51	1.79	47.52		47.52
3 Engineering Installation	1.85	0.35	1.77	3.37	4.48	0.14	-	11.95		11.95
4 Design, monitoring, and evaluation	6.92	0.90	0.52	0.92	1.86	0.68	1.64	13.44		13.44
5 Land acquisition and resettlement	1.97	-	-	-	-	-	18.72	20.68		20.68
6 Capacity building ^c	-	-	-	-	-	-	-	-	1.75	1.75
Subtotal (A)	105.38	13.42	7.76	13.80	27.84	10.14	43.24	221.58		223.33
B. Contingency^d										
1 Physical contingencies	5.08	0.65	0.37	0.66	1.34	0.49	2.08	10.67	0.08	10.76
2 Price contingencies	5.24	0.46	0.42	0.58	1.26	0.28	2.73	10.96	0.10	11.06
Subtotal (B)	10.31	1.10	0.79	1.24	2.60	0.77	4.81	21.63	0.18	21.81
C. Financing charges during construction^e	2.86	0.46	0.19	0.45	0.88	0.47	0.46	5.78	0.06	5.85
Total Project Cost (A+B+C)	118.55	14.99	8.75	15.49	31.32	11.38	48.50	248.99	2.00	250.99

LAR = land acquisition and resettlement.

Note: Numbers may not add up precisely due to rounding.

^a Includes taxes and duties estimated at \$11.95 million, to be financed from government resources and Asian Development Bank (ADB) loan resources. The amount of taxes and duties to be financed by ADB is based on the principles that (i) the amount of taxes and duties financed by the ADB loan does not represent an excessive share of the project, (ii) the taxes and duties apply only to ADB-financed expenditures, and (iii) the financing of taxes and duties is relevant to the project success.

^b In July 2014 prices and an exchange rate of \$1 = CNY6.15.

^c Physical contingencies computed using 4.7% on base cost. Price contingencies computed using foreign cost escalation factors of 1.25% for 2015, 2.52% for 2016, and 3.95% for 2017; and local currency escalation factors of 2.80% for 2015, 5.88% for 2016, and 9.09% for 2017.

^d Includes interest and commitment charges. Interest during construction for ordinary capital resources loan(s) has been computed at the 5-year US dollar fixed swap rate plus an effective contractual spread of 0.5% and maturity premium of 0.1%. Commitment charges for an ordinary capital resources loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

G. Allocation and Withdrawal of Loan Proceeds

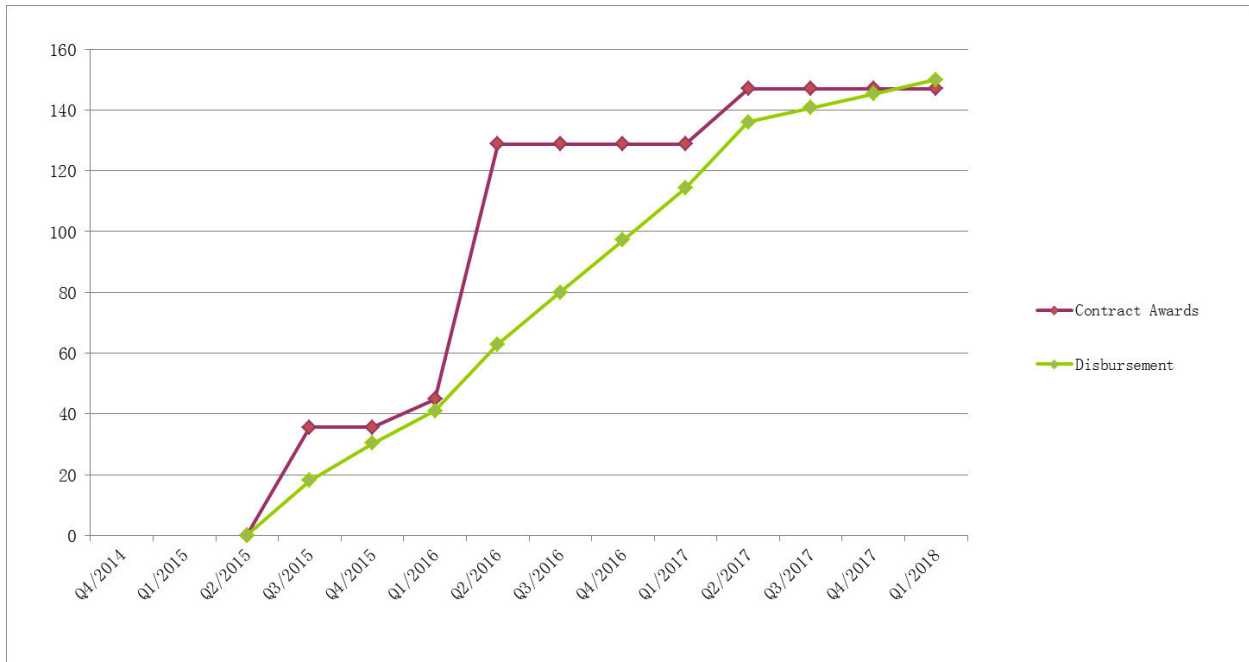
No.	Category Item	Total Amount Allocated for ADB Financing (\$)	Basis for Withdrawal from the Loan Account
1.	Works	100,690,000	70.00% of total expenditure claimed
2.	Equipment (goods)	44,560,000	100.00% of total expenditure claimed
3.	Capacity development	1,750,000	100.00% of total expenditure claimed
4.	Interest and commitment charges	3,000,000	100% of amounts due
	Total	150,000,000	

H. Contract and Disbursement S-Curve (\$ million)

Item	2015			2016				2017			2018	
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Contract awards	0.0	35.6	0.0	9.3	83.9	0.0	0.0	0.0	18.2	0.0	0.0	0.0
Disbursement	0.0	18.2	12.1	10.8	21.9	17.1	17.1	17.1	21.8	4.6	4.6	4.7
Cumulative												
Contract awards	0.0	35.6	35.6	44.9	128.8	128.8	128.8	128.8	147.0	147.0	147.0	147.0
Disbursement	0.0	18.2	30.3	41.0	62.9	80.1	97.2	114.3	136.1	140.7	145.3	150.0

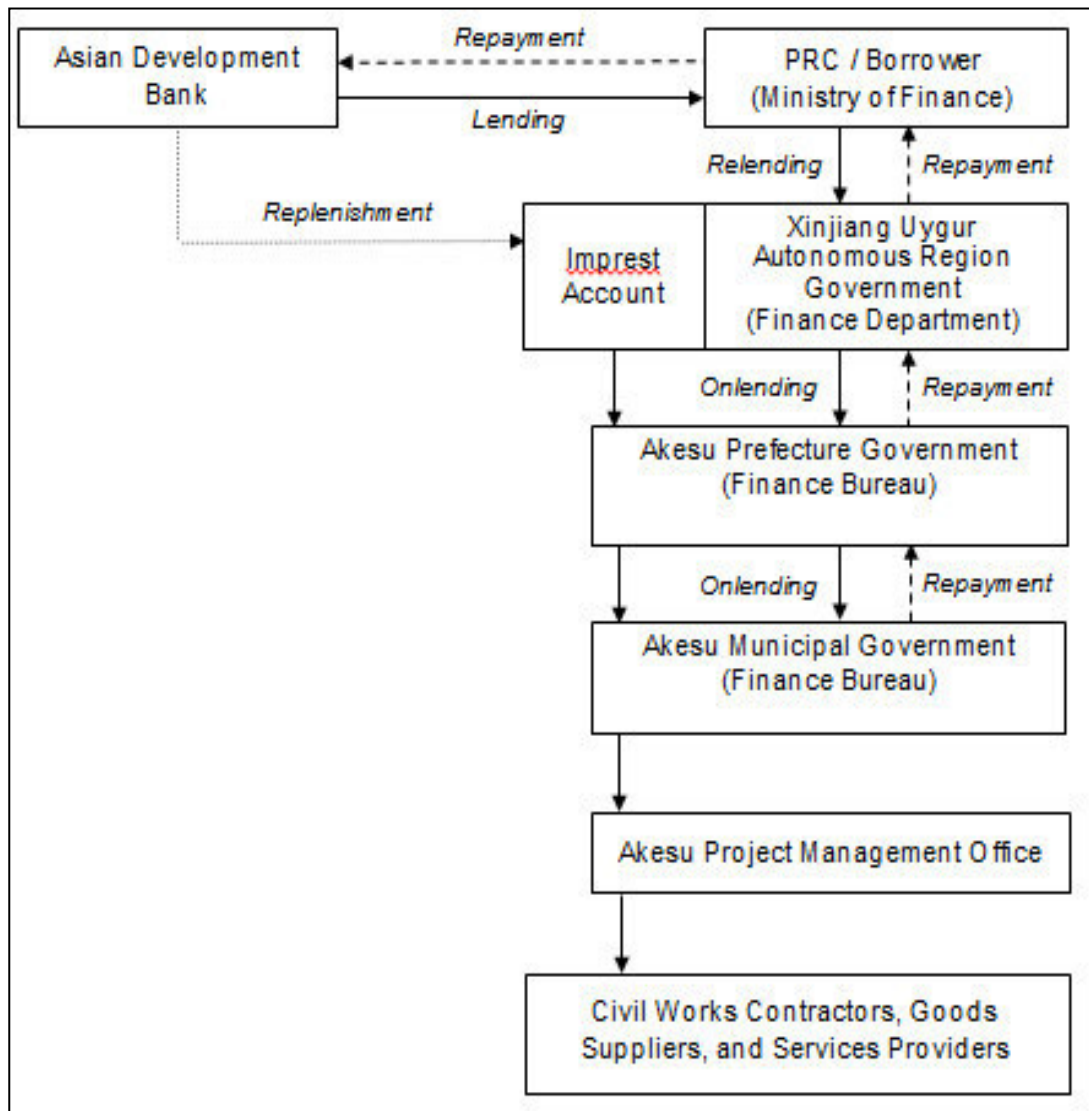
Source: Project preparatory technical assistance estimates based on feasibility study report, November 2014.

I. Contract and Disbursement S-Curve



J. Fund Flow Diagram

Figure 1: Diagram for Flow of Funds



V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

1. The financial management assessment was carried out in accordance with ADB's Guidelines for the *Financial Management and Analysis of Projects*¹ to assess the financial management capacity of Akesu municipal government (AMG); including the flow of funds arrangements, staffing, accounting policies and procedures, internal and external auditing arrangements, reporting and monitoring, and financial information systems. The assessment concluded that AMG is inexperienced in managing projects funded by international financial institutions. The overall financial management risk-rating of the project is "moderate", although, the risk can be mitigated by adequate preparatory project training. The identified risks in financial management will be closely monitored during project implementation. The assessment indicated that (i) there are established accounting and financial management policies and procedures in the PRC, which are strictly followed by AMG; and (ii) they have sound accounting and financial management capability and are experienced in managing large projects. Xinjiang Uygur Autonomous Region Finance Department (XFD), which will operate and administer the imprest account, is experienced in administering ADB and other foreign-financed projects. The number of staff in the agencies is adequate for current day-to-day activities. Training will be provided to XFD staff on ADB guidelines for project implementation especially on procurement, disbursement and financial management.

2. Understanding of, and adherence to, ADB's financial management policies and procedures and strengthened internal audit system can be enhanced during project implementation. AMG is required to maintain a separate project account which is in line with the PRC's accounting standards and these are subject to independent external audit by qualified commercial or government auditors. It was agreed that the Akesu project management office (APMO) will strengthen its financial management capability to manage the project, including (i) finalizing organizational arrangements; (ii) setting up clear institutional arrangements and strengthen coordination mechanism; (iii) completing staff recruitment to fill identified positions; (iv) undertaking more training, particularly on ADB policy and procedures; and (v) seeking external financial management assistance as needed.

B. Disbursement

1. Disbursement Arrangements for Asian Development Bank {and Asian Development Bank-administered Co-financier} Funds

1. The loan proceeds will be disbursed in accordance with *Loan Disbursement Handbook* (2015, as amended from time to time), and detailed arrangements agreed upon between the government and ADB.²

4. As the implementing agency, the AMG will be responsible for all disbursement arrangements, including (i) preparing disbursement projections, (ii) requesting budgetary allocations for counterpart funds, (iii) collecting supporting documents, and (iv) preparing and sending withdrawal applications to ADB through XFD. At the end of each year, realistic projections of contract awards / commitments and disbursement for the next year will be made for an assessment and projection of ADB funds. The APMO will be responsible for preparing

¹ ADB. 2005. *Financial Management and Analysis of Projects*. Manila.

² <http://www.adb.org/documents/loan-disbursement-handbook>.

disbursement projections each year.

5. Reimbursement, commitment, and imprest fund procedures may be used to withdraw funds from the loan account. To expedite the flow of funds and simplify document processing, the statement of expenditures (SOE) procedure may be used to reimburse, replenish, and liquidate eligible expenditures for any individual payment not exceeding \$200,000 equivalent. Payments exceeding this ceiling will be reimbursed, replenished, and liquidated based on the full documentation process. SOE records should be maintained and made readily available for review by ADB's disbursement and review mission, or upon ADB's request for submission of supporting documents on a sampling basis and for independent audit.³

6. To facilitate project implementation and funds flow, XFD on behalf of XUARG will, upon loan effectiveness, establish the imprest account at a commercial bank acceptable to ADB. Expenditures not using the imprest account may use other disbursement procedures such as commitment and reimbursement.

7. Currency of the imprest account will be in US dollar. The imprest account is to be used exclusively for ADB's share of eligible expenditures. XUARG, through XFD who established the imprest account in its name, is accountable and responsible for proper use of advances to the imprest account.⁴ The government may request for initial and additional advances to the imprest account based on 6 months estimated expenditures to be financed through the imprest account. The imprest account will be established, managed, and liquidated in accordance with ADB's *Loan Disbursement Handbook* and detailed arrangements agreed by the government and ADB. ADB's *Loan Disbursement Handbook* describes which supporting documents should be submitted to ADB and which should be retained by the government for liquidation and replenishment of an imprest account.

8. Before the submission of the first withdrawal application, AMG, through APMO, should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the government, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is \$100,000 equivalent. Individual payments below this amount should be paid from the imprest account or by AMG, and subsequently claimed to ADB through reimbursement, unless otherwise accepted by ADB.

9. For the counterpart funds, AMG will allocate the designated funding for the project as specified in the project agreement. Counterpart funds from the government will be disbursed and liquidated by the implementing agencies to contractors and service providers. The disbursement process will follow this process: (i) according to the progress of the contract, the implementing agencies will submit disbursement request to APMO; and (ii) once approved, counterpart funds will be disbursed from the finance department of AMG if appropriate.

C. Accounting

10. AMG will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the project. Consolidated project financial statements will

³ Checklist for SOE procedures available in Chapter 9 and formats in Appendix 10B of the Loan Disbursement Handbook (<http://www.adb.org/sites/default/files/institutional-document/33606/files/adb-loan-disbursement-handbook.pdf>).

⁴ The bank charges in the operation of the imprest account may be financed from the loan proceeds.

be prepared annually in accordance with the government's accounting laws and regulations, which are consistent with international accounting principles and practices.⁵

D. Auditing and Public Disclosure

11. AMG will cause the detailed consolidated project financial statements to be audited in accordance with International Standards on Auditing and the Government Auditing Standards of the PRC (where these are consistent with International Standards on Auditing), by an auditor acceptable to ADB. The audited project financial statement will be submitted in the English language to ADB within 6 months of the end of the financial year by the AMG.

12. The annual audit report for the project will include an audit management letter⁶ 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) use of the imprest fund procedure; and (v) use of the SOE procedure certifying to the eligibility of those expenditures claimed under SOE procedures, and proper use of the SOE and imprest procedures in accordance with ADB's *Loan Disbursement Handbook* and the project documents.

13. 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.

14. The government, XUARG, and AMG 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. ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower), 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.

15. Public disclosure of the audited project financial statements will be guided by ADB's Public Communications Policy (2011).⁷ ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements within 30 days of receipt by posting them on ADB's website. The management letter will not be disclosed.

⁵ Applicable laws, regulations and guidelines include (i) The Accounting Law of the PRC (2000); (ii) State-owned Construction Enterprise Accounting Control Regulations; (iii) Capital Construction Financial Control Regulations; and (iv) Accounting Methods for Projects Financed by the World Bank.

⁶ A management letter means formal communications from the auditor to the client management in accordance with the International Standard on Auditing 265 (communicating deficiencies in internal control to those charged with governance and management), which is not required to be provided separately as it is equivalent to the Audit Findings and Recommendations prepared by the Project auditor and submitted to ADB.

⁷ Public Communications Policy: <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting and Retroactive Financing

1. All advance contracting and retroactive financing will be undertaken in conformity with ADB's Procurement Guidelines (2015, as amended from time to time)¹ and Guidelines on the Use of Consultants (2013, as amended from time to time)² of the Asian Development Bank (ADB). Advance contracting was approved on 23 January 2015 and approval of retroactive financing was approved in ADB's management review meeting in March 2015. The issuance of invitations to bid under advance contracting and retroactive financing will be subject to ADB approval. It was explained to the borrower, Akesu municipal government (AMG) as the implementing agency, as well as the Xinjiang Uygur Autonomous Region Government (XUARG) as the executing agency, that (i) advance contracting includes the advertisement, bidding documents, evaluation of bids and up to the recommendation of contract awards; and, that all steps will require ADB's no objection; (ii) approval of advance contracting and retroactive financing does not commit ADB to finance the project; and (iii) where advance contracting is approved, ADB's approval must be sought for the draft bidding documents before they are issued.

2. To expedite project implementation, the government requested ADB to approve advance contracting, which includes the recruitment of consultants and procurement of civil works; and the request for retroactive financing of eligible expenditures for consulting services, civil works, and equipment procurement.

3. **Advance contracting.** Advance contracting will include (i) tendering, bid evaluation, and award of contracts for civil works and equipment contract packages up to the recommendation of contract award; and (ii) recruitment of consultants. The issuance of invitations to bid and bidding documents under advance procurement action will be subject to ADB approval. The advance contracting will include four civil works contract packages (all NCB), six goods/equipment contract packages (four NCB and two shopping) and two consulting services contract packages (one QCBS and one ICS).

4. **Retroactive financing.** The government was informed that as a general rule, retroactive financing is permitted only if (i) it is specifically agreed by ADB and the Borrower; (ii) the goods, works, services, and consultants for which it is requested are procured in accordance with ADB's Procurement Guidelines (2015, as amended from time to time) and ADB's Guidelines on the Use of Consultants (2013, as amended from time to time); (iii) the amount to be retroactively financed does not exceed 20% of the loan amount; and (iv) the expenditures must have been incurred before effectiveness of the relevant loan but, generally, no earlier than 12 months before signing of the Loan Agreement. In either instance, detailed assessments (due diligence) on each retroactive financing proposal must demonstrate that (a) the expenditures incurred are genuine, reasonable, and material to getting the project off the ground; and (b) they were incurred for proper reasons, in a transparent manner over a reasonable period of time.

¹ <http://www.adb.org/documents/procurement-guidelines>.

² <http://www.adb.org/documents/guidelines-use-consultants-asian-development-bank-and-its-borrowers>.

B. Procurement of Goods, Works, and Consulting Services

5. All procurement of goods and works will be undertaken in accordance with ADB's Procurement Guidelines (2015, as amended from time to time). International competitive bidding (ICB) will be used for civil works contracts estimated to cost \$40 million and above. National competitive bidding (NCB) will be used for civil works contracts estimated to cost over \$100,000 equivalent up to below \$40 million. For goods and equipment, ICB will be used for values exceeding \$10 million, while NCB will be used for goods and equipment from over \$100,000 to below \$10 million equivalent. For NCB, the first draft English language of the procurement documents (bidding documents, and draft contract) should be submitted for ADB approval regardless of the estimated contract amount. Subsequent procurements are subject to post review. All ICB contracts are subject to prior review. Prior review and approval of ADB of the procurement documents (prequalification, bidding, contract) is required.

6. A procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is in **Section C**.

7. All consultants financed by ADB will be recruited according to ADB's Guidelines on the Use of Consultants (2013, as amended from time to time [footnote 2]). The terms of reference for loan implementation consulting services and start-up consulting service are detailed in **Section D**. An estimated 102 person-months (16 international and 86 national) of consulting services are required to (i) facilitate project management and implementation, (ii) provide capacity building and institutional strengthening, and (iii) conduct external monitoring.

C. Procurement Plan

Table 1: Basic Data

Project Name: Xinjiang Akesu Integrated Urban Development and Environment Improvement Project	
Project Number: 46049-002	Approval Number:
Country: China, People's Republic of	Executing Agency: Xinjiang Uygur Autonomous Region Government
Project Procurement Classification: Category B	Implementing Agency: Akesu Municipal Government
Project Procurement Risk: Moderate	
Project Financing Amount: US\$ 250,990,000 ADB Financing: US\$ 150,000,000 Cofinancing (ADB Administered): Non-ADB Financing: US\$ 100,990,000	Project Closing Date: 12 July 2020
Date of First Procurement Plan: 7 April 2015	Date of this Procurement Plan: 7 April 2015

1. Methods, Thresholds, Review and 18-Month Procurement Plan

a. Procurement and Consulting Methods and Thresholds

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

Table 2: Procurement of Goods and Works

Method	Threshold	Comments
International competitive bidding for goods	US\$ 10,000,000 and Above	
National competitive bidding for goods	Between US\$ 100,001 and US\$ 9,999,999	The two NCB contracts are subject to prior review,

Method	Threshold	Comments
		thereafter post review.
Shopping for goods	Up to US\$ 100,000	
International competitive bidding for works	US\$ 40,000,000 and Above	
National competitive bidding for works	Between US\$ 100,001 and US\$ 39,999,999	The two NCB contracts are subject to prior review, thereafter post review
Shopping for works	Up to US\$ 100,000	

NCB = national competitive bidding

Table 3: Consulting Services

Method	Comments
Quality- and Cost-Based Selection for Consulting Firm	Quality and cost ratio: 80:20
Quality-Based Selection for Consulting Firm	
Individual Consultants Selection for Individual Consultant	

b. Goods and Works Contracts Estimated to Cost \$1 Million or More

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

Table 4: Goods and Works Contracts Estimated to Cost \$1 Million or More

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
CHN-CW01	Civil works and installation engineering of heating pipelines, civil works and installation engineering of heat exchange stations	7,564,900.00	NCB	Post	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Small Works
CHN-GD01	Equipment purchase for 28 heat exchange stations	5,533,400.00	NCB	Post	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Goods
CHN-GD02	Equipment purchase for heating pipelines of South of Jiefang Road, Henan Road, Ying'awati Road, Beida Street, Hangzhou Road, Wusan Road, Xihu Avenue, Hongqiao Road, Longjing Road and Jiangnan Avenue	12,399,600.00	ICB	Prior	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Goods
PSP-CW01	Civil works and installation engineering of seedling base ancillary works; equipment of seedling base ancillary works; civil	3,420,600.00	NCB	Prior	1S1E	Q2 / 2015	Prequalification of Bidders: N Domestic

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	works and installation engineering of seedling engineering soil displacement and filling						Preference Applicable: N Advanced Contracting: Y Bidding Document: Small Works
PSP-CW02	Civil works and installation engineering of landscape of street green land on South side of East Road of Hangzhou Avenue and south side vacant land of diversion channel of Duolang River, Street green land at the intersection of Jiefang Road and Wenhua Road, on north of the strip of green space on south side West Jingshui Road diversion channel of Duolang River, on the west vacant land green of Shuiyun Mingzhu residential area gate of north side of Jingshui Road, temporary parking vacant land green of west side of Administrative Enforcement Bureau (AEB), Dongcheng Park green, street and road green etc. ; civil works and installation engineering of seedling engineering, civil works and installation engineering of seedling naturalization	9,101,200.00	NCB	Post	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Small Works
SWM-CW01	Civil works and installation engineering of waste transfer station and purchase of equipment	1,906,600.00	NCB	Post	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
							Applicable: N Advanced Contracting: N Bidding Document: Small Works
SWM-GD01	Solid Waste Management Contract Package	8,059,300.00	NCB	Prior	1S1E	Q2 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: Y Bidding Document: Goods
	Lot 1: 10 units of (large) dry and wet road sweeper, 13 units of (small) dry and wet road sweeper, 4 units of high-pressure cleaning truck, 7 units of sprinkler, 2 units of multifunction fence cleaning vehicle, 1 unit of suction sewage truck	3,702,100.00					
	Lot 2: 12 units of garbage compression car, 6 units of refuse transfer truck, 160 units of hook arm garbage truck ; 2 units of dump truck	2,094,300.00					
	Lot 3: 21 units of small advertisement cleaner	109,300.00					
	Lot 4: Solid waste equipment: 1 unit of (large) wheel excavator, 1	900,200.00					

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	unit of (small) wheel excavator, 1 unit of wheel loader; Wetland maintenance equipment: 2 units of excavator, 2 units of forklift						
	Lot 5: 730 units of man-power tricycle	213,700.00					
	Lot 6: 299 pieces garbage bins, 450 pieces garbage bins with wheels, 5001 pieces garbage bins for pericarp	1,039,700.00					
URN-CW01	Urban Road and Relevant Infrastructure Construction Works	26,650,800.00	NCB	Prior	1S1E	Q2 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: Y Bidding Document: Large Works
	Lot 1: Road civil works and installation engineering of Minzhu Road, Tianshan Road, Minzhu Road (E), Yingbin Road, Jiaoyu Road and Jianshe Road; heating civil works and installation engineering of Yingbin Road; purchase of heating pipeline equipment of Yingbin Road; heating civil works and installation engineering of Jianshe Road; purchase of heating pipeline equipment of	15,335,600.00					

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	Jianshe Road						
	Lot 2: Road civil works and installation engineering of Nanchang Road and Huannan Road; civil works installation engineering of 4 community lanes (16.5 km); drainage pipeline civil works and installation engineering and purchase of equipment of Yingbage Community; bridges civil works installation engineering of Fujiu Road and Fushi Road	11,315,200.00					
URN-CW03	Road civil works and installation engineering, urban water supply and drainage pipeline civil works and installation engineering of Nanda Street and Beida Street	6,695,400.00	NCB	Post	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Small Works
URN-CW04	Road civil works and installation engineering of Fuqi Road, East Ying'awati Road, Wangsan Street, Tabei Road; drainage pipeline civil works and installation engineering of Fuqi Road	8,644,800.00	NCB	Post	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Small Works
URN-CW05	Road civil works and	7,782,400.00	NCB	Post	1S1E	Q4 / 2015	Prequalification of

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	installation engineering of Jiefang Middle Road, Wenhua Road						Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Small Works
URN-CW06	Road civil works and installation engineering of Tanan Road	9,352,400.00	NCB	Post	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Small Works
URN-CW07	Civil works and installation engineering of 4 community lanes (26.5km); pedestrian underpass civil works and installation engineering of Dashizi	7,983,900.00	NCB	Post	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Small Works
URN-GD01	Purchase of road lighting facility for Minzhu Road, Tianshan Road, Minzhu Road (E), Jiaoyu Road, Yingbin Road, Nanchang Road, Huannan Road, Jianshe Road, Back street, Fuqi Road, East	6,069,100.00	NCB	Post	1S1E	Q3 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	Ying'awati Road, Wangsan Road, Jiefang Middle Road, Tanan Road, Tabei Road, Wenhua Road, Nanda Street, Beida Street, Jiaotong Road, Zhongyuan Road, Awen Avenue and Renmin Road						Advanced Contracting: N Bidding Document: Goods
URN-GD02	Purchase of traffic safety devices (signs and traffic-light) for Minzhu Road, Tianshan Road, Minzhu Road (E), Jiaoyu Road, Yingbin Road, Nanchang Road, Huannan Road, Jianshe Road, Back street, Fuqi Road, East Ying'awati Road, Wangsan Road, Jiefang Middle Road, Tanan Road, Tabei Road, Wenhua Road, Nanda Street, Beida Street, Jiaotong Road, Zhongyuan Road, Awen Avenue and Renmin Road	3,224,600.00	NCB	Post	1S1E	Q3 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Goods
URN-GD03	Equipment purchase for road and street light maintenance	1,443,900.00	NCB	Post	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Goods
WRH-CW01	Dredging, breaking bank expanding area of 330 mu ; treatment of rehabilitated bank, canal system construction and connection ; civil works and installation	6,504,100.00	NCB	Prior	1S1E	Q2 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	engineering of constructed inverted siphon and aqueduct at the gathering in the place of three water systems						Advanced Contracting: Y Bidding Document: Small Works
WRH-CW02	Civil works of excavation of water surface; civil works of construction of water gate, isolation strip around the lake, passing culvert, overfall, and settling region waterpower; houses for management station, patrol roads civil works, purchase of office equipment and fire-fighting equipment; civil works of boundary marker, boundary stone, signs, entrance gate and stele; wetland landscape rehabilitation including civil works of ecological floating island construction, civil works of construction protection forest, civil works and installation engineering and purchase of equipment of observation tower, civil works of Wildlife Rescue Centre	14,773,000.00	NCB	Post	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Large Works
WSN-CW01	Pipeline associated infrastructures etc. urban water supply pipeline civil works and installation engineering of Tuanjie Road, Xihu Avenue, Jianshe Road, Jiefang Road, Hedong Road, Qianjiang Road, Wushan Road, Xixi Road, Huanglong Road, Guihua Road, Jiangnan Avenue,	6,701,100.00	NCB	Post	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document:

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	Longjing Road, Nanyi Road, Fuwu Road, Fuliu Road, Fushiyi Road, Huzhou Road, Dulang Road, Tahe Road, Hongqiao Road; pedestrian underpass, drainage inspection manholes etc. drainage pipeline civil works and installation engineering of Xihu Avenue, Qianjiang Road, Wushan Road, Fuliu Road, Xixi Road, Huzhou Road, Xingfu Road, Hedong Road, Jiangnan Avenue, Duolang Road, Tahe Road, Hongqiao Road						Small Works
WSN-GD01	Pipeline associated infrastructures etc. urban water supply pipeline equipment purchase of Nanda Street, Beida Street, Fuqi Road, Hangzhou Avenue, Tuanjie Road, Xihu Avenue, Jianshe Road, Jiefang Road, Hedong Road, Qianjiang Road, Wushan Road, Xixi Road, Huanglong Road, Guihua Road, Jiangnan Avenue, Longjing Road, Nanyi Road, Fuwu Road, Fuliu Road, Fushiyi Road, Qianjiang Road, Huzhou Road, Dulang Road, Tahe Road, Hongqiao Road; pedestrian underpass, drainage inspection manholes etc. drainage pipeline equipment purchase of Nanda Street, Beida Street, Xihu Avenue, Fuqi Road, Qianjiang Road, Wushan	6,732,300.00	NCB	Post	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Goods

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	Road, Fuliu Road, Xixi Road, Huzhou Road, Xingfu Road, Hedong Road, Jiangnan Avenue, Duolang Road, Tahe Road, Hongqiao Road						

NCB = national competitive bidding.

c. Consulting Services Contracts Estimated to Cost \$100,000 or More

10. The following table lists consulting services contracts for which the recruitment activity is either ongoing or expected to commence within the next 18 months.

Table 5: Consulting Services Contracts Estimated to Cost \$100,000 or More

Package Number	General Description	Estimated Value	Recruitment Method	Review (Prior/Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
CSS-CS01	Project management and capacity building	1,490,000.00	QCBS	Prior	Q2 / 2015	FTP	Assignment: International Quality-Cost Ratio: 80:20 Advanced Contracting: Y

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

d. Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000 (Smaller Value Contracts)

11. The following table lists smaller-value goods, works and consulting services contracts for which the activity is either ongoing or expected to commence within the next 18 months.

Table 6: Goods and Works

Package Number	General Description	Estimated Value	Number of Contracts	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
CSS-CS02	Office equipment	200,000.00	1	NCB	Post	1S1E	Q2 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Goods
WRH-GD01	1 patrol boat	73,200.00	1	SHOPPING	Post		Q4 / 2015	Advanced Contracting: N
WRH-GD02	1 patrol vehicle	32,500.00	1	SHOPPING	Post		Q4 / 2015	Advanced Contracting: N
WRH-GD03	5 dredging machines	406,500.00	1	NCB	Post	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Goods
WRH-GD04	Wetland scientific research and monitoring engineering equipment	585,400.00	1	NCB	Post	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced

Package Number	General Description	Estimated Value	Number of Contracts	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
								Contracting: N Bidding Document: Goods

Table 7: Consulting Services

Package Number	General Description	Estimated Value	Number of Contracts	Recruitment Method	Review (Prior/Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
CSS-RM01	External resettlement monitoring	60,000.00	1	ICS	Prior	Q2 / 2015		Assignment: National Expertise: External resettlement and social monitoring specialist Advanced Contracting: Y Comments: BTP

2. Indicative List of Packages Required Under the Project

12. The following table provides an indicative list of goods, works and consulting services contracts over the life of the project, other than those mentioned in previous sections (i.e., those expected beyond the current period).

Table 8: Goods and Works

Package Number	General Description	Estimated Value (Cumulative)	Estimated Number of Contracts	Procurement Method	Review (Prior/Post)	Bidding Procedure	Comments
URN-CW08	Road civil works and installation engineering of Awen Avenue, Jiaotong Road and Renmin Road	13,943,800.00	1	NCB	Post	1S1E	Prequalification of Bidders: N Domestic Preference Applicable: N

							Bidding Document: Large Works Comments: Q4 2016
URN-CW09	Road civil works and installation engineering of Zhongyuan Road	11,871,800.00	1	NCB	Post	1S1E	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Large Works Comments: Q4 2016

Table 9: Consulting Services

Package Number	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Recruitment Method	Review (Prior/Post)	Type of Proposal	Comments
None							

3. National Competitive Bidding

13. The Borrower's *Law of Tendering and Bidding of the People's Republic of China* promulgated by Order No. 21 of the President of the People's Republic of China on August 30, 1999, are subject to the following clarifications required for compliance with the Guidelines:

- (i) All invitations to prequalify or to bid shall be advertised in the national press, or official gazette, or a free and open access website in the Borrower's country. Such advertisement shall be made in sufficient time for prospective bidders to obtain prequalification or bidding documents and prepare and submit their responses. In any event, a minimum preparation period of thirty (30) days shall be given. The preparation period shall count (a) from the date of advertisement, or (b) when the documents are available for issue, whichever date is later. The advertisement and the prequalification and bidding documents shall specify the deadline for such submission.
- (ii) Qualification requirements of bidders and the method of evaluating the qualification of each bidder shall be specified in detail in the bidding documents, and in the prequalification documents if the bidding is preceded by a prequalification process.
- (iii) If bidding is preceded by a prequalification process, all bidders that meet the qualification criteria set out in the prequalification document shall be allowed to bid and there shall be no limit on the number of pre-qualified bidders.
- (iv) All bidders shall be required to provide a performance security in an amount sufficient to protect the Borrower/Project Executing Agency in case of breach of contract by the contractor, and the bidding documents shall specify the required form and amount of such performance security.
- (v) Bidders shall be allowed to submit bids by mail or by hand.
- (vi) All bids shall be opened in public; all bidders shall be afforded an opportunity to be present (either in person or through their representatives) at the time of bid opening, but bidders shall not be required to be present at the bid opening.
- (vii) All bid evaluation criteria shall be disclosed in the bidding documents and quantified in monetary terms or expressed in the form of pass/fail requirements.
- (viii) No bid may be rejected solely on the basis that the bid price falls outside any standard contract estimate, or margin or bracket of average bids established by the Borrower/Project Executing Agency.
- (ix) Each contract shall be awarded to the lowest evaluated responsive bidder, that is, the bidder who meets the appropriate standards of capability and resources and whose bid has been determined (a) to be substantially responsive to the bidding documents and (b) to offer the lowest evaluated cost. The winning bidder shall not be required, as a condition of award, to undertake responsibilities for work not stipulated in the bidding documents or otherwise to modify the bid as originally submitted.
- (x) Each contract financed with the proceeds of the Loan shall provide that the suppliers and contractors shall permit ADB, at its request, to inspect their accounts and records relating to the performance of the contract and to have said accounts and records audited by auditors appointed by ADB.
- (xi) Government owned enterprises in the Borrower's country may be permitted to bid if they can establish that they (a) are legally and financially autonomous, (b) operate under commercial law and (c) are not a dependent agency of the Borrower/Project Executing Agency.
- (xii) Re-bidding shall not be allowed solely because the number of bids is less than three.

D. Consultant's Inputs and Terms of Reference

1. Project Background

14. The purpose of the ADB loan project is to enhance the quality of life of the urban residents in Akesu city, by improving the urban infrastructure services with respect to urban roads, urban water supply network, sewerage network, central heating network, solid waste management and public parks, and restoring and rehabilitating urban wetlands.

15. The loan project has seven engineering subcomponents as follows: (i) urban road network upgrading: construction of 2 roads and rehabilitation of 19 roads and community lanes, with an approximate length of 75 km, construction of a pedestrian overpass and two new bridges and associated infrastructures including traffic signals and safety signs, traffic lights, utility pipes and landscaping; (ii) upgrading of public and street parks and one tree nursery; (iii) urban water supply network upgrading: construction of approximately 38 km of urban water supply pipes; (iv) sewerage network upgrading: construction of approximately 78 km of sewerage pipes and associated inspection wells; (v) central heating network upgrading: construction of approximately 44 km of central heating pipes and associated heat exchange stations; (vi) solid waste management: procurement of street cleaning and transport vehicles, garbage bins, and construction of one waste transfer station; and (vii) wetland rehabilitation: rehabilitation of approximately 95 ha of urban wetlands, planting of approximately 4 ha of wetland protection forest, constructing wetland protection infrastructure, improving wildlife protection through wetland and biodiversity monitoring facilities, and establishment of a wildlife rescue and disease control center, and public wetland education facilities;. There is an additional project management support and capacity building component.

16. The purpose of the consulting services is to support project management and build local capacity for successful implementation and operation of the project facilities. APMO on behalf of AMG will be responsible for engaging consultants through three different selection methods, individual consultant selection (ICS) for the external resettlement monitor, and QCBS (quality- and cost-based selection) with a quality cost ratio of 80:20 for the remaining consulting services as one package, in accordance with ADB's *Guidelines on the Use of Consultants* (2013, as amended from time to time).

2. Scope and Tasks of Consulting Services

17. The consulting services will include, but not be limited to, the following:

18. **Project management support.** The primary tasks will include
- (i) review of bidding documents and procedures;
 - (ii) review of civil works, goods and services contracts and assistance to APMO in contract management;
 - (iii) site inspections to supervise construction quality and progress; review of record-keeping system, for the purpose of protecting the client's interests, and indemnity;
 - (iv) assistance and training to APMO on fund withdrawal applications, disbursements, financial management and annual project and financial audits;
 - (v) assistance to APMO to ensure compliance with environmental and social safeguards;
 - (vi) assistance to APMO to ensure compliance with other covenants in the project and loan agreements;

- (vii) design and delivery of training programs, and preparation of mid-term adjustment plan;
- (viii) assistance to APMO in preparing for, organizing and receiving ADB loan review missions; and
- (ix) preparation of all project reports, including semiannual progress reports, midterm evaluation report, project completion report, environmental monitoring reports (EMR), social monitoring reports (SMR), and policy notes and knowledge products.

19. **Capacity building.** Capacity building activities include training and policy advice in the sectors that the loan project covers to enable the local project partners to have adequate knowledge and skills to implement and operate the project facilities. The training programs will target

- (i) ADB policies, procedures and technical requirements on procurement, contracting, financial management, environmental and social safeguards, monitoring and evaluation and reporting.
- (ii) Sectoral policies, knowledge and international and national best practices on transport planning with special focus on “living streets”, integrated municipal waste management and wetland rehabilitation and biodiversity protection. Policy notes and/or knowledge products on the key project sectors will be prepared to help build a enabling policy and institutional environment for the long-term sustainability of the project.

3. Detailed Tasks for Project Management

20. This part of consulting service will focus on the support to APMO and XPMO on all aspects related to project management and implementation: (i) project performance management system (PPMS); (ii) procurement, including advance contracting and contract management; (iii) construction supervision and monitoring; (iv) fund withdrawal, reimbursement, and financial management; (v) monitoring the implementation of environmental and social safeguards; (vi) daily liaison and/or communication with ADB; (vii) assisting with organization and coordination for ADB loan review missions; and (viii) preparing required reports under the loan agreement. Detailed tasks are as follows:

- (i) Set up organizational structure, operational procedures, reporting and filing system, and formulating working plans.
- (ii) Establish PPMS, including defining baseline data, data collection and analysis, reporting mechanism, and regular updates of PPMS in line with ADB's requirements.
- (iii) Provide technical support for advance procurement, and support the tendering agency, including review for procedural compliance, review of bidding documents, review of bid evaluation results, review of contracting documents and contract negotiations, so as to ensure that the advance contract packages will meet ADB's policies and procedures.
- (iv) Provide support for regular procurement, and support the tendering agency, including review for procedural compliance, review of bidding documents, review of bid evaluation results, review of contracting documents and contract negotiations, so as to ensure that the advance contract packages will meet ADB's policies and procedures.
- (v) Assist the APMO in preparing contract variations, including revisions, reviews and confirmations, and prepare, submit and update the contract variation documents in accordance with XUAR and ADB requirements, covering the

- contents of variations, rationales, environmental due diligence and revisions to the EMP, and reviews and revisions of the resettlement plan and EMDP.
- (vi) On behalf of APMO, conduct inspection of construction quality and project progress, and provide recommendations and advice to rectify any problems that may occur.
 - (vii) Establish a project financial management system in conformity with ADB's policies and procedures, and assist with fund withdrawals and reimbursement, including forecasts and applications for replenishment of the imprest account, review of fund withdrawal application reimbursement documents, periodic compilation of ADB disbursements, and review and completion of provision and utilization of counterpart funds.
 - (viii) Regularly update project financial information, including the investment plan and financing plan.
 - (ix) Assist APMO in reviewing annual audits of the project account, and coordinating the submission of the annual audit reports and responses to ADB comments.
 - (x) Review and revise the EMP, resettlement plan, EMDP, SGAP, and reemployment plan. In accordance with covenants of the loan agreement, inspect the implementation of EMP, resettlement plan, EMDP, SGAP, including public consultations, and preparing, submitting and updating related periodic monitoring reports.
 - (xi) Implementation of environmental and social safeguards, including gender actions.
 - (xii) Assist APMO in daily communication with ADB, including drafting communication documents and responses to ADB's information requests.
 - (xiii) Provide necessary assistance to APMO for ADB loan review missions, including liaison, mission schedule and data collection, as well as coordinating relevant matters related to signing of the MOU.
 - (xiv) Assist APMO to prepare and submit project progress reports, environmental monitoring reports, social monitoring reports in conformity with the covenants of the loan agreement, and revise the reports in response to comments from ADB, XPMO, and APMO.
 - (xv) Assist APMO to organize the loan midterm review, including pre-mission preparation and coordination, prepare all required documents—tendering process, procurement progress, engineering progress, fund withdrawal and disbursement progress, financial reevaluation, economic reevaluation, environmental reevaluation, resettlement evaluation, EMDP, SGAP, project scope adjustment and justifications, environmental and resettlement due diligence, and updating the procurement plan, and revise post-mission documents. All major experts will participate in the entire process.
 - (xvi) Assist APMO to complete the PCR and all related work, including advance preparation and coordination for the ADB review mission, prepare and revise all required reports for the PCR, covering tendering documents, procurement, construction, fund withdrawal and disbursement, financial reevaluation, economic reevaluation, environmental reevaluation, resettlement evaluation, EMDP, and SGAP. Major experts will participate in the entire mission.
 - (xvii) Complete other tasks that may be assigned by XPMO and APMO from time to time.

4. Detailed Tasks for Capacity Building

21. The purpose of this component of the consulting services is to enhance the capacity of the AMG, APMO, XPMO, and project operating agencies to implement and operate the project

facilities. The scope covers, but not be limited to training on (i) “living streets”; (ii) slow-traffic system, solid waste management, wetland management, and biodiversity protection; (iii) ADB policies and procedures and all project management-related aspects (PPMS, procurement, financial management, contract management, fund withdrawal, disbursement, EMP and environmental safeguard monitoring, and social safeguard monitoring (including resettlement plan and EMDP) and SGAP monitoring. Detailed capacity building tasks are described below:

a. Capacity Building in Living Streets

- (i) Introduce international and domestic innovative concepts and best practices of “living streets”.
- (ii) Design and deliver at least two training courses for top decision makers of the AMG.
- (iii) Design and deliver at least one training course for APMO and relevant bureaus of the AMG (including DRC, finance bureau, planning bureau, housing and urban-rural development bureau, law enforcement bureau, civil affairs and ethnic and religious bureau, etc.).
- (iv) Design and deliver at least one training course for “living streets” pilot community lane areas, neighborhoods, and resident representatives. Provide guidance to community leaders and involve them in training.
- (v) Prepare a public consultation plan and “meaningful public participation plan” for “living streets” pilot communities and neighborhoods. The plans should cover design stage and implementation phases, and provide technical guidance for implementation of the plans. Assist APMO to conduct consultation and participation activities.
- (vi) Provide the technical guidance for design and implementation of “living streets”.
- (vii) Provide the advice and guidance for post-completion operational assessment and dissemination, including case study reports.
- (viii) Provide guidance for preparing post-project O&M plan for pilot “living streets”, including responsibilities, staffing, and sources of financing.
- (ix) Organize on-the-job, local, in-province, out-of-province, and overseas training and study tours.
- (x) Provide any other support to ensure the successful implementation, operation and maintenance of the pilot “living streets”.

b. Capacity Building in Human-Centered Transport System

- (i) Introduce international and domestic innovative concepts and best practices of human-centered transport systems.
- (ii) Provide technical support, including workshops and reviews, to the preparation of a master plan for which Akesu Planning Bureau who will engage a design institute.
- (iii) Design and deliver at least one training course for top decision makers of the AMG.
- (iv) Design and deliver at least one training course for APMO and relevant bureaus of the AMG (including DRC, finance bureau, planning bureau, housing and urban-rural development bureau, law enforcement bureau, civil affairs and ethnic and religious bureau, etc.).
- (v) Provide guidance to the responsible authority in formulating plans and programs that may arise from the training course for the AMG top decision makers and proposed by the responsible authority, and guide the implementation of the plans

- and programs.
- (vi) Provide guidance and technical support to the responsible authority in public awareness with respect to human-centered transport system, including preparation and revision of public education plan on road safety.
 - (vii) Organize on-the-job, local, in-province, out-of-province, and overseas training and study tours.
 - (viii) Provide any other support to ensure the successful implementation, operation and maintenance of the project roads.

c. Capacity Building in Integrated Solid Waste Management

- (i) Introduce international and domestic innovative concepts and best practices of integrated solid waste management (ISWM), including 3Rs (reduce, reuse and recycle), community awareness building and outreach.
- (ii) Design and deliver at least one training course for top decision makers of the AMG.
- (iii) Design and deliver at least one training course for APMO and relevant bureaus of the AMG (including DRC, finance bureau, planning bureau, housing and urban-rural development bureau, law enforcement bureau, civil affairs and ethnic and religious bureau, etc.).
- (iv) Provide guidance to the responsible authority in formulating “Akesu municipal master plan for ISWM”, including 3Rs and related community awareness building and outreach.
- (v) Provide guidance and technical support to the responsible authority in implementation of the ISWM master plan, including 3Rs and related community awareness and outreach. Prepare knowledge products.
- (vi) Organize on-the-job, local, in-province, out-of-province, and overseas training and study tours.
- (vii) Provide any other support to ensure the successful implementation, operation and maintenance of the project facilities under the solid waste management subcomponent.

d. Capacity Building in Wetland Management and Biodiversity Protection

- (i) Introduce international and domestic innovative concepts and best practices of wetland management and biodiversity protection.
- (ii) Design and deliver at least one training course for top decision makers of the AMG.
- (iii) Design and deliver at least one training course for APMO and relevant bureaus of the AMG (including DRC, finance bureau, planning bureau, housing and urban-rural development bureau, law enforcement bureau, civil affairs, and ethnic and religious bureau, etc.).
- (iv) Design and deliver in-classroom and on-the-job training for the Duolang River Wetlands Management Station, and relevant sections of the forest bureau, environmental protection bureau and water resources bureau.
- (v) Provide guidance to the Duolang River Wetlands Management Station in formulating “Detailed Management Plan for Duolang River National Wetland Park” on the basis of the master plan, including staffing, funding and infrastructure requirements, as well as the following thematic plans.
- (vi) Provide guidance to the preparation of wetland and biodiversity monitoring plan,

- including monitoring indicators and sampling plan.
- (vii) Provide guidance to the wetland water source areas study and the preparation of water source area protection plan.
- (viii) Provide guidance to the preparation of utilization and disposal plan for the regularly dredged sludge. Provide technical advisory services and support to the management, operation and maintenance agencies, including case studies on wildlife habitat management. Assist with formulation of wetland pollution emergency response plan, operational manuals and other necessary documents.
- (ix) Provide guidance to preparation and implementation of public education, public participation and community co-management plan plans on wetland and biodiversity protection.
- (x) Organize on-the-job, local, in-province, out-of-province, and overseas training and study tours.
- (xi) Provide any other support to ensure the successful implementation, operation and maintenance of the project facilities under the wetland rehabilitation component.

e. Detailed Tasks for Capacity Building in Project Management

- (i) During inception period, under the leadership of APMO, prepare a detailed training plan that will cover training objectives, trainees, contents, location, time, budget, and training modality and budget.
- (ii) The training covers the following areas but not limited: ADB's policies and procedures, PPMS, procurement, finance management, contract management, fund withdrawal and disbursement, reimbursement, EMP and environment monitoring, safeguard policy including the implementation and monitoring of resettlement plan, EMDP, SGAP, and other related trainings as required by XPMO/APMO.
- (iii) Organize on-job training, local training, in-province training, domestic and overseas training, and study tours.

5. Detailed Tasks for External Resettlement and Social Monitoring

22. The external resettlement monitor and social monitor (ERSM) will be engaged aside from the general consulting services package and will work for duration of whole project implementation. The ERSM, with estimated total input of 6 person-months, will be engaged through the ICS method. The scope of services of the ERSM is to assist APMO to

- (i) update the draft resettlement plan based on detailed measurement survey as a result of the detailed engineering design;
- (ii) collect additional information and/or conduct additional consultation, if necessary, to ensure that the revised resettlement plan will be in full compliance with ADB's safeguard policy;
- (iii) recruit and train a survey team to conduct a baseline survey (sex disaggregated, wherever possible) of affected persons and monitoring to ensure implementation of resettlement plan, EMDP and SGAP, are in compliance with ADB's safeguard and other relevant policies;
- (iv) provide recommendations to resolve any issues or problems on implementation of plans (as specified above), and provide advice to Akesu PMO and implementing agencies;

- (v) verify and comment on the accuracy of the resettlement and EMDP monitoring undertaken by the resettlement/social consultant and recommend measures to rectify the identified deficiencies;
- (vi) conduct semiannual independent monitoring of the implementation of the resettlement plan, EMDP, and SGAP against the approved plans, including entitlements and eligibility, compensation options and standards, consultations and participation, income and livelihood rehabilitation, achievement of the no-worse-off objective, etc., grievances and redresses, recommend corrective actions; and
- (vii) check whether Akesu PMO and implementing agencies are paying special attention to vulnerable groups, including women, the poor, and ethnic minority groups to assess whether they have participated and fully regained their standard of living; and submit English and Chinese external resettlement and social monitoring reports to AMG and ADB with quality acceptable to ADB every six months during and until completion of resettlement process and activities under the EMDP and SGAP.

6. Provisional Training, Workshop, and Public Consultation Plan

23. The provisional training, workshop, and public consultation plan is as follows. During the inception phase of the consulting service the consultants should update and refine and revise the plan when needed.

Table 9: Provisional Training, Workshop and Public Consultation Plan

Activities	Target Agencies	Time	Modality	Location
1. ADB Policies: (ADB country partnership strategy, priorities, project cycle, safeguards policies, PPMS, etc.)	APMO and operating agencies	Once, at the inception	Lecture	APMO
2. ADB Guidelines: (Procurement Guideline, Use of Consultants Guideline, fund withdrawal and disbursement procedures, Loan Agreement, etc.)	APMO and operating agencies	Once, at the inception	Lecture	APMO
3. Environment Management during Construction: (Relevant national laws and regulations, international best practices, project EMP, etc.)	APMO, AEPB, project operating agencies, on-site environmental engineer, and construction supervision agency	6 times, 1 time at inception, and semiannually for new contractors and on-site environmental engineers and construction supervision agencies	Lectures and site visits	APMO and construction sites
4. Social Safeguards: (Relevant national laws and regulations, resettlement plan, EMDP, SGAP)	APMO, Resettlement Office, Civil Affairs and Religion Bureau, Women Federation	3 times, 1 at the inception, and semiannually.	Lecture and site-visits,	APMO and resettlement communities
5. Living Streets (1): (International and domestic new concepts	Top decision makers of AMG	One time in first year	Lecture	AMG

Activities	Target Agencies	Time	Modality	Location
and best practices, project design)				
6. Living Streets (2): (International and domestic new concepts and best practice, project design)	APMO, related departments, :DRC, FB, Planning Bureau, Housing and Urban-rural Development Bureau, Law Enforcement Bureau, Civil Affairs and Religion Bureau	One time, in the first year	Lecture	AMG
7. Living Streets (3): (International and domestic new concepts and best practice, project design)	Demonstration communities and neighborhoods, representatives of the communities	2 times before start of the project	Lecture, discussion, consultations	Demonstration communities
8. Green and Human-Centered Transport System (1): (International and national new concepts and best practice in green and human-centered transport system)	AM Party committee and AMG	One time, in the first year.	lecture	AMG
9. Green and Human-Centered Transport System (2): (International and national new concepts and best practice in green and human-centered transport system; methodologies for preparing green and human-centered transport system master plan)	APMO, related departments, DRC, finance bureau, Planning Bureau, Housing and Urban-rural Development Bureau, Law Enforcement Bureau, Civil Affairs and Religion Bureau, O&M agencies	One time, the first year,	Lecture and site visits	APMO
10. Integrated Solid Waste Management (1): (International and national new concepts and best practices of integrated solid waste management, including 3R)	Top decision makers of AMG	One time in the first year	Lecture	AMG
11. Integrated Solid Waste Management (2) (International and national new concepts and best practices of solid waste management, including 3R, public education and outreach; ISWM case studies; preparation of ISWM plan and O&M plan)	APMO, relevant departments, :DRC, FB, Planning Bureau, Housing and Urban-rural Development Bureau, Law Enforcement Bureau, EPB, Akesu Water Group	One time in the first year	Lecture, workshop and site visits	APMO
12. Integrated Solid Waste Management (3): (Solid waste management case study, preparation of ISWM plan)	Law enforcement Bureau, Planning Bureau, EPB, Akesu Water Group, Jingyu Sanitation Co.	3 times in the first year and second year.	Lecture and workshop	APMO and project area,
13. Wetland Management	Top decision makers of	One time first	Lecture	AMG

Activities	Target Agencies	Time	Modality	Location
and Biodiversity Protection (1): (International and national new concept and best practice in wetland management and project design)	AMG	year.		
14. Wet land Management and Biodiversity Protection (2): (International and national new concept and best practice in wetland management and project design)	APMO and Related government departments: DRC, FB, Planning Bureau, Forest Bureau, EPB, Water Resource Bureau	One time, first year	Lecture and site visits	APMO
15. Wet land Management and Biodiversity Protection (2): (Duolang River Wetland Park Management Plan, Wetland Biodiversity Monitoring Plan, Wetland water source protection, public education)	Relevant sections of Duolang River Wetland Park Management Station, Forest Bureau, EPB, WRB	One time, first year,	Lecture and workshop	APMO
16. Domestic Study Tour: (Living streets and green and human-centered transport systems)	XPMO, APMO, relevant departments: DRC, FB, Planning Bureau, Housing and Urban-Rural Development Bureau, Transport Bureau, Law Enforcement Bureau, road O&M agency	One time, first year	Study tour	Beijing, Shanghai, Guangzhou, Shenzhen
17. Domestic Study Tour: (Wetland management and biodiversity protection)	XPMO, APMO, relevant departments: DRC, FB, Planning Bureau, Forest Bureau, EPB, WRB	One time, first year	Study tour	Northeast area, (Sanjiang plain wetlands), Ningxia Yinchuan Wetland Park, Dongting Lake, Boyang Lake
18. Domestic Study Tour: Solid Waste	XPMO, APMO, relevant departments: DRC, FB, Planning Bureau, Bureau, Transport Bureau, Law Enforcement Bureau, Road O&M Agency, EPA	One time, first year	Study tour	Sanitation Model cities
19. Overseas Study tour: (Living streets and green and human-centered transport)	XPMO, APMO, and relevant AMG agencies	One time, first year	Study tour	US, Canada
20. Overseas Study Tour: (Wetland management, biodiversity protection, and integrated solid waste management)	XPMO, APMO, and relevant AMG agencies	One time, second year	Study tour	Europe Australia, New Zealand
21. Workshops during ADB Loan Review Missions: (Inception, implementation, completion workshops)	APMO, AMG, related agencies, project operating agencies	6-8 times, inception, mid-term, completion, and annual loan review missions	Workshop and site visits	APMO and construction sites

Activities	Target Agencies	Time	Modality	Location
22. Public Consultations: (Public consultations on Living Streets Design, and implementation of EMP, RP, EMDP, SGAP)	Project beneficiaries and affected people	According to project schedule	Consultation meetings, visits, and questionnaire surveys	Project beneficiary areas and affected household and communities

PPMS = project performance management system.

7. Reporting

24. The reporting requirements are as follows: At the inception stage of the implementation of consulting service, the consultants are responsible for the revision and refine of the reports below. All reports required must be prepared in both English and Chinese.

Table 10: Consulting Services Reporting Requirements

Category	Schedule	Target Audiences
Inception report	Within one month after APMO issues the notice of implementation of Consulting service	XPMO, APMO, ADB
Semiannual progress reports	During implementation period, semiannual (end of Jan and Jul)	XPMO, APMO, ADB
Midterm report	Middle point of implementation	XPMO / APMO / ADB
PCR	One month before ADB PCR mission	XPMO / APMO / ADB
Annual environment monitoring reports	Annual (end of Jan)	XPMO / APMO / ADB
Annual resettlement monitoring report	Annual (end of Jan)	XPMO / APMO / ADB
Semiannual external resettlement and social reports	Semiannual	XPMO / APMO / ADB
Living street design review comments	After preparation of the design institutes' design plan	APMO / ADB
Green and human-centered transport System master plan	In accordance with schedule of Akesu Planning bureau	AMG / APMO / XPMO / ADB
Public awareness plan on road safety	End of the second year	APMO / ADB
Integrated solid waste management plan	End of second year	APMO / ADB
Wetland park management plan	End of third year	APMO / ADB
Wetland biodiversity monitoring plan	End of third year	APMO / ADB
Study report of wetland water source protection	End of third year	APMO / ADB
All training materials	After each lecture	APMO
All public education materials	After preparation	APMO

ADB = Asian Development Bank, APMO = Akesu project management office, PCR = project completion report.

Note: APMO will decide on the number of copies to be provided by the consultants, and distributes to relevant AMG agencies.

8. Estimated Inputs and Costs for Consulting Services

25. The overall consulting services for project management support and capacity building, including the external resettlement monitor to be engaged priori and separately, are estimated to have a total input of 108 months, including 16 months for international experts and 92 months for national experts, at a total cost of \$1.75 million. The key positions, inputs, and cost estimates are presented below.

Table 11: Estimated Inputs for Consulting Services

Position	Months
<u>International</u>	
1 Urban development specialist / PPMS specialist / team leader	8
2 Wetland restoration and biodiversity protection specialist	3

Position	Months
3 Environment Specialist	2
4 Resettlement and Social Development Specialist	3
Total (International)	16
National	
5 Project management specialist / deputy team leader	40
6 Urban transport specialist	4
7 Procurement and contract management specialist	8
8 Integrated solid waste management specialist	4
9 Wetland restoration and biodiversity protection specialist	4
10 Social safeguard / gender / PPMS specialist	6
11 Environmental safeguard specialist	5
12 Financial management and disbursement specialist	8
13 Project economist	3
14 Public education specialist	4
15 External resettlement and social monitoring specialist ^a	6
Total (National)	92
Grand Total (International and National)	108

PPMS = project performance management system.

a. To be recruited as an individual consultant.

Table 12: Cost Estimates for Consulting Services

	Cost Estimate	\$
1	Consultants	
	(i) Remuneration and per diem for international consultants	240,000
	(ii) Remuneration and per diem for national consultants	600,000
	(iii) International and national travel	100,000
	(iv) Office rental, office operating expenses and vehicle rental	15,000
	(v) Reports, translation, and communication	15,000
	(vi) Corporate administrative support	30,000
	Subtotal	1,000,000
2	Provisional sum	
	(i) Training ^a	400,000
	(ii) Surveys and consultations	20,000
	(iii) Public education materials and events	20,000
	(iv) Office equipment and operations ^b	200,000
	(v) External resettlement monitor ^c	60,000
	Subtotal	700,000
3	Contingencies	50,000
	Total	1,750,000

a. Including overseas and domestic training, in-house training, workshops, seminars, conferences, etc.

b. Including office equipment and operating expenses, etc.

c. To be recruited separately as individual consultant.

9. Facilities and Support Provided by the Akesu Municipal Government

26. To ensure the satisfactory provision of the consulting services, the AMG will provide the Consultant with the following:

- (i) local transport for project meetings and site visits;
- (ii) qualified full-time bi-lingual counterpart personnel in the APMO to work with the consultants;
- (iii) assistance with visas, and residential and other permits required by the consulting team to enter and work in the PRC; and
- (iv) access to all data, including documents, reports, accounts, drawings and maps, and permissions related to the project, as appropriate and necessary to undertake the assignment, free of charge.

E. Procurement Guidelines and Resources

Procurement Guidelines

<http://www.adb.org/documents/procurement-guidelines>

Guidelines on Use of Consultants by ADB and Its Borrowers

<http://www.adb.org/documents/guidelines-use-consultants-asian-development-bank-and-its-borrowers>

Consulting Services Recruitment Notice:

<http://csr.adb.org>

<http://csr.adb.org:8080/csr/login.jsp>

Templates for engagement of consultants: (including submission templates)

<http://www.adb.org/Consulting/loan-rfp.asp>

Harmonized RFP (Loans)

<http://www.adb.org/Consulting/all-methods-loan.asp>

Sample Individual consultant contract

<http://www.adb.org/Consulting/ICS-Contract-Loan.pdf>

Consulting Services Operations Manual

<http://www.adb.org/Documents/Manuals/Consulting-Services-Operations-Manual/CSOM.pdf>

Toolkits and Templates for Consultants:

<http://www.adb.org/Consulting/toolkit-template.asp>

Procurement Documents:

<http://www.adb.org/Procurement/prequalification-bid-documents.asp>

User's Guide (Procurement of Goods)

http://www.adb.org/Documents/Manuals/Bidding_Documents/Goods/SBD-Goods-Users-Guide.pdf

User's Guide (Small Civil Works - below 10 Million USD)

http://www.adb.org/Documents/Manuals/bidding_documents/prequalification/SBDWorks-sml-UserGuide.pdf

Guide on Bid Evaluation

<http://www.adb.org/site/business-opportunities/operational-procurement/goods-services/documents/guide-bid-evaluation>

Procurement Plans

<http://www.adb.org/Projects/reports.asp?key=reps&val=PP>

Electronic Procurement

<http://www.mdbegp.org/www/eGPInteractiveus/tabid/69/language/en-US/Default.aspx>

E-GP (Electronic Government Procurement) Toolkit

<http://www.mdbegp.org/www/eGPToolkitus/tabid/67/language/en-US/Default.aspx>

Project Administration Instructions

<http://www.adb.org/Documents/Manuals/PAI/default.asp>

E-Handbook on Project Implementation

<http://www.adb.org/Documents/handbooks/project-implementation/default.asp?p=proj>

Anticorruption and Integrity

<http://www.adb.org/Integrity/default.asp>

How to report fraud and corruption

<http://www.adb.org/Integrity/howto.asp>

VII. SAFEGUARDS

A. Environment

1. **Domestic environmental impact statement and consolidated project initial environment examination.** The project is classified as Category B following ADB's Safeguard Policy Statement (SPS, 2009). Screening of the components for domestic review and approval authorities was undertaken at the initial stages of domestic environmental impact assessment (EIA) process. One domestic environment impact statement (EIS) has been prepared for all seven investment subcomponents by a qualified local institute in accordance with the PRC *Law on Environmental Impact Assessment (2003)* using methodologies and standards consistent with relevant guidelines established by the Ministry of Environmental Protection and Xinjiang Uygur Autonomous Region (XUAR) laws and regulations. The EIS has been reviewed by a panel of 10 national experts, and approved by the XUAR Environment Protection Department on 25 November 2014. An initial environment examination (IEE) has been prepared by the AMG with assistance from project preparatory TA consultants and disclosed on the ADB website on 25 February 2015.¹ The IEE concludes that anticipated impacts will be localized, short-term, and reversible, and that these can be effectively mitigated through application of good construction practices defined in the environmental management plan (EMP). The EMP defines mitigation measures, monitoring requirements, and institutional responsibilities to ensure proper environmental management throughout the project construction and operation.

2. **Anticipated impacts.** Scoping was undertaken during the initial stages of the domestic EIA process. The potential impacts and risks were identified during the scoping exercise which drew from information disclosures and consultations with key stakeholders ranging from the responsible and supervisory government agencies to members of the local communities. Environmental impacts are anticipated, but these are of a temporary nature and are covered by stringent site management and procedural provisions in the EMP. During preliminary and detailed design stages, a number of environmental support provisions need to be put in place, including (i) an analysis of sediment quality within the areas of the wetland to be dredged, to confirm the assumed absence of contamination; (ii) a review of the construction drawings of the wetland component by the wetland and environment specialists of the LIC and ADB, to evaluate soundness of design and the extent of potential impacts from the final design; (iii) selection of quiet and efficient powered mechanical equipment (for construction) and pumps (for operation); (iv) training for the members of the environment management group of the APMO to ensure they understand well and can fully supervise the EMP; and (v) an asbestos risk assessment for the 28 small boilers to be decommissioned.

3. During construction, dust, noise, and temporary traffic disturbance generated by road rehabilitation activities will be a nuisance to nearby residents. Temporary traffic management plans will be developed and implemented in coordination with local traffic police and in consultation with affected communities. All new roads will be developed with safe and adequately wide footpaths, fully segregated non-motorized lanes, and public transport facilities.² The recreation of a more naturally functioning wetland ecosystem will require significant construction activities, involving sediment dredging and earthwork. This will have a temporary impact on existing wetland functions (biodiversity and habitats, water quality). However, these functions are expected to be significantly enhanced after project completion, with an estimated

¹ Initial Environmental Examination, including the EMP, is accessible from the list of linked documents in Appendix 2.

² This will include 176 weather-protected public bus stations along project roads.

increase of the wetland's total annual ecosystem services value by \$1.1 million as a result of the project.³ The project will also have significant pollution abatement benefits.⁴

4. During operation, major potential impacts will include air, noise, and solid waste pollution—from operation of the project roads; noise pollution—from water and wastewater pump stations of the urban water supply, sewerage, and central heating networks; and air, water, noise, solid waste pollution for the operation of the other project facilities (e.g., wetland science education center), and their possible effects on the protected species and their habitats. The capacity building component of the project will have a significant role in addressing operational impacts and risks. The Akesu Forest Bureau will be provided with capacity building in wetland management and monitoring, biodiversity and habitat surveys. The construction bureau and the Akesu traffic and sanitation authorities will receive technical advice and support in the preparation of a citywide non-motorized transport management plan and solid waste management plan, and in the preparation of traffic safety and waste reduction, reuse, and recycling (3R) awareness programs.

5. **Environmental management plan implementation responsibilities.** Institutional responsibilities in EMP implementation and supervision are defined and included in the project EMP. The XUARG as the executing agency will have the overall accountability for compliance with national and ADB environmental safeguard requirements. The AMG, as the implementing agency, will be accountable for ensuring the implementation of the EMP, including inspection, monitoring, public participation, grievance redress, reporting, and necessary corrective measures. The APMO will assume day-to-day responsibility for supervising implementation of the EMP. In the design stage, the APMO will pass the EMP to the design institute for incorporating mitigation measures into the detailed designs. The EMP will be updated at the end of the detailed design by the APMO, submitted to ADB for clearance and disclosure, and finally be passed to the construction contractors. To ensure that contractors comply with the EMP's provisions, the international tendering agency, under the supervision of the APMO, will prepare and provide the following specification clauses for incorporation into the bidding procedures (i) a list of environmental management requirements to be budgeted by the bidders in their proposals, (ii) environmental clauses for contractual terms and conditions, and (iii) full IEE, including EMP for compliance. The APMO will also handle any disputes arising from noncompliance with the EMP through the environment GRM.

6. The APMO will establish an environmental management group (EMG) staffed with two trained and qualified fulltime environmental specialists (to be seconded by the Akesu Environment Protection Bureau (AEPB), with assistance from the project management and capacity building consultants, to undertake environmental management activities including (i) updating the EMP after detailed design and ensuring its effective implementation; (ii) reviewing and approving site-EMPs developed by contractors, supervising their environmental activities and compliance with the site-EMP; (iii) recruiting and supervising the environmental management companies and/or consultants, including the external environmental monitoring

³ The restored wetland biotope will provide regulating services (including water storage, supply and treatment; micro-climate regulation), supporting services (biodiversity maintenance by providing resting, nesting, feeding and breeding habitats for wildlife including migratory water birds), and cultural services (including research, education and recreation).

⁴ 29.3 million liters of fuel can be saved per year from the improved road conditions, resulting in the reduction of carbon dioxide emission by 215,000 tons per year. The use of waste heat from a combined heat and power plant to supply the district heating network will result in the closure of 28 low-efficient and high-polluting small boilers that will reduce coal use by 25,900 tons per year, resulting in significant emission reduction in terms of sulfur dioxide (173 tons), nitrogen oxide (1,559 tons), and carbon dioxide (64,000 tons).

station (EMS); (iv) inspecting, monitoring, and evaluating implementation of mitigation measures; (v) establishing the grievance redress mechanism (GRM) and handling public complaints; and (vi) coordinating with other municipal agencies and ADB on all relevant environmental matters. The EMG will also implement training programs for contractors, conduct regular site visits and undertake inspections of the compliance of the contractors with the environmental management provisions in the contracts.

7. The AMG will recruit a loan implementation consultant (LIC), including international and national environment specialists through international competitive bidding. The consultant will assist the AMG and APMO to update the EMP, establish an environment management and monitoring system at project level on the basis of the updated EMP and this PAM, supervise the compliance with ADB safeguard policies and PRC environmental protection laws and regulations, and ensure that the environmental reporting requirements are met. The terms of reference for the environment specialists are listed in Section D of Chapter VI. Monitoring responsibilities and procedures are further discussed in Section B of Chapter IX.

8. **Construction contractors and construction supervision companies.** Construction contractors will be responsible for implementing relevant mitigation measures during construction under the supervision of the CSCs and APMO. Contractors will develop site-specific EMPs based on the updated project EMP. CSCs will be contracted by the APMO. The CSCs will be responsible for supervising construction progress and quality, including EMP implementation on construction sites. Each CSC will assign one EHS staff to (i) supervise the contractor's EMP implementation performance; and (ii) prepare the contractor's environmental management performance section in monthly project progress reports submitted to the APMO.

9. **Environmental monitoring station.** The APMO will contract the Akesu municipal environment monitoring station at project city/county level to conduct periodic environmental quality monitoring during construction and operation in accordance with the monitoring plan included in the EMP.

10. **Grievance redress mechanism.** Environment safeguards related grievances may occur during construction and operation of the project. APMO will establish an environmental GRM, coordinated by the EMG and under the guidance of the AEPB, which will follow the procedure and timeframe defined in the EMP. APMO and ADB will be informed on, and involved in, the grievance resolution process. The LIC will provide training on the GRM to ensure that responsibilities and procedures are clear.

11. Environmental training will be essential for the APMO and contractors to implement the EMP. The APMO will be responsible for organizing training programs, to be facilitated by the LIC and with resource persons from relevant agencies, which will cover (i) environmental laws, regulations, and policies; (ii) implementing mitigation measures; (iii) operating and maintaining project facilities; (iv) environmental monitoring and supervision; (v) public participation and grievance redress; and (vi) documentation and reporting.

B. Involuntary Resettlement

12. Land acquisition and resettlement. The project is classified by ADB as category A for involuntary resettlement. One resettlement plan was prepared, following the ADB's SPS, 2009. In order to avoid or minimize land acquisition and resettlement, there was close consultation with the local government officials and affected communities during the preliminary and feasibility study as well as preliminary design stages for the optimal and proper engineering

schemes of the project. Based on the impact survey among seven components of output 1 and output 2, the urban road network improvement component, and the wetland rehabilitation output have larger land acquisition and resettlement impacts. According to the survey, a total of 184 households with 790 persons will be affected by land acquisition and resettlement for the project. They include 176 households with 740 persons to be affected by permanent land acquisition, 21 households with 120 persons by residential house demolition, and 13 households with 70 persons affected by both land acquisition and resettlement. In total, 1,502.93 mu (100.2 ha) of land will be affected permanently, including 825.13 mu (55 ha) state-owned land, and 677.8 mu (45.19 ha) of collective-owned land. Of the total acquired collective-owned land, 66.5% (450.6 mu or 30 ha) are cultivated land. Along with land acquisition, a total of 5,655 m² of residential structures will be demolished. Of the total affected people, 43 households with 130 persons are vulnerable groups. They include 37 households under minimum living security line, four households with disable members, and two households with living alone elderly. All of them are ethnic minorities.

13. For the urban road network component, a total of 54.8 *mu* of land areas will be acquired from two villages in Yiganqi Township and two resident committees in Hongqiao Street Administration Office. A total of 36 households with 180 persons by permanent acquisition of collective land; relocate 18 households with 108 persons due to the demolition of residential structures. Of the total affected people, 11 households with 31 persons are vulnerable groups. In total, 54.8 *mu* of collective rural land will be acquired permanently, including 27.2 *mu* (1.81 ha) of housing plots, and 27.6 *mu* (1.84 ha) of farmland. 12.13 *mu* of public park land by Akesu Housing and Urban-Rural Construction Bureau and Akesu City Landscaping Management Office will be occupied. A total of 4,855 m² of residential structures will be demolished. Due diligence has been conducted for the component, and it was identified that no remaining issues was left for the land acquisition and resettlement.

14. For the wetland rehabilitation component, a total of 1,436 *mu* of land areas will be required, which include 813 *mu* of stated owned wetland park developed by Akesu City Water Resources Bureau, which will be transferred from Akesu City Water Resources Bureau to Akesu City Forest Bureau, and 623 *mu* of rural land areas, which will be acquired, affecting three villages from Yiganqi Township. They include Bageqi, Yingbage, and Saikepaqi villages. A total of 140 households or 560 persons will be affected by permanent acquisition of 423 *mu* of farmland and 200 *mu* of fish pond. Of the total affected people, 32 households, or 99 persons are vulnerable groups. Along with land acquisition, about 800 m² of structures will be demolished, affecting three households from Bageqi Village.

15. The compensation of the permanent land acquisition is based on (i) the *Land Administration Law of PRC*, amended in 2004, Document 28: State Council Decision to Deepen Reform and Strictly Enforce Land Administration in October 2004; (ii) Urban House Demolishment Management Regulations of PRC, Property Law of PRC 2007; (iii) Department of Land Resources of XUAR “Notice on the Issuance of ‘Land Acquisition and Resettlement Compensation Standards of Key Construction Projects in Autonomous Regions’”, 2009; (iv) XUAR Guidelines for Implementation of the Urban House Demolition Management Regulation of the PRC, 2013; (v) Implementation Scheme of Akesu Duolang River Squatter Area Rehabilitation Phase Two Engineering Construction House Demolition, 2011; (vi) Compensation and Resettlement Methods of Akesu Duolang River Squatter Area Rehabilitation Phase Two Engineering Construction House Demolition (Trial), 2011; (vii) Methods of House Demolition and Evaluation Management on the State-Owned Land in Akesu City (Trial), 2011; and (viii) Implementation Method of Social Insurance for the Land Lost Farmers to Convert Their Status from Rural to Urban Residents in Akesu City (Trial), 2011. The resettlement plan was prepared

to comply with ADB's SPS, 2009.

16. Based on the consultations with local governments and those affected, and general practice in Akesu City, the resettlement principles established for the project are (i) land acquisition and involuntary resettlement should be avoided or minimized where feasible by developing and comparing a series of design alternatives; (ii) compensation and entitlements provided must be adequate to allow those affected to at least maintain their pre-project standard of living, with the prospect of improvement; (iii) land temporarily occupied and the period for disruption are to be kept to a minimum; (iv) all the people affected, legal and illegal, are to be taken into consideration and accounted for; (v) resettlement plan should be prepared and implemented in accordance with state land rehabilitation policy, national economic and social development plans, and ADB's SPS 2009; (vi) all those affected will be adequately informed about eligibility, compensation rates and standards, livelihood and income restoration plans, and project timing; (vii) resettlement plan should be coordinated with such things as regional development, economic development, and environmental protection; (viii) practical and feasible measures should be formulated to restore the affected items; (ix) a preferential policy and assistance will be provided to vulnerable groups in such things as employment; and (x) close monitoring and timely actions will be carried out to identify and resolve any problems.

17. **Resettlement and livelihood restoration.** The resettlement strategy encompasses (i) the replacement of housing, and (ii) the restoration of livelihoods and income. For people losing land, cash compensation will be paid to the affected people to be used for tertiary industry development. For people losing housing, they will receive "cash compensation" or "replacement houses in the resettlement sites". With cash compensation, the resettled residents could purchase resettlement houses or commercial houses in the resettlement sites or other places they prefer. All the relocated households will also receive a relocation allowance. Assistance will be provided to find available housing close to their original homes, if that is the preference of the APs. The APMO will provide necessary assistance for relocation during resettlement implementation.

18. The measures for economic rehabilitation include (i) providing technical skill training and employment opportunities to the affected persons, especially for the job requiring large amount of labor forces; (ii) development of service industry, such as clothing shop, grocery store, food catering service, hairdressing salon, dry cleaning, motorcycle transportation service in urban districts, taxi service, hotel service, tourism business, and other businesses; (iii) provision of social insurance; and (iv) providing employment opportunities generated by the construction and operation of the project. Technical training will be provided to the affected people to increase their skills. The workers for the closure of the 26 small coal-burning boilers will be re-employed within the existing work places for managing new heat exchange stations or assigned to different positions within the same work units. For seasonal workers they will be allocated with temporary security or maintenance jobs in the same work units. The APMO will ensure that no job will be lost. The re-employment plan for the closure of 26 small coal-burning boilers is included in the resettlement plan as part of the due diligence report. For vulnerable groups, attention and assistance will be given to their special needs and expectations. The APMO will supervise implementation to ensure these vulnerable persons receive adequate compensation, livelihood and income restoration, housing arrangement, special fund, and MLG, and assistance to restore their living conditions and incomes.

19. **Information disclosure, public participation, and grievance redress.** The people affected have been notified about the key elements of the resettlement plan, which is based on the measurement survey. On various occasions during measurement, social economic survey,

meetings organized by village committee and resident committees, and other participants between May and July 2014, people affected have participated in the planning and concerns have been integrated into the resettlement plan. AMG has especially established Akesu House Demolition Command Office (AHDCO). Through the village and residents committees' meetings, and visits to the affected households, the compensation rates and resettlement issues have been consulted, their feedback and comments have been addressed, and the common opinions have been reached. All of their concerned issues and comments have been integrated into the resettlement plan. More consultation meetings will be held in future. The resettlement information booklet was distributed to affected community and households in November 2014. One resettlement plan was prepared, following ADB's SPS, 2009 and posted on the ADB website on 27 February 2015. The resettlement plan approved by AMG will be redistributed to production group, village committee and resident committees by February 2015 to anyone wishing to consult the document at the village committee and/or resident committee offices. The APMO will be responsible for supervising implementation, continuing public consultation, monitoring progress and responding to grievances. The grievance redress procedures are well established and explanations are included in the resettlement plan and resettlement information booklets.

20. The grievance redress procedure has been established to solve resettlement issues that may arise. It consists of four stages. The four stages channels include (i) affected villages or residential committees; (ii) affected township or sub-district governments; (iii) Akesu City Land Resources Bureau and Akesu City House Demolition Office; and (iv) APMO or public complaint office of AMG. The stages of grievance redress mechanism are elaborated below:

- (i) Stage 1: If any of the affected people are aggrieved by any aspect of the land acquisition and resettlement, he and/or she can state his and/or her grievance and appeal to the village committee and/or resident committee or in oral or in written form. If an oral appeal is made, the village committee and/or resident committee will record it on paper and process it. The village committee and/or resident committee will make decision on or resolve it in 2 weeks. The affected people will be informed of the result via written notice.
- (ii) Stage 2: If the aggrieved affected people are dissatisfied with the decision in Stage 1, he and/or she can appeal to the township government office/street administration office after receiving the decision; the township government office/street administration office will reach a decision in 2 weeks. The affected people will be informed of the result via written notice.
- (iii) Stage 3: If the aggrieved affected people are still dissatisfied with the decision of the township government office, he and/or she will appeal to Akesu Land Resource Bureau (ALRB) or Akesu House Demolition Command Office (AHDCO) after receiving the decision. Affected people could come to ALRB or AHDCO directly if he or she chooses to do so. The ALRB or AHDCO will reach a decision in two weeks. The affected people will be informed of the result via written notice.
- (iv) Stage 4: If the aggrieved affected people are still dissatisfied with the decision of the ALRB or AHDCO, he and/or she will appeal to APMO after receiving the decision. The APMO will reach a decision in 2 weeks. The affected people will be informed of the result via written notice.

21. Displaced persons may file an appeal on any aspect of resettlement, including compensation rates, etc. The above means of appeal, and the names, locations, persons responsible, and telephone numbers of the appeal accepting agencies will be communicated to the displaced persons at a meeting, through an announcement or the resettlement information booklet, so that the displaced persons know their right of appeal. Mass media will be used to

strengthen publicity and reporting, and the resettlement organization will share comments and suggestions on resettlement from all parties concerned. All agencies will accept grievances and appeals from the affected persons for free, and costs so reasonably incurred will be disbursed from the contingency costs. During the whole design and construction period of the project, these appeal procedures will remain effective to ensure that the affected persons can use them to address relevant issues. Affected persons can also submit complaints to ADB which will be handled by the project team. If an affected person is still not satisfied and believes he/she has been harmed due to non-compliance with ADB policy, s/he may submit a complaint to ADB's *Accountability Mechanism*.⁵

22. **Institutional arrangements.** The AMG has especially established Akesu House Demolition Command Office (AHDCO), and will arrange 10 to 20 staff to be responsible for the LAR implementation activities, and drawing staff from relevant departments directly under the municipal government. The AHDCO will work closely with village committee and/or resident committee, township government, land resources department, and resettlement plan design institute, who are mainly responsible for the coordination of the project planning, implementation, financial account, and LAR supervision. The training of the APMO and AHDCO staff, and relevant organizations will be conducted by the entrusted independent monitoring and evaluation agency.

23. **Cost estimates and implementation schedule.** The cost estimate for land acquisition and resettlement is CNY143.6 million or \$23.14 million at the prices of 2014, including compensation for permanent land acquisition, residential house demolition, ground attachments, relocation allowances, relevant land taxes, M&E, other costs, and contingency. The land acquisition and resettlement activities will start in April 2015 and will be completed in December 2019. Construction will not take place before the affected people are fully compensated and relocated, and all arrangements are made to commence the livelihood rehabilitation activities and the affected people are registered for these.

24. **Monitoring and evaluation.** Internal and external monitoring of the resettlement plan implementation will be conducted semiannually to ensure successful implementation of the resettlement plan. The internal supervision and monitoring will be conducted by the APMO and AHDCO to ensure the resettlement activities to be implemented according to the resettlement plan. The external monitoring and evaluation will be conducted by an independent resettlement monitoring agency, and they are responsible for the submission of the semiannual monitoring and evaluation reports to the executing agency, implementing agency, APMO, and ADB. The first monitoring report will be submitted by the end of July 2015.

Table 1: Summary Land Acquisition and Resettlement Impacts

Land Acquisition Impacts								
	Total Land Area (mu)	State Owned Land (mu)	Rural Land (mu)	Of which Farmland (mu)	Fish Pond (mu)	Housing Land (mu)	Household (persons)	Ethnic Minority
Fuqi road	27.6		27.6	27.6			8 (40)	8 (40)
Awen road	27.2		27.2			27.2	28 (140)	28 (140)
Wetland park	1436	813	623	423	200		140 (560)	136 (544)
Total	1490.8	813	54.8	450.6	200	27.2	176 (740)	172 (724)
Housing Demolition Impacts								

⁵ ADB. Accountability Mechanism. <http://www.adb.org/site/accountability-mechanism/main>

	Total houses (m ²)	Of which Brick Concrete Structure (m ²)	Brick wood Structure (m ²)	Earth wood Structure (m ²)	Simple Structure	Households (Persons)	Ethnic Minority
Wangsan street	750	100	650			5 (30)	5 (30)
Minzhu road	800		800			2 (15)	2 (15)
Wenhua road	80			60	20	1 (5)	1 (5)
Awen road	3225	3225				10 (58)	10 (58)
Wetland park	800	800				3 (12)	
Total	5655	4125	1450	60	20	21 (120)	18 (104)
Affected Persons							
Administrative Jurisdiction		Permanent Land Acquisition		No. of Affected Household and Affected People to Be Affected by Residential House Demolition		Total No. of Households and Affected People to be Affected by Land Acquisition and Resettlement	
Township/SAO	Village/Community	Affected Households	Affected People	Affected Households	Affected People	Affected Households	Affected People
Urban Road Network Improvement Component							
Yigangqi	No. 9 Production Group	8	40	0	0	8	40
	Saikepaqi	28	140	10	58	28	140
Hongqiao SAO	Jianshe residential committee	0	0	3	20	3	20
	Reshite residential committee	0	0	5	30	5	30
Subtotal		36	180	18	108	44	230
Wetland Rehabilitation							
Yiganqi	Bageqi	3	12	3 ¹	12	3	12
	Yingbage	37	148	0	0	37	148
	Saikepaqi	100	400	0	0	100	400
Subtotal		140	560	3	12	140	560
TOTAL		176	740	21	120	184	790

m² = square meters, SAO = street administration office.

Table 2: Summary Resettlement Costs

Item	Item of Land Acquisition and Resettlement Compensation	Cost (CNY)
Urban infrastructure and services improved		
1.1	Permanent land acquisition	2,466,000
1.2	Demolishment of structures and auxiliaries	7,708,110
1.3	Other cost	615,397
1.4	Land-related taxes	1,299,702
1.5	Contingency	1,526,116
1.6	Subtotal	13,615,325
Akesu Duolang wetland rehabilitated and protected		
2.1	Permanent land acquisition	97,140,000
2.2	Demolishment of structures	1,121,100
2.3	Other cost	3,346,094
2.4	Land-related taxes	13,497,804
2.5	Contingency	14,739,165
2.6	Subtotal	129,844,163

Item	Item of Land Acquisition and Resettlement Compensation	Cost (CNY)
	Total	143,459,489.01

Note: \$1 = CNY 6.2.
CNY = Chinese yuan.

Table 3: Resettlement Implementation Milestones

Item	Resettlement Tasks	Target	Responsible Agency	Deadline	Status
1.	Disclosure				
1.1	Information booklet	184 households, 790 affected people	APMO and AHDCO	Jan 2015	Planned
1.2	Resettlement plan approval	One production group, three villages, and three communities	AMG, township government/SAO, AHDCO	Jan 2015	Planned
1.3	Resettlement plan posted on ADB website		AMG, APMO, ADB	Jan 2015	Planned
2.	Approval of Resettlement Plan and Budget	CNY143.46 million	AMG, township government / SAO, and AHDCO	Jan 2015	Planned
3.	Agreements				
3.1	Compensation rates	One production group, three villages, and three communities	AMG, township government / SAO, ALRB, AHDCO, APMO	Feb 2015	Planned
3.2	Households	184 households, 790 affected people	APMO, ALRB, AHDCO, and village committees and/or resident committee	Feb 2015–Nov 2019	Planned
4.	Detailed Plans				
4.1	Village rehabilitation plans	One production group and three villages	APMO, design institute, AHDCO	June 2015–Dec 2019	Planned
4.2	Plan for vulnerable group	43 affected households	AMG, APMO, Akesu Civil Affairs Bureau, Akesu Labor and Social Security Bureau	Apr 2015–Dec 2019	Planned
4.3	Training plans for affected people	All affected persons	APMO, AHDCO, training institutions	Apr 2015–Dec 2019	Planned
5.	Establishment of implementation capacity		PLG, APMO, AHDCO, ALRB, others	Mar–Dec 2015	Planned
6.	Monitoring & Evaluation				
6.1	Baseline survey	184 households and 790 affected people	APMO, ALRB, AHDCO, design institute	May–Jul 2014	Completed
6.2	Set-up internal supervision	As per resettlement plan	APMO	Apr–May 2015	Planned
6.3	Hiring external monitor	As per resettlement plan	APMO	Jan 2015	Planned
6.4	Internal monitoring reports	Quarterly	APMO, ALRB, AHDCO	May 2015	1 st Report
6.5	External monitoring reports	Semiannual	IMA	Jul 2015	1 st Report
6.6	Resettlement completion report	One report	IMA	All work will be completed	

Item	Resettlement Tasks	Target	Responsible Agency	Deadline	Status
				in Dec 2019	
6.7	Evaluation reports	Two annual reports	IMA	Dec 2020 Dec 2021	1 st Report 2 nd Report
7.	Documentation of Consultation		APMO, ALRB, AHDCO, village committee and/or resident committee	Ongoing	
8.	Documentation of Grievances		APMO, ALRB, AHDCO, village committee and/or resident committee	Ongoing	
9.	Flow of Funds / Compensation				
9.1	To implementing agency	40%	AMG	Apr 2015	to be determined
9.2	To affected village committees and/or villages	100%	APMO, ALRB, AHDCO	Apr 2015– Dec 2019	
9.3	To affected households	100%	APMO, ALRB, AHDCO	Apr 2015– Dec 2019	

ADB = Asian Development Bank, AHDCO = Akesu house demolition command office, ALRB = Akesu land resources bureau, AMG = Akesu municipal government, APMO = Akesu project management office, IMA = independent monitoring agency, LRB = land resources bureau, PLG = project leading group, SAO = street administration office.

Table 4: Responsibilities of Resettlement-Related Agencies

Institutions	Responsibilities
Akesu project leading group	<ul style="list-style-type: none"> - Lead, organize, coordinate, and formulate policies for the project. - Review the implementation of the resettlement plan. - Conduct internal supervision and inspection. - Make decision for major problems during land acquisition and resettlement process.
Akesu project management office	<ul style="list-style-type: none"> - Perform the overall coordination and organize the project activities. - Coordinate the preparation and implementation of the LAR program. - Organize and supervise the measurement survey and socioeconomic survey - Organize and coordinate the preparation of resettlement plan. - Provide assistance to women and other vulnerable groups. - Serve as a liaison between ADB and AMG and various stakeholders. - Apply for Land Use Planning Certificate and Land Use Construction Certificate to ALRB. - Apply for house demolition certificate. - Disburse land acquisition and resettlement fund and supervise the usage. - Direct, coordinate and supervise the implementation schedule of the resettlement plan. - Organize and implement internal monitoring, determine independent external supervision agency, coordinate internal and external monitoring activities. - Report the schedule of land acquisition and resettlement, fund usage and implementation status periodically to ADB. - Provide assistance to women and other vulnerable groups. - Coordinate the handling of the conflicts and problems during the resettlement implementation. - Report the land acquisition and structure demolition to APLG.

Institutions	Responsibilities
Akesu housing demolition command office	<ul style="list-style-type: none"> - Organize the measurement survey. - Conduct measurement surveys of land acquisition and house demolition. - Implement the relocation. - Formulate the resettlement implementation schedule. - Sign the land acquisition and house demolition agreement with the affected households in association with local government. - Supervise the implementation of resettlement plan. - Manage the information of land acquisition and resettlement. - Provide assistance to women and other vulnerable groups. - Train the resettlement staff. - Coordinate the handling of conflicts and problems during the resettlement plan implementation. - Settle the disputes and grievances through coordination and arbitration. - Handle the illegal action during the land acquisition and relocation process. - Report the land acquisition and house demolition to APMO.
Akesu municipal government	<ul style="list-style-type: none"> - Specify the range of land use and approve the construction of the land. - Issue land use license according to the plan.
Akesu land resources bureau	<ul style="list-style-type: none"> - Implement the relevant national policies of land acquisition. - Participate in the examination of compensation standards for land acquisition and ground attachments. - Process and approve land acquisition. - Participate in measurement and socioeconomic surveys. - Participate in the preparation of resettlement plans. - Issue Land Use Planning Certificate and Land Use Construction Certificate. - Issue Public Notice of Land Acquisition. - Guide, coordinate, and supervise the implementation activities of land acquisition and resettlement. - Coordinate the handling of conflicts and problems during the resettlement plan implementation.
Hongqiao street administration office/ Yiganqi township government	<ul style="list-style-type: none"> - Carry out and implement the regulations and policies related to house demolition. - Review the relevant documents of house demolition plan and resettlement and compensation plan, issue the house demolition certificate. - Register and manage house relocation file. - Coordinate, supervise and inspect the house demolition activities and handle conflicts during demolition. - Cooperate with the AHDCO to train and examine the resettlement officers.
Legal advisory office	<ul style="list-style-type: none"> - Provide legal consultancy during project implementation. - Provide legal assistance in case there is dispute during land acquisition, structure demolition and resettlement.
Village committees and/or resident committees	<ul style="list-style-type: none"> - Participate in measurement and socioeconomic surveys and formulation of the resettlement and rehabilitation plan. - Participate in the preparation of the resettlement plans. - Organize the public consultation; and publicize policies of land acquisition and resettlement. - Consult the compensation payment and distribution. - Organize the production and income restoration activities in resident communities. - Organization the development of secondary and tertiary industries. - Report comments and suggestions of affected people to the organizations at upper level. - Provide assistance to women and other vulnerable groups.
Design institute	<ul style="list-style-type: none"> - Minimize the project impacts through optimizing engineering design. - Identify the scope of land acquisition and resettlement impacts. - Conduct measurement survey and socioeconomic surveys. - Assist to prepare the resettlement plan. - Provide technical consulting of data collection and processing to the APMO.
Independent monitoring agency	<ul style="list-style-type: none"> - Provide technical consulting of land acquisition and resettlement. - Act as an IMA, provide periodic monitoring for the implementation of the resettlement plan, and provide independent evaluation report to the APMO, AHDCO, RO, and ADB.

ADB = Asian Development Bank, AHDCO = Akesu housing demolition command office, ALRB = Akesu land resources bureau, AMG = Akesu municipal government, APLG = Akesu project leading group, APMO = Akesu project management office, IMA = independent monitoring agency.

Table 5: Schedule for Resettlement Monitoring and Evaluation

Item	Report of Monitoring and Evaluation	Date
1	Baseline socioeconomic survey and report	July 2014
2	First monitoring report	31 July 2015
3	Second monitoring report	31 January 2016
4	First semiannual evaluation report	31 July 2016
5	Second semiannual evaluation report	31 January 2017
6	Third semiannual evaluation report	31 July 2017
7	Fourth semiannual evaluation report	31 January 2018
8	Fifth semiannual evaluation report	31 July 2018
9	Sixth semiannual evaluation report	31 January 2019
10	Seventh semiannual evaluation report	31 July 2019
11	Resettlement completion report	31 January 2020
12	First annual evaluation report	31 December 2020
13	Second annual evaluation report	31 December 2021

C. Ethnic Minority

25. The project is classified by ADB category B for the indigenous peoples safeguard. Ethnic minorities constitute 46.4% and 53.8% of the population in the direct and indirect area respectively in Akesu. Although the urban communities are ethnically mixed, some aspects such as cultural, religious, and linguistic differences are maintained. All households in the urban areas will benefit from the new and upgraded infrastructure services in road, public parks and green space, waste and wastewater, central heating, solid waste management, and rehabilitated Akesu Duolang wetlands. The subcomponent on community lanes upgrading targets five peri-urban communities that are inhabited mostly by ethnic minorities, particularly the Uygur.

26. An ethnic minority development plan (EMDP)⁶ has been prepared to facilitate the inclusion of ethnic minority people in all project activities and to protect them from any disadvantages that language barriers may create with respect to employment by project contractors. The EMDP also includes measures to ensure that their customs and beliefs will be respected throughout implementation. Ethnic minorities will not be adversely affected, except for 724 Uygur minority persons from 172 households for resettlement and 104 persons from 18 households for residential house demolition. Appropriate livelihood restoration measures associated with resettlement are incorporated in the resettlement plan.

27. Key issues addressed in the EMDP ensure (i) that affected ethnic minority people are effectively involved in planning, implementation, and monitoring of the project; (ii) that impacts and risks potentially affecting ethnic minority people are mitigated; and (iii) that ethnic minority people will benefit from such positive impacts as temporary job creation. The EMDP includes measures to mitigate potential social risks and to enhance project benefits, particularly for women and the poor. The project will support (i) the targets set for the contractors with respect to the employment of ethnic minorities (45%), including females; (ii) measures to facilitate the effective inclusion of ethnic minorities (at least 50%) in project activities through the public participation and awareness, by removing potential language and cultural barriers to such participation; and (iii) measures to reduce the risk of unintentional offence being caused to

⁶ Ethnic Minority Development Plan is accessible from the list of linked documents.

ethnic minority communities during project implementation. The resettlement plans provide for special training to assist ethnic minorities affected by land acquisition or resettlement. Implementation and monitoring of the EMDP is included in the loan assurances and design and monitoring framework. The plan also includes the Akesu municipal government financed enhancement program for the ethnic minorities to increase their skills, employment and entrepreneurship in the three priorities of skill training and knowledge improvement, provision of employment opportunities, and access to small loan program.

28. The actions to be implemented under the EMDP are for the most part to be included as part of the project's administrative budget. Where local government agencies collaborate with actions in the EMDP, the local government administrative budgets will cover the costs of local government staffing and other related costs. Each project operation agency (POA) will nominate at least one person responsible for overseeing the implementation of the EMDP, the social and gender action plan, and to coordinate the social monitoring. AMG will provide support as necessary, as will the community offices, the county centers for disease control (CDC) and the labor bureaus. An external monitoring agency to provide independent monitoring and evaluation of the EMDP has been included in the overall project budget.

29. Prior to the commencement of any component, the APMO will ensure that briefings on ADB's policies with respect to ethnic minorities, and on the EMDP, are provided both for their own members, and for POAs. The ethnic and religious affairs bureaus (ERABs) will assist in these briefings. Contractors, their supervisors, and workers will also be required to undergo briefings on local ethnic minority customs and beliefs, and to ensure that no offence to ethnic minority beliefs or customs occurs during construction. The national social safeguards specialist in the loan implementation consulting services will support EMDP implementation and monitoring. The project ethnic minority development plan endorsed by the government has been disclosed on 3 March 2015 in Chinese, Uyghur, and Kazakh languages to ethnic minority people targeted by the project. The ethnic minority development plan has also been uploaded on the ADB website. Detailed monitoring and reporting arrangements are included in the PAM and the project agreement.

30. Prohibited investment activities. Pursuant to Asian Development Bank's (ADB Safeguard Policy Statement (2009) (SPS),⁷ 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.

VIII. GENDER AND SOCIAL DIMENSIONS

A. Summary Poverty Reduction and Social Strategy

1. This section describes the required actions for gender and social dimensions, other than social safeguards. A social, poverty, and gender analysis was undertaken in accordance guidelines of the Asian Development Bank. The analysis collected information to assist in the design of the project by identifying the poor, examining causes of poverty, and recommending poverty reduction measures within the scope of the project.

2. **Key issues.** XUAR covers almost one-sixth of the total area of the PRC, but only about 1.6% of the country's total population. XUAR has a large ethnic minority population, with the Uygur accounting for 45.73% and other ethnic minority groups for 14.77%. It is one of the 12 less-developed provinces and autonomous regions targeted by the national government's "Western Development Strategy" for accelerated socioeconomic development and poverty reduction. In 2012, it ranked at 28th out of 31 regions in terms of per capita annual disposable income of urban households at CNY17,921, and 22nd in terms of per capita annual net income of rural households at CNY6,394. In 2013, the poverty incidence rate in Akesu City was 5.45% for the urban population, and 12.3% for the rural population. There are a total of 58 poverty villages in the city, of which two are XUAR designated poverty villages. Ayikule is Akesu prefecture designated poverty township with 21 poverty villages. As the economic and cultural center for Akesu prefecture, Akesu City has expanded rapidly, with its urban population growing from 422,470 in 2005 to 509,200 in 2013, reaching an urbanization rate of 61.2%, and the built-up area expanding from 27 square kilometer (km²) in 2005 to 46.5 km² in 2013. The urbanization rate is expected to surpass 64% by 2015.¹ Although Akesu City is a poor area, it also has big potential for fast growth. However, lack of basic urban infrastructure services and degraded environment as well as lack of jobs for the poor are the key impediments to growth and poverty reduction in the city. Currently in the project areas of Akesu City, access to water, sanitation and heating is low and variable. The percentage of households connected to piped urban water supply account for 52.6%, the percentage of households with sewerage connections account for 8.0%, the percentage of households with access to central heating account for 12.7%, and the percentage of households disposing their garbage into garbage bins and then collected by the environment sanitation bureau account for 16.7%, and collected by the environmental sanitation bureau through house-to-house account for only 2.0%. The project will improve mobility and accessibility, sanitation and public health, livelihoods and the overall quality of life for the people of Akesu City, and will enable sustained economic growth, industrial and tourism development, urbanization, and environmental improvement for Akesu City.

3. The project will directly benefit 263,830 people, of which 122,420 or 46.4% are ethnic minorities, and 44,320 people or 16.8% are poor. The project will create 12,130 person-years of direct and 31,510 person-years of indirect employment opportunities during the project construction phase, including a target for about 45% employment for women, 50% ethnic minorities, and 20% poor. It will generate 2,760 direct jobs and 7,180 indirect jobs during the project operation phase. The XUARG and AMG have assured that employment priorities will be given to vulnerable groups, including women, the poor, and ethnic minorities. To ensure the positive benefits of transport and road safety, water and sanitation, and wetland and biodiversity protection interventions, public awareness and education in "living street" concept and human-centered traffic system, urban sanitation, community-based 3Rs, and wetland and biodiversity

¹ Compiled from various Akesu municipal government sources, including statistical bulletins, government annual reports, urban master plan, etc.

protection will be conducted during the course of the project supported by the loan implementation consulting services. These programs will particularly address the needs and risks for women and children from increased transport demand and environmental degradation. Social and gender indicators will be included in the project performance management system (PPMS), and appropriate consultant inputs for implementation and monitoring of both plans are included in the supervision consultant package.

4. **Design features.** The project design directly responds to issues raised by the poverty and social analysis, related to basic urban infrastructure. Key design features include (i) setting employment targets for women, ethnic minorities, and the poor in construction and operations; (ii) strengthening public participation and consultation in decision-making related to public hearings for urban water supply and sanitation, heating supply, and solid waste management; (iii) targeting beneficiary ethnic minority people through skills and employment enhancement programs funded by the local government; (iv) more focus on providing public education and pilot programs on “living street” concept, human-centered traffic system, integrated solid waste management, and wetland management and biodiversity protection. In addition, it ensures (i) protection of labor that will be employed on project works, and (ii) mitigation of HIV/AIDS, drug and human trafficking. The EMDP and SGAP outlined actions to ensure mitigation of adverse impacts and increase positive impacts of the project. Implementation and monitoring of SGAP is included in the loan assurances.

B. Social and Gender Action Plan

5. The social and gender action plan (SGAP)² has been prepared for the project. It sets out activities (i) for the mitigation of adverse impacts and risks identified in the course of the poverty and social analysis of the project, and (ii) to help maximize the benefits to be derived from the project. Actions include (i) targets for employment of local labor, women, the poor and ethnic minorities during construction and operation; (ii) public awareness program on construction safety and labor law; (iii) measures to reduce potential risks, such as, HIV/AIDS, sexual harassment, drugs and human trafficking, health protection; (iv) public participation and education in wetland management and biodiversity protection; (v) public awareness and education for urban road network and associated infrastructures, public and street parks, and solid waste management, and (vi) public hearing for water, heating supply and solid waste management. Its implementation will be monitored through the project performance management system, project progress reports, and ADB supervision missions.

6. The project is categorized by ADB as effective gender mainstreaming (EGM). The project will have significant benefits for women to reduce the energy, time, and effort spent by women on these activities, allowing them greater participation in income-generating activities, family entertainment, or leisure. Women strongly support the project across all subcomponents, and they perceive that the project will improve their quality of life and create employment and income opportunities for them. The SGAP will help to ensure (i) increased women’s participation in the project, including a target for at least 45% employment for women and 20% for the poor; (ii) participation and gender sensitive trainings on public road safety and integrated solid waste management programs with up to 50% female participation; (iii) participation in capacity building activities; and (iv) appropriate gender targets, indicators and sex-disaggregated data for project monitoring and evaluation. A national social development specialist with gender experiences will

² A combined social and gender action plan (SGAP) has been prepared for this project and is presented in the PAM and assurances. However, taking into account the mandatory two-page limit for the RRP-linked gender action plan (GAP), a separate GAP was prepared based on SGAP.

be provided under the capacity development component to ensure the effective implementation of the SGAP (see Table 1). An assurance for implementation of the SGAP has been included.

7. To address the risk of spread of HIV/AIDS, the project requires (i) inclusion of clauses on HIV/AIDS and other communicable disease into contract bidding documents; (ii) conduct of public health and HIV/AIDS prevention education to the civil works contractors; (iii) establishment of health measures for construction workers (e.g., setting up a temporary infirmary, using local medical resources); and (iv) conduct of diverse publicity activities on HIV/AIDS (e.g., brochures, posters and picture albums).

8. **Labor issues.** Core labor standards will be implemented. Civil works contracts will stipulate priorities to (i) employ local people for works, (ii) ensure equal opportunities for women and men, (iii) pay equal wages for work of equal value, (iv) pay women's wages directly to them, (v) not employ children or forced labor, and (vi) ensure that all contracted labor have written contracts. Specific targets for employment have been included in the SGAP. Construction workers from the local communities will be trained on sanitation knowledge campaigns and training, and capacity building will be undertaken to protect their legal labor rights. AMG will monitor contractors' compliance with these project assurances in conjunction with the Human Resources and Social Security Bureau, and Civil Affairs Bureau.

9. AMG is responsible for the implementation of the SGAP. Under the project management consulting services, a social safeguard specialist will be engaged to support APMO director to implement, monitor, and report on progress of the resettlement plan, EMDP, SGAP, and other social aspects. They will be monitored semiannually and reported via periodic progress reports.

Table 1: Social and Gender Action Plan

Activity	Indicators and Targets	Responsible agencies	Timing	Budget and Cost
1. Generating Job Opportunities to Increase Residents' Income—Outputs 1 and 2				
(i) Generate skilled, semi-skilled, and unskilled jobs at the construction stage	12,130 person-years employment, of which about 45% person-years semi-skilled and unskilled employment will be given to women, 50% to ethnic minorities, and 20% to the poor (baseline for women: 25%, ethnic minorities: 30%, and poor: 11%) ³	APMO, POAs, contractors, women's federation, EMRAO, HRSSB	2015–2019	Contractors' budget
(ii) Generate skilled, semi-skilled, and unskilled at the operation stage	2,760 jobs will be generated, of which about 45% semi-skilled and unskilled jobs will be given to women, 50% to ethnic minorities, and 20% to the poor (baseline for women: 22%, ethnic minorities: 30%, and poor: 10%)		After 2019	POAs' operating budget
(iii) Ensure timely advertisement of employment opportunities, and ensure that employment preference will be given to local residents	<ul style="list-style-type: none"> - Mass media advertisements to the local communities: 300 times of TV, 500 times newspaper and poster, and weekly advertisement on the bulletin boards of SAOs or township office - Number of local people employed (disaggregated by sex and ethnicity minority) 			
(iv) Protection of labor rights and interests of employees	<ul style="list-style-type: none"> - Number of employees with signed contracts (disaggregated by sex and ethnicity), baseline for women: 20%, and ethnic minorities: 19% - Wages paid to local women and local men by type of job (disaggregated by ethnicity) 			
(v) Ensure work environment and conditions on construction sites are responsive to women's needs	Separate sanitary facilities (toilets) are available to women in all construction sites			

³ The percentages for women, ethnic minorities, and poor are overlapping.

Activity	Indicators and Targets	Responsible agencies	Timing	Budget and Cost
2. Urban infrastructure and services improved—Output 1				
(i) Ensure local people’s participation in the pilot “Living Street” program	Number and percentage people included in the pilot program and in all public education/training and awareness raising programs, including 50% women, and 45% ethnic minorities	APMO, POAs, PSB, transport bureau, traffic police team, women’s federation, education bureau	2015–2019	Project cost
(ii) Ensure local people’s participation in Human-centered traffic system program				
(iii) Ensure community participation in consultation and decision making processes related to road design features (bus stops, traffic signals, marks, pedestrian crossings, etc.)				
(iv) Special traffic marks on roads near schools				
(v) Integration of gender-responsive physical design features in roads and public transport services				
(vi) Ensure traffic safety awareness materials are made and distributed to the local communities and schools, in particular to women and children				
3. Public and Street Parks—Output 1 subcomponent				
(i) Local residents will be fully consulted on the design	- Frequency and mode of consultation - No and % people consulted (disaggregated by sex and ethnicity)	APMO, POAs, contractors, women’s federation	2015–2019	Project cost
(ii) Recreation facilities will be provided to meet needs of women, children, and the elderly	Availability of recreation/leisure facilities meeting needs of women, children and the elderly			
4. Solid Waste Management—Output 1 subcomponent				
(i) Develop solid waste management knowledge publicity leaflet	Leaflet on community participation manual prepared and delivered to % community residents (disaggregated by sex and ethnicity)	APMO, POAs, contractors, EPB, women’s federation	2015–2019	EPB budget
(ii) Prepare community participation manual on solid waste separation and environment	Community participation manual available			Project budget

Activity	Indicators and Targets	Responsible agencies	Timing	Budget and Cost
protection				
(iii) Conduct training program on solid waste separation and collection	<ul style="list-style-type: none"> - Time, venue, and number of participants in training (disaggregated by sex and ethnicity) - Solid waste management training conducted successfully (including at least 50% female participation) 			
(iv) Provide trash bins and containers in selected communities	Number of bins and containers provided			
5. Pro-poor Action and Public Hearing for Tariff Increase—Output 1				
(i) Ensuring arrangements of coverage to improve service facilities are sensitive to the needs of the poor and vulnerable households	<ul style="list-style-type: none"> - 170,000 beneficiaries for urban water supply, including 4,080 poor - 180,000 beneficiaries for sewers, including 4,500 poor - 90,000 beneficiaries for central heating supply, including 1,980 poor - 263,830 beneficiaries for solid waste management, including 6,070 poor 	PIC specialists, AMG, APMO, POAs, PAO, CAO, women's federation, price bureau, finance bureau	2015–2018	Project budget Administrative cost of organizations involved
(ii) Public hearings are held for water and heating supply, and solid waste management	<ul style="list-style-type: none"> - Number of public hearings held - At least 30% representatives are poor people, 45% ethnic minorities, and 40% women 			
6. Establishing a Public Consultation and Participation Mechanism—Outputs 1 and 2				
(i) Ensuring local people's participation in the wetland management and biodiversity protection public education program	<ul style="list-style-type: none"> - Number of communities, schools and people (disaggregated by sex and ethnicity) included in the training program - 50% female participants, 45% 	APMO, POAs, women's federation, PSB,	2015–2019	Project budget Administrative cost of AMG

Activity	Indicators and Targets	Responsible agencies	Timing	Budget and Cost
	ethnic minorities			
(ii) Ensuring local poor people, including poor women and poor ethnic minorities to participate in the project activities	30% poor, 50% women, and 45% ethnic minorities	PIC SSS, women's federation, AMG, APMO, POAs, PAO, CAO	2015–2018	Administrative cost of organizations involved
7. Measures to Reduce Potential Risks				
(i) Include HIV/AIDS and other communicable disease clauses into contract bidding documents	Terms of construction contracts and implementation	APMO, POAs, contractors, health bureau, CDC, vaccination centers, EPB, women's federation	Action plan must be in place prior to the start of civil works 2015–2019	Contractors and administrative cost of CDC
(ii) Public health and HIV/AIDS prevention education program conducted to contractors and community residents	- Public health and HIV/AIDS prevention training courses and number of trainees (disaggregated by sex, ethnicity and target group) - Number and % of people receiving HIV/AIDS/STIs awareness by sex and target groups			
(iii) Health measures for construction workers (e.g., setting up a temporary infirmary, using local medical resources) are established	- Number and type of health measures			
(iv) Conduct publicity activities on HIV/AIDS, sexual harassment, drugs and human trafficking	- Forms of publicity on HIV/AIDS, sexual harassment at the construction stage, drugs and human trafficking prevention, e.g., number of brochures, posters and picture albums distributed			
8. Project and urban environmental management and inclusive capacity enhanced—Output 3				
(i) Ensure a social safeguards/ development (gender and public awareness) consultant included in the loan implementation consultant's team to guide SGAP implementation and provide training.	100% activities designed in SGAP are implemented with instruction of the social/gender consultant and support of the staff	APMO and POAs, SAO and/or township office, women's federation	2015-2019	Administrative cost of APMO, POAs, township office
(ii) Ensure female and ethnic minority staff in the	At least 50% female and 45% ethnic			

Activity	Indicators and Targets	Responsible agencies	Timing	Budget and Cost
project management	minority staff (baseline- female staff is 42% and ethnic minority staff is 25%)			
(iii) APMO and each POA assign at least one social safeguard staff to manage and coordinate SGAP and EMDP	One social safeguard staff from APMO and each POA for managing and coordinating EMDP and SGAP work			
(iv) At least one female nominated by SAO/TO who are willing to act as focal point between the residents and APMO and POAs, and attend all project related public meetings and consultations to facilitate effective participation of local people	Female bilingual focal point in SAO/township office to (i) answer questions about the project; (ii) refer the local residents to appropriate agencies for advice about project related issues; (iii) attend meetings; and (iv) provide feedback on any community concerns about project activities	APMO, POAs, contractors, PIC social safeguard specialists, SAO, township office staff	2015–2019 and 2 years after the project completion	Project budget
(v) Inclusion of female staff in capacity building activities	Number and percentage of women attending the trainings conducted on (i) project management; (ii) solid waste management, planning, and training; (iii) and road safety and transport planning assessment and training (30% female participants)			
(vi) Disaggregated data (by sex and ethnicity) will be collected to ensure monitoring, evaluation and reporting of SGAP	Semiannual monitoring reports on SGAP implementations	APMO, POAs, PIC social safeguard specialists, SAO, township office staff, external safeguards monitoring agency		

AMG = Akesu municipal government, APMO = Akesu project management office, CAB = civil affairs bureau, CDC = center for disease control, EMDP = ethnic minority development plan, EMRAO = ethnic minority and religion affairs Office, EPB = environmental protection bureau, GAP = gender action plan, HRSSB = human resources and social security bureau, PAO = poverty alleviation office, PIC = project implementation consultants, PPMS = project performance management system, POA = project operation agency, PSB = public security bureau, SGAP = social and gender action plan, SOA = street administration office, SSS= social safeguard specialist, STI = sexually transmitted infections.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

C. Table 1: Project Design and Monitoring Framework

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>Impact Socially inclusive and environmentally sustainable urbanization in Akesu</p>	<p>By 2030 (2013 baseline) Akesu will be named National Civilization City by 2030^a</p>	<p>Government reports</p> <p>Akesu statistical yearbooks</p>	<p>Assumptions Akesu urban master plan and five-year plans are effectively implemented.</p> <p>Socioeconomic development of Xinjiang Uygur Autonomous Region and Akesu is steady and in accordance with the Twelfth and Thirteenth Five-Year Plans.</p>
<p>Outcome Quality of municipal services and environment improved</p>	<p>By 2020 (2013 baseline) Number of traffic accidents involving personal injury reduced from baseline (286)</p> <p>88.6% of people in the project area have improved access to sewerage (compared to 8.0%)</p> <p>87.0% of people in the project area have improved access to district heating (compared to 12.7%)</p> <p>100.0% of people in the project area have their solid waste collected (compared with 18.7%)</p> <p>The value of ecosystem services (flood retention, irrigation, sediment and nutrient removal, biodiversity habitat, and groundwater replenishment) in Akesu Duolang wetlands increased above baseline (\$1.12 million)</p> <p>Number of days meeting class II national ambient air quality standards increased above baseline (232)</p>	<p>Annual reports of relevant government agencies and urban service companies</p> <p>Progress reports</p> <p>Social and environmental monitoring reports</p>	<p>Assumptions Other urban infrastructure is constructed on time and is operational.</p> <p>Project facilities are properly operated and maintained.</p> <p>Systematic implementation of plans to separate motorized and non-motorized traffic.</p> <p>Risks Effective stakeholder participation and ownership are not developed.</p> <p>Other environmental pollution sources increase.</p>
<p>Outputs 1. Urban infrastructure and services improved</p>	<p>By 2019 (2013 baseline: 0) 75 km of roads and residential alleys built or rehabilitated</p> <p>One public and five green spaces upgraded with plantings</p> <p>38 km of urban water supply pipes laid</p> <p>78 km of urban sewerage pipes built</p> <p>44 km of central heating network built</p> <p>One waste transfer station built</p>	<p>Project completion and periodic progress reports</p> <p>Social and environmental monitoring reports</p> <p>Inspection reports</p>	<p>Assumptions Financing is provided on time.</p> <p>Required approvals are obtained on time.</p> <p>Risks Capacity-building program fails to create adequate capacity.</p> <p>Unexpected price increases occur in key</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>2. Akesu Duolang wetland rehabilitated and protected</p> <p>3. Project and urban environmental management and inclusive capacity enhanced</p>	<p>10,730 person-years of direct employment during construction and 2,446 person-years during operation created (45% for women, including ethnic minorities)^b</p> <p>95 hectares of wetland protected</p> <p>4 ha of forest shelter belts established</p> <p>Wildlife rescue and disease control center established</p> <p>Public wetland education facilities established</p> <p>1,400 person-years of direct employment during construction and 315 person-years during operation created (45% for women, including ethnic minorities) (footnote b)</p> <p>Environmental and social safeguard programs implemented according to schedules listed in the EMP, resettlement plan, EMDP, and SGAP</p> <p>Staff training, with 30%^c female participation (including ethnic minorities), conducted on (i) project management; (ii) solid waste management, planning, and training; and (iii) and road safety and transport planning assessment and training</p>	<p>Audit reports</p>	<p>materials and resources. Relevant agencies lack coordination in implementation and monitoring.</p> <p>Resettlement implementation suffers unexpected delays.</p>

Activities with Milestones	Inputs
<p>1. Urban infrastructure and services improved</p> <p>1.1 Design and tender documentation by Q2/2015</p> <p>1.2 First stage of land acquisition and resettlement completed by Q4/2015</p> <p>1.3 Preparation for construction by Q4/2015</p> <p>1.4 Tendering, evaluation, and contract awards by Q4/2015</p> <p>1.5 Civil works construction and equipment installation by Q4/2017</p> <p>1.6 Acceptance inspection and commissioning by Q2/2018</p> <p>2. Akesu Duolang wetland rehabilitated and protected</p> <p>2.1 Design and tender documentation by Q4/2015</p> <p>2.2 Land acquisition and resettlement completed by Q4/2016</p> <p>2.3 Preparation for construction by Q2/2016</p> <p>2.4 Tendering, evaluation, and contract awards by Q2/2016</p> <p>2.5 Civil works construction and equipment installation by Q2/2019</p> <p>2.6 Acceptance inspection and commissioning by Q2/2019</p> <p>3. Project and urban environmental management and inclusive capacity enhanced</p> <p>3.1 Design and tender documentation by Q2/2015</p> <p>3.2 Tendering, evaluation, and contract awards by Q3/2015</p> <p>3.3 Project management activities (Q1/2015–Q2/2020)</p> <p>3.4 Capacity-building activities (Q2/2015–Q1/2020)</p> <p>3.5 Implementation and supervision of EMP, resettlement plan, EMDP, and SGAP (Q2/2015–Q1/2020)</p>	<p>ADB: \$150 million</p> <p>Government: \$100.99 million</p> <p>Staff from ADB, Akesu Municipal Government, and the Government of Xinjiang Uygur Autonomous Region</p>

ADB = Asian Development Bank, EMP = environmental monitoring plan, EMDP = ethnic minority development plan, km = kilometer, Q = quarter, SGAP = social and gender action plan.

^a The criteria for becoming a national civilization city involve (i) strong and effective organizational leadership, (ii) ideological education, (iii) broad public participation in community activities, (iv) progressive party and government social values, (v) steady progress in sciences and education, (vi) public safety, (vii) improved infrastructure and environmental quality, and (viii) sustained improvements in the local economy and living standards.

^b Outputs 1 and 2 combines will generate 12,730 person-years of direct employment during the construction phase and 2,761 person-years of direct employment during the operational phase.

^c While the staff training target is 30% female participation, the public training target is 50%.

Source: Asian Development Bank.

D. Monitoring

1. Project Performance Monitoring

1. The project performance management system (PPMS) indicators, their relevance, and monitoring practicalities will be discussed with XPMO, APMO, POAs; other relevant AMG agencies and project beneficiaries during project implementation. Disaggregated baseline data for output and outcome indicators gathered during project processing will be updated and reported through the periodic progress reports of the APMO and after each ADB review mission. These periodic reports will provide information necessary to update ADB's project performance reporting system.¹ At the start of project implementation, APMO, with support from the loan implementation consulting services, will develop integrated PPMS procedures to systematically generate data on the inputs and outputs of the components, as well as the indicators to be used to measure the project's impact and outcome taking into account the components' scope. APMO will be responsible for monitoring and reporting on project performance. The basis for performance monitoring will be the design and monitoring framework, which identifies performance targets for the impact, outcomes, and outputs of the project. By collecting data from sources identified in the DMF, APMO will be able to report on an annual basis the performance of the project. Specific reporting requirements will be set out in the agreement between ADB and the government. APMO will collect the data, calculate the indicators, analyze the results, and prepare a brief report describing the extent to which the project is generating the intended outputs and outcomes, as well as the overall impact on Akesu City. The relevance and practicability of data collection for indicators was confirmed with APMO. Meanwhile, the agreed socioeconomic and environmental indicators to be used will be further enhanced to measure project impacts. APMO agreed and confirmed that they will (i) refine and integrate the PPMS framework at the start of project implementation; (ii) confirm that targets are achievable; (iii) develop recording, monitoring, and reporting arrangements; and (iv) establish systems and procedures no later than 6 months after project inception.

2. Once the project is started, a procurement review for effective implementation (PREI) will be considered at the midterm review stage to revisit the procurement capacity assessment (Attachment 2 to this PAM).

2. Compliance Monitoring

3. AMG, with assistance of the project implementation consultants will conduct compliance monitoring, and submit reports and information to ADB concerning (i) the use of the loan proceeds, (ii) project implementation, (iii) implementing agencies' project performance, and (iv) compliance with loan and project covenants. These reports will include (i) semiannual progress reports on project implementation, and (ii) a project completion report, which should be

¹ ADB's project performance reporting system is available at <http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool>

submitted not later than three months after the completion of the project facilities. The compliance status of loan and project covenants will be reported and assessed through semiannual progress report. ADB review missions will verify the status.

3. Safeguards Monitoring

a. Environment

4. Environment safeguards monitoring will include (i) project readiness monitoring, to be conducted by the loan implementation environment consultant (LIEC); (ii) environmental impact monitoring, to be conducted by a licensed entity; and (iii) EMP compliance verification during project implementation and the first year of project operation, to be conducted by APMO and LIEC. Monitoring and reporting arrangements defined for this project are described below.

5. **Assessment of project readiness.** Before construction, the LIEC will assess the project's readiness in terms of environmental management based on a set of indicators and report it to the ADB and APMO. This assessment will demonstrate that environmental commitments are being carried out and environmental management systems are in place before construction starts, or suggest corrective actions to ensure that all requirements are met.

6. **Environmental impact monitoring.** During construction, regular environmental impact monitoring will be conducted by the Akesu Environmental Monitoring Station (AEMS), contracted by APMO. In addition, construction supervision consultants will be required to conduct frequent internal noise and air quality monitoring around construction sites and to report monitoring results in the framework of their quarterly progress reports to APMO. During operation, the APMO will contract the AEMS to conduct environmental impact monitoring during the first year of operation. Monitoring will also be periodically conducted by the local environmental authorities in the framework of their legal mandate to check compliance with applicable environmental regulations. They will be responsible for undertaking regular and random environmental monitoring and inspection activities before, during, and after construction as well as in the event of emergencies.

7. **Environmental management plan compliance verification and reporting.** The environmental management plan (EMP) compliance monitoring will be undertaken by the APMO, with support of LIEC. APMO will report to ADB the project's adherence to the EMP, information on project implementation, environmental performance of the contractors, and environmental compliance through the semiannual project progress reports and annual EMP progress and monitoring reports. Semiannual progress reports by APMO to ADB will include a summary of EMP implementation progress. The LIEC will support the APMO in developing the annual EMP progress and monitoring reports. The reports should confirm the project's compliance with the EMP, and environmental impact assessment (EIA) requirements in the People's Republic of China (PRC), and identify any environment related implementation issues and necessary corrective actions, and reflect these in a corrective action plan. The performance of the contractors will also be reported on with respect to environmental protection and impact mitigation. The operation and performance of the project grievance redress mechanism, environmental institutional strengthening and training, and compliance with all covenants under the project will also be included in the report.

8. **Environmental acceptance monitoring and reporting.** Within 3 months after each component completion, or no later than 1 year with permission of the Akesu EPB, environmental acceptance monitoring and audit reports of completion of each subcomponent shall be (i) prepared by a licensed environmental monitoring institute in accordance with the PRC Regulation on Project Completion Environmental Audit (Ministry of Environmental Protection, 2001), (ii) reviewed for approval of the official commencement of individual component operation by environmental authorities, and (iii) included in the EMR submitted to ADB. The environmental acceptance reports of the component completions will indicate the timing, extent, effectiveness of completed mitigation and of maintenance, and the needs for additional mitigation measures and monitoring during operations.

b. Resettlement

9. Internal and external monitoring of resettlement plan implementation will be conducted. Monitoring methodologies are specified in the resettlement plan. The project management consulting service will carry out internal supervision and monitoring and reporting to ensure compliance with the provisions of the resettlement plan. APMO and the loan implementation consulting services will agree to a set of supervision milestones with ADB, to ensure timely and effective implementation of resettlement activities. An independent agency under contract to APMO will implement the external monitoring and evaluation. The budget for external resettlement monitoring has been included in the loan implementation consulting services. Semiannual external monitoring reports will be forwarded directly to ADB.

c. Ethnic Minority Development Plan

10. Internal and external monitoring of the ethnic minority development plan (EMDP) will be conducted. Monitoring and reporting methodologies are specified in the EMDP. AMG will carry out internal supervision and monitoring to ensure compliance with the provisions of the EMDP. The PMO and implementing agencies have agreed to ensure timely and effective implementation of the EMDP. An independent agency under contract to each implementing agency will implement external monitoring and evaluation. Semiannual external monitoring and evaluation reports will be forwarded directly to both the PMO and ADB until the project completion. The PMO will prepare and submit an EMDP completion report to ADB.

4. Social and Gender Action Plan Monitoring

11. Monitoring of the social and gender action plan (SGAP) will be incorporated into the PPMS. Clear targets and indicators have been established and some indicators, such as those on employment, are also captured in the DMF. Assistance will be provided for the executing and implementing agencies by the resettlement and social development consultant who will help to set up effective monitoring systems and work with the focal points in the executing and implementing agencies to ensure implementation of the SGAP. The SGAP will be monitored semiannually and reported via the periodic project progress reports and during ADB review missions.

E. Evaluation and Reporting

12. ADB, XUARG, and AMG will undertake annual review missions to evaluate the progress of project implementation. ADB, XUARG, and AMG will undertake a comprehensive midterm review 2 years after the start of project implementation to have a detailed evaluation of the scope, implementation arrangements, safeguard, SGAP, achievement of scheduled targets, and

progress on the agenda for policy reform and capacity building measures. Feedback from the PPMS activities will be analyzed. Within three months of physical completion of the project, APMO will submit a project completion report to ADB.¹

13. APMO will provide ADB with (i) semiannual progress reports in a format consistent with ADB's project performance reporting system; (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 the next 12 months; and (iii) a project completion report within 6 months of physical completion of the project.

14. AMG has agreed on the following reporting commitments: (i) submission of semiannual progress reports during project implementation; (ii) submission of semiannual report and annual report on the progress of safeguards monitoring, i.e., resettlement plan, EMDP, SGAP implementation (semiannually), and EMP implementation (annually); (iii) submission of project completion report 6 months after completion of the project; and (iv) submission of audited project accounts and financial statements 6 months after the end of fiscal year. PPMS data will be incorporated in the semiannual progress reports.

15. The following table summarizes the key reporting requirements during project implementation.

Table 2: Key Reporting Requirements

Report	Reference	Timing of Reporting	Responsible Agency
Project performance management system			
- Develop comprehensive project performance management system procedures - Reporting of baseline and progress data including environmental management plan	Project Agreement, Schedule, paragraphs	- No later than 6 months after loan effectiveness - Semiannual, included in the periodic project progress reports	- APMO, with support from the loan implementation consulting services
Project progress reports			
	Project Agreement, Schedule, Article	- Semiannual, within one month after the end of each half year	- APMO, with support from the loan implementation consulting services
Audited project accounts and financial statements auditor's report (including auditor's opinion on the use of the imprest account and statement of expenditures)			
	Project Agreement, Schedule, Article	- Not later than six months after the closure of fiscal year (end of June)	- XPMO, APMO
Resettlement monitoring			
- Internal monitoring reports for the executing and implementing agencies - Land acquisition and resettlement phase—external monitoring report - Post-land acquisition and resettlement phase—external monitoring report	Project Agreement, Schedule, paragraphs	- Semiannual, included in the periodic project progress reports - Semiannual - Annual reports for two years after completion of resettlement activities	- APMO - External resettlement and social monitor - External resettlement and social monitor

¹ Project completion report format available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

Report	Reference	Timing of Reporting	Responsible Agency
- Resettlement completion report		- Within three months after project completion	- APMO, with support from the loan implementation consulting services
EMDP Monitoring Report			
EMDP internal monitoring report for the executing and implementing agencies	Project Agreement, Schedule, paragraphs	- Semiannual, included in the periodic project progress reports	- APMO
EMDP external monitoring report		- Semiannual	- External resettlement and social monitor
Other social monitoring			
- Reporting on social and gender action plan implementation	Project Agreement, Schedule,	- Semiannual, included in the periodic project progress reports	- APMO, with support from the project
-	Paragraphs	- Semiannual, included the periodic project progress reports	- implementation consulting services
Environmental report			
- Semiannual reporting on environment monitoring and EMP during the construction phase implementation progress report	Project Agreement, Schedule, paragraphs	- Semiannual, included in the periodic progress report	- APMO, with support from the loan implementation environment consultant
- Environment monitoring during the construction phase and operation phase		- Annually, with a separate report until project completion report is issued	
Project completion report			
	Project Agreement, Schedule, Article	- Not later than three months after the physical completion of the project	- APMO, with support from loan implementation consulting services

APMO = Akesu project management office, EMDP = ethnic minority development plan, EMP = environmental management plan, XPMO = Xinjiang project management office,

D. Stakeholder Communication Strategy

16. Project information will be communicated through public consultation, information disclosure mechanism in ADB's and government's website, meetings, interviews, focus group discussions, and community consultation meetings, in accordance with ADB's requirements of information disclosure policy.

17. **Environment.** Section VII of the project initial environmental examination (IEE) report has described the meaningful public participation and consultation implemented during project preparation. Plans for public involvement during construction and operation stages have been developed during project preparation. APMO is responsible for public participation during project implementation. These plans include public participation in (i) monitoring impacts and mitigation measures during the construction and operation stages; (ii) evaluating environmental and economic benefits and social impacts; and (iii) interviewing the public after the project is completed. These plans will include several types of public involvement, including site visits, workshops, investigation of specific issues, interviews, and public hearings. The cost for public consultation and participation during project implementation has been included in the loan implementation consulting services.

Table 3: Environment Consultation and Communication Plan

Organizer	Format	No. of Times	Subject	Attendees	Budget (\$)
Construction Stage					
APMO, LIEC	Public consultation & site visits	4 times: once before construction commences and once each year during construction	Adjusting of mitigation measures, if necessary; construction impact; comments and suggestions	Residents in DPA	1,200
APMO, LIEC	Expert workshop	As needed, based on public consultation	Comments and suggestions on mitigation measures, public opinion	Experts of various sectors, AEPB	800
Operational Stage					
APMO, LIEC	Public consultation and site visits	Once in the first year	Effectiveness of mitigation measures, impacts of operation, comments and suggestions	Residents in DPA	400
APMO, LIEC	Public workshop	As needed based on public consultation	Effects of mitigation measures, impacts of operation, comments and suggestions	Representatives of residents and social sectors, AEPB	400
APMO, LIEC	Public satisfaction survey	At least once	Comments and suggestions	Project beneficiaries	800
Total budget:					3,600

AEPB = Akesu Environmental Protection Bureau, APMO = Akesu project management office, DPA = direct project area, LIEC = loan implementation environment consultant.

18. Information disclosure relating to environment safeguards will continue throughout project implementation. The project's environmental information will be disclosed by the Xinjiang Environmental Protection Department and ADB as follows:

- (i) A summary of the domestic EIA report in Chinese was disclosed on the local governments' websites before the approval of EIA report by Xinjiang Environmental Protection Department.
- (ii) Copies of the domestic EIA (in Chinese) are available on request in both the Xinjiang Environmental Protection Department and APMO.
- (iii) The project IEE is disclosed on the project website at www.adb.org.
- (iv) All environmental monitoring reports during project implementation will be available at www.adb.org.

19. **Involuntary resettlement.** All of the affected households (street committees and villages, leaders and town and township, and district governments) were involved in the project impact and socioeconomic survey. Through meetings, interviews, focus group discussions, public consultation workshops, and community consultation meetings; local representatives have participated in the planning and concerns have been integrated into the resettlement plan. Before implementation, APMO will further discuss and consult with the affected persons' representatives the impacts on local communities and the detailed compensation plan to ensure affected persons' interests are protected and to provide employment opportunities for the affected persons' livelihoods as a result of project implementation. APMO will disclose the resettlement plan in the offices as well as the community offices and to affected people in the local language. The resettlement plan is also posted on the ADB website. Resettlement information booklets were distributed to affected households. This guideline contains information

such as the affected project area, proposed land acquisition and relocation implementation progress and procedure, compensation standards for land acquisition, relocation assistance, and livelihood restoration strategy. APMO will establish a resettlement unit for supervision of implementation, continued public consultation, monitoring of progress, and response to grievances. The grievance redress procedures will be established and explanations have been included in the resettlement information booklets.

20. **Ethnic minority, and social and gender action plan.** Consultations with communities have taken place and will continue at different points in the preparation and implementation of the EMDP and SGAP within the project, and will be designed not only to inform people about the component or specific activities related to its preparation and implementation, but also to enable people in the community to ask questions, make suggestions, state preferences, and express concerns. Special attention will be paid to the participation of women, ethnic minorities, and any other vulnerable groups, such as the poor. The PMO and implementing agencies will disclose the EMDP in the offices as well as the community offices and to ethnic minority beneficiaries in the local language. The EMDP is available on the ADB website. EMDP will be monitored and reported semiannually and verified by external resettlement and social monitoring consultant. Disclosure of social monitoring reports to affected people will be undertaken during project implementation.

21. SGAP indicators will be monitored and reported semiannually and verified by an external resettlement and social monitor. As part of the SGAP, the project will include extensive public awareness and outreach program on (i) “living streets” concept, which will be piloted in selected residential alleys in low-income, ethnic minority communities of Akesu, whereby suitable community streets (to be identified in a participatory process with affected communities) will be designed as a social and shared space where people can meet, and where children can play safely, aiming to reduce both the speed and dominance of motorized transport; (ii) human-centered traffic system that will take into account road safety, non-motorized transport, and integration of public transport system. A traffic safety awareness campaigns with schools, drivers association, and communities will be supported to enhance safety awareness; (iii) wetland rehabilitation to strengthen existing wetland functions through establishment of a wetland management and monitoring system, including an education and research center to inform the public on the wetland's ecosystem services and protection importance; and (iv) a citywide solid waste management and introducing the concept of the 3R principle. Public hearings will be held for any proposed adjustments in transportation, urban water supply, wastewater, solid waste, and central heating tariff attended with adequate representation of poor, women, and ethnic minorities.

22. **Public disclosure.** Public disclosure of all project documents will be undertaken through APMO and on the ADB website, including the project data sheet, design and monitoring framework, IEE, resettlement plan, EMDP, and the report and recommendation of the President. Disclosure of external resettlement and social and environmental monitoring reports will be undertaken during project implementation.

X. ANTICORRUPTION POLICY

1. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project.¹ 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 and/or 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.²

2. To support these efforts, relevant provisions are included in the projects and loan agreements, and the bidding documents for the project. ADB's Anticorruption Policy (1998, as amended to date) will be explained to and discussed with AMG and XUARG. Consistent with its commitment to good governance, accountability, and transparency, ADB reserves the right to investigate any alleged corrupt, fraudulent, collusive, or coercive practices relating to the project. To address the risks on governance and corruption related to procurement of civil works, relevant provisions of ADB's Anticorruption Policy will be included in the loan agreement and the bidding documents for the project. In particular, all contracts financed by ADB in connection with the project will include provisions specifying the right of ADB to audit and examine the records and accounts of AMG, XUARG, and all contractors, suppliers, consultants, and other service providers as they relate to the project. XUARG and AMG has indicated its commitment to promote good governance and establish a corruption-free environment under the project. Further to this, a number of good governance and anticorruption provisions have been included in the loan and project agreements.

3. XUARG and AMG will comply with ADB's Anticorruption Policy. XUARG and AMG agree (i) that ADB reserves the right to investigate any alleged corrupt, fraudulent, collusive, or coercive practices relating to the project; and (ii) to cooperate fully with, and to require contractors and suppliers to cooperate fully with, any such investigation and to extend all necessary assistance, including providing access to all relevant books and records, as may be necessary for the satisfactory completion of any such investigation.

4. XUARG and AMG will (i) conduct periodic inspections on the contractors' activities related to fund withdrawals and settlements; and (ii) ensure that all contracts financed by ADB in connection with the project include relevant provisions of ADB's Anticorruption Policy in all bidding documents for the project specifying the right of ADB to audit and examine the records and accounts of XPMO and APMO, and all the contractors, suppliers, consultants, and other service providers as they relate to the project.

5. XUARG and AMG will also (i) involve the agencies responsible for oversight of each implementing agency in bidding and construction to enhance construction quality control and supervise effective work; (ii) introduce a dual-signing system in which each works contract winner also signs an anticorruption agreement with the employer; (iii) periodically inspect the contractors' activities related to fund withdrawals and settlements; (iv) require the loan implementation consulting services to support APMO and four implementing agencies to ensure good governance, accountability, and transparency in project operations; and (v) in consultation with relevant ministries at the central level, update rules and regulations on corporate governance and anticorruption to enhance the transparency of the operations of AMG and APMO.

¹ Available at: <http://www.adb.org/sites/default/files/pub/1998/anticorruption.pdf>.

² ADB's Anticorruption and Integrity Office website is available at: <http://www.adb.org/integrity/unit.asp>.

XI. ACCOUNTABILITY MECHANISM

1. 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, they should approach the Accountability Mechanism.¹

¹ For further information see: <http://www.adb.org/Accountability-Mechanism/default.asp>.

XII. RECORD OF PAM CHANGES

1. The PAM is a living document and is subject to change after ADB Board approval of the project's report and recommendation of the President. It is concise yet informative, providing checklists of all activities related to project implementation along with the necessary procedures for the project management office's to effectively implement and monitor the project.

Record of PAM Changes

No.	Changes/Updates	Date	Remarks
1	PAM initial draft agreed	24 October 2014	Agreed during the loan fact-finding mission
2	Updated PAM agreed	15–16 April 2015	Agreed during the loan negotiations

PAM = project administration manual.

ENVIRONMENTAL MANAGEMENT PLAN

A. Objectives

1. This Environmental Management Plan (EMP) is developed for the Xinjiang Akesu Integrated Urban Development and Environmental Improvement Project (the Project) and defines all potential impacts of the Project components and the mitigation and protection measures with the objective of avoiding or reducing these impacts to acceptable levels. The EMP also defines the institutional arrangements and mechanisms, the roles and responsibilities of different institutions, procedures and budgets for implementation of the EMP. The EMP seeks to ensure continuously improving environmental protection activities during preconstruction, construction, and operation in order to prevent, reduce, or mitigate adverse impacts and risks. The EMP draws on the findings of the project IEE, the domestic EIS report, PPTA and ADB review mission discussions and agreements with the relevant government agencies.

2. Relevant parts of the EMP will be incorporated into the construction, operation, and management of each sub-component. Environmental monitoring will be carried out and the results will be used to evaluate the extent and severity of actual environmental impacts against the predicted impacts and the performance of the environmental protection measures or compliance with related rules and regulations.

B. EMP Implementation Responsibilities

1. Responsibilities of Local Authorities

3. The Project Administration Manual (PAM) provides the institutional organization for the Project illustrated in **Table A1.1** below. In this table, the responsibilities related primarily to the environmental management of the Project are listed. The project implementation schedule is presented in **Table A1.9** at the end of the EMP.

Table A1.1: Institutional Responsibilities for Environmental Management

Project implementation organizations	Environmental Management Roles and Responsibilities
Executing Agency (EA) – Xinjiang Uygur Autonomous Region Government (XUARG)	<i>Overall responsibility for project execution in accordance with the provisions of the loan and project agreements.</i>
Xinjiang Project Leading Group (XPLG) – Vice Governor of XUARG – Vice Secretary General of XUARG – Director of Xinjiang Housing & Urban-Rural Development Department – Deputy Directors of Xinjiang DRC, Finance Department, Environmental Protection Department, Land Resources Department and Tourism Department	<i>Established by XUARG to ensure its obligations are discharged in an effective manner.</i> <i>Strategic level sign-off of the project structure and implementation arrangements.</i> <i>Provision of policy guidance and strategic direction needed during the preparation and implementation phases, and the resolution of major issues that cannot be addressed at city level.</i>
Xinjiang Project Management Office (XPMO) – Xinjiang Finance Department, – Development and Reform Commission, – Housing and Urban-Rural Development Department	<i>The executive office of the XPLG with the Director of the XPMO also being the Deputy Chairman of the XPLG.</i> <i>Supervision and overall management and coordination to ensure smooth implementation of the Project. Communication channel between ADB and XUARG on all project matters.</i>

<p>Akesu Project Leading Group</p> <ul style="list-style-type: none"> – Vice Mayor (as Chair) – High level representation of DRC, Finance, HURB Environmental, and Land Resources Bureaus – Other key stakeholders 	<p><i>Oversee project implementation at the city level and resolving major issues that arise</i></p>
<p>Akesu Project Management Office (APMO)</p> <p>APMO includes permanent representation from the DRC, FB, HURB, Forest Bureau, Law Enforcement Bureau, with other specialist staff seconded on an “as needed” basis</p>	<p><i>Day to day guidance and support to the preparation and implementation of the subprojects:</i></p> <ul style="list-style-type: none"> – <i>Establish environment management units (EMG);</i> – <i>Recruitment of loan implementation environmental consultant (LIC) to assist in supervision, tracking and reporting on EMP implementation of all subprojects;</i> – <i>Recruitment and management of construction supervision companies (CSC) and environmental management companies (EMC) required for subproject implementation in accordance with People’s Republic of China (PRC) procedures and regulations;</i> – <i>Recruitment and management of external environmental monitoring and resettlement monitoring agencies;</i> – <i>Engage and supervise the technical engineering design institutes;</i> – <i>Establishment of environmental monitoring arrangements as needed to ensure compliance with the EMP and domestic EIS report (such arrangements to meet the specific requirements of the city environmental protection bureau).</i> – <i>With the assistance of Design Institutes, incorporation of EMP provisions into bidding documents for construction contracts; and briefing of contractors of specific EMP requirements in advance of works commencing.</i> – <i>Tracking of the EMP implementation and annual reporting to the XPMO and ADB;</i> – <i>Establishment of a Grievance Redress Mechanism (GRM);</i> – <i>Organization of local capacity building and training programs (with support from the LIC).</i>
<p>Environmental Management Group (EMG): Full-time staff and secondment from AEPB</p>	<p><i>Ensuring successful implementation of the relevant subproject</i></p> <p><i>Components:</i></p> <ul style="list-style-type: none"> – <i>updating the EMP after detailed design and ensuring its effective implementation;</i> – <i>arranging field visits to contractors prior to their site specific EMP preparation;</i> – <i>reviewing and approving site-EMPs developed by contractors, supervising their environmental activities and compliance with the site-EMP;</i> – <i>recruiting and supervising the environmental management companies (ESC) at the Akesu environmental monitoring station (EMS) responsible for inspecting, monitoring, and evaluating implementation of mitigation measures;</i> – <i>establishing the grievance redress mechanism and handling public complaints (one member of the EMG will be Grievance Redress Officer, GRO);</i> – <i>coordinating with other municipal agencies and ADB on all relevant environmental matters;</i> – <i>implementing training programs for contractors;</i> – <i>conducting regular site visits and undertake inspections of the compliance of the contractors with the environmental management provisions in the contracts;</i> – <i>Preparing annual environment monitoring reports to XPMO and ADB.</i>

<p>Project Operating Agencies:</p> <ul style="list-style-type: none"> – Municipal Infrastructure O&M Division, Housing and Urban-Rural Development Bureau (roads) – Landscaping Management Division, Housing and Urban-Rural Development Bureau (public and street parks) – Akesu Water Supply and Drainage Co., Akesu Water Group (water supply pipes and sewers) – Akesu Yangguang Heating Co., Akesu Water Group (central heating pipes and exchange stations) – Urban Sanitation Division, Law Enforcement Bureau (solid waste management) – Forest Bureau (Duolang River Wetland Park Management Station; Urban Landscaping Division) 	<p><i>Ensuring successful ongoing operation and maintenance of the relevant subproject facilities and the provision of related public utility services:</i></p> <ul style="list-style-type: none"> – <i>Implement wetland monitoring plan during project construction;</i> – <i>Commissioning of the constructed facilities;</i> – <i>Act as a local entry point for the Project GRM and deal with/refer complaints to the GRO;</i> – <i>O&M of completed facilities, including environmental management, monitoring and reporting responsibilities;</i> – <i>Participation in training and capacity building programs.</i>
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Source: Draft PAM.

4. **Executing Agency.** XUARG will assume the role of project executing agency (EA). XUARG was previously the designated EA for the ADB-financed Xinjiang Municipal Infrastructure & Environment Improvement Project, Xinjiang Urban Transport & Environment Improvement Project, and is also currently overseeing the implementation of the Xinjiang Altay Urban Infrastructure and Environment Improvement Project and Xinjiang Integrated Urban Development Project. A Xinjiang Project Leading Group (XPLG) and Xinjiang project management office (XPMO) were formally established by XUARG in 2006 and have now been assigned the role of overseeing the preparation and implementation of the Project. A Vice Governor of XUARG leads the XPLG. The XPLG members include high level officials from the Xinjiang Finance Bureau, Development and Reform Commission, Housing and Urban-Rural Development Bureau.

5. **XUAR PMO.** XPMO is an administrative office under the day to day leadership of the XUAR Housing and Urban-Rural Development Department (XHURD) that has successfully implemented several past ADB projects. XPMO therefore has the capacity and experience to provide guidance and support to APMO, and will play an important oversight role throughout the project implementation.

6. **Implementing Agency.** All project components are located within the jurisdiction of Akesu city and the Akesu Municipal Government (AMG) will undertake the role of implementing agency (IA). The AMG has set up the APLG and city-level Project Management Office (the APMO, see below). The APLG has the accountability to ADB and XUARG for compliance with environmental and social safeguards.

7. **Akesu Project Management Office (APMO).** APMO will undertake detailed project coordination and will engage and supervise the technical engineering design institutes. The APMO has 16 full-time and part-time staff drawing its membership from the DRC, Finance Bureau, Housing and Urban-Rural Development Bureau, Law Enforcement Bureau, Forest Bureau, Land Resources Bureau, Water Resources Bureau, Environmental Protection Bureau, Audit Bureau and Disciplinary Supervision Bureau. With respect to environmental management, the APMO will ensure the full compliance with the safeguards requirements. The APMO will

contract construction supervision companies (CSCs), environmental supervision companies (ESCs), the Akesu Environmental Monitoring Station (AEMS) and loan implementation consultant (LIC). The AEMS will conduct environmental impact monitoring during construction and operation and assess project compliance with the PRC's environmental standards and regulations. With support from the LIC, the APMO will prepare and submit annual environment monitoring reports to ADB and XPMO annually for review, approval and disclosure. APMO will also establish the city-level Grievance Redress Mechanisms (GRM) with a dedicated Grievance Redress Officer (GRO).

8. **Environmental Management Group (EMG).** The environmental management unit (EMG) within the APMO, with two staff members, will coordinate and supervise the implementation of the EMP. More specifically, the EMG will take charge of (i) coordinating the implementation of the EMP and developing implementation details, including reviewing and approving site-EMPs developed by contractors; (ii) supervising the implementation of mitigation measures during construction; (iii) coordinating construction supervision companies (CSCs) and environmental supervision companies (ESCs); (iv) incorporating environmental management, monitoring, and mitigation measures into the construction and operation management plans; (v) reporting on the EMP performance to the APMO; and (vi) responding to any adverse impact beyond those foreseen in the EIS report and the IEE. APMO will also be supported by the loan implementation consultant (LIC). In the design stage, the EMG / APMO will update the EMP, and pass it to design institutes to incorporate mitigation measures in the detailed designs. The EMP will then be passed on to construction contractors through the bidding process. To ensure that the contractors comply with the EMP's provisions, the APMO, with the help and technical support of the LIC, will prepare and provide the following specification clauses for incorporation into the bidding procedures: (i) a list of environmental management requirements to be budgeted by the bidders in their proposals; (ii) environmental clauses for contractual terms and conditions; and (iii) major items in domestic EIS report, the project IEE and the EMP.

9. **Construction Contractors, Construction Supervision Companies and Environmental Supervision Companies.** Construction contractors, CSCs and ESCs contracted by the APMO will be responsible for the daily inspection, monitoring, and evaluation of mitigation measures' implementation. Construction contractors will be responsible for implementing the mitigation measures during construction under supervision of the EMG / APMO. In their bids, contractors will be required to respond to the environmental management requirements defined in the EMP. Each contractor will be required to develop site-specific EMPs and will assign a person responsible for environment, health and safety (Onsite environment engineer, OEE). After project completion, environmental management responsibilities will be handed over to OEs. During the operational phase, the APMO will supervise the environmental management and implementation of mitigation measures by the subproject OEs. The cost of mitigation measures in this phase will be borne by the relevant OEs, which have been identified for each project component.

10. **Loan Implementation Consultant (LIC).** The Loan Implementation Consultants (LIC) will be contracted by the APMO to provide assistance during the pre-construction, construction and initial operational periods. The LIC should be recruited through advance contracting so that the LIC can assist in the important pre-construction activities listed in the EMP. The LIC will advise the APMO / EMG and contractors on all aspects of environmental management and monitoring for the Project. The LIC will (i) assist the APMO to design the PPMS in terms of environmental management, and assess project readiness based on the indicators defined in **Table A1.3**; (ii) assist APMO to establish the GRM, including training to GRM access points, and update the EMP and environmental monitoring program; (iii) advise the EMG in reviewing

the site-specific EMPs prepared by contractors; (iv) review internal and external environmental monitoring reports; (v) prepare the annual environmental monitoring report to ADB and XPMO on behalf of APMO; (vi) provide training to APMO, EMG, contractors and OEs on environmental management implementation and monitoring and assist in the preparation of training materials; (viii) identify any environment- related implementation issues and necessary corrective actions and reflect these in a corrective action plan; and (x) undertake site visits as required. In addition, prior to mid-term review mission, the LIC will provide support to APMO in organizing public meetings in the project city/towns to present and discuss EMP implementation progress, solicit community opinions and concerns, and agree on required corrective actions. Prior to project completion report, the LIC will organize surveys in the project city/town to assess community satisfaction with project implementation, project outputs, and EMP implementation performance, and document the results in the project completion report (PCR).

C. Summary of Potential Impacts and Mitigation Measures

11. **Table A1.2** summarizes the potential impacts and environment safeguard issues of the subcomponents during pre-construction, construction and operation as identified by the environmental impact assessments and set out in this IEE, as well as corresponding mitigation measures designated to minimize those impacts and address these issues. These have been integrated into a consolidated EMP and environmental monitoring plan in this chapter covering all subproject sectors and settings.

12. The following mitigation measures will be incorporated into tender documents, construction contracts, and site-specific EMPs (to be prepared by contractors). The effectiveness of these measures will be carefully watched via environmental monitoring and supervision to determine whether to continue them or to make improvements.

Table A1.2: Summary of Potential Impacts and Mitigation Measures

Item/Media	Environmental Issues / Impacts	Mitigation Measures and / or Safeguards	Implementation	Supervision	Estimate of Incremental Cost (In 10,000 CNY)
1. Pre-Construction Stage					
1.1 Detailed Design	Sediment test (wetland rehabilitation component)	<ul style="list-style-type: none"> Engage a qualified laboratory to collect sediment samples and conduct analysis at proposed sediment dredging sites of the Akesu-Duolang wetlands. 	Qualified analytical laboratory	PPTA Consultants; ADB Missions	20
	Wetland design	<ul style="list-style-type: none"> Prepare preliminary design and construction drawings for the Akesu-Duolang wetlands that (i) are substantiated with data series of water quality and sediment transport; (ii) take into account expected high suspended solids inflow; and (iii) enhance the wetland's existing regulating, supporting and cultural ecosystem services. The preliminary design and construction drawings shall be submitted to the LIC and ADB for review and appraisal prior to Works contract award. 	Local Design Institute (LDI), Akesu Forestry Bureau	EA, APMO, ADB, LIC	Included in the detail design stage
	Deconstruction of 28 small boilers (district heating subcomponent)	<ul style="list-style-type: none"> Hire licensed institute to conduct asbestos risk assessment for all 28 small boilers affected by the project before completion of the district heating component. In case of identified presence of asbestos, develop an asbestos management plan for all affected boiler houses in adherence with international guidelines for the demolishing and disposal of asbestos and ACM (World Bank EHS Good Practice Note on Asbestos: Occupational and Community Health Issues; WHO Policy and Guidelines; and ISO/FDIS 16000-7: Indoor air—Part 7: Sampling strategy for determination of airborne asbestos fiber concentrations.); Conduct deconstruction of decontaminated boiler houses in compliance with standards for occupational health and safety and disposal of demolition wastes, including the Law on the Prevention and Control of Environmental Pollution by Solid Waste of PRC (2004); Occupational Disease Control Act (2002); and Work Safety Act (2002). 	Licensed institute, Akesu Yangguang Heating Company Ltd.	EMG, AEPB, LIC, ADB	Included in operational budget of Akesu Yangguang Heating Company Ltd.
	Demolition of 5.655m ² residential structures (or as defined in updated RP)	<ul style="list-style-type: none"> Appoint licensed company to demolish existing structures as defined in the approved and updated RP; Conduct deconstruction and demolition of structures in compliance with standards for occupational health and safety and disposal of demolition wastes, including the Law on the Prevention and Control of Environmental Pollution by Solid Waste of PRC (2004); Occupational Disease Control Act (2002); and Work Safety Act (2002). 	Licensed demolition company	EMG, AEPB, LIC, ADB	Demolition company
1.2 Construction Preparation Stage	Establishment of implementation support	<ul style="list-style-type: none"> Contracting a Loan Implementation Consultant (LIC) 	APMO	XPMO, ADB	Included in overall project costs

Item/Media	Environmental Issues / Impacts	Mitigation Measures and / or Safeguards	Implementation	Supervision	Estimate of Incremental Cost (In 10,000 CNY)
	positions				
		<ul style="list-style-type: none"> Contracting the Akesu Environmental Monitoring Station for external environmental monitoring 	APMO	XPMO, ADB	120
		<ul style="list-style-type: none"> Contracting CSCs and ESCs 	APMO	XPMO	Included in construction costs
		<ul style="list-style-type: none"> Establishment of EMG within APMO with appropriately skilled staff; Assign Grievance Redress Officer (GRO) for GRM coordination 	APMO	XPMO, LIC	Included in the detail design stage
	Updating EMP	<ul style="list-style-type: none"> Update mitigation measures defined in this EMP based on the detailed design, including disclosure on ADB website; In case of major change of project location (or additional physical component) that may cause substantial environmental impacts or involve additional affected people, APMO should engage an EIS institute to conduct additional environmental assessment and also public consultation. The additional environmental assessment shall also meet the SPS requirements. The revised EIS report(s) should be submitted to relevant EPB and ADB for approval and disclosure. To determine whether the change is minor or major, APMO should consult with ADB. 	LDI, APMO, LIC	XPMO, AEPB, ADB	Included in the detail design stage
	Contract documents	<ul style="list-style-type: none"> Prepare environment section in the bidding documents reflecting EMP clauses; Prepare environmental contract clauses for contractors, namely the special conditions (e.g., reference to EMP and monitoring table) 	Tendering agency, LDIs, APMO, EMG	XPMO, LIC, AEPB	Included in the detail design stage
	Provide comprehensive and responsive complaints process	<ul style="list-style-type: none"> Development and implementation of Grievance Redress Mechanism (GRM); Assign Grievance Redress Officer (GRO) within APMO Assign GRM entry points and brief them on their role 	APMO, EMG, AEPB, OEs	XPMO, LIC, ADB	Included in the detail design stage
	Construction site planning	<ul style="list-style-type: none"> Preparation of site-specific EMPs, including an emergency preparedness and response plan for construction emergencies, and environment, health and safety plan; Nomination of an Environment, Health and Safety Officer (EHSO) in contractors' team; 	Head contractor for each subproject	EMG, AEPB, LIC	Included in construction contracts
	Traffic management planning	<p>Prepare Traffic Management Plans for the roads, and water supply, sewerage and central heating pipes subprojects (in consultation with local traffic bureau and community representatives). The Plans should cover:</p> <ul style="list-style-type: none"> Schedule linear constructions (roads and pipes) section by 	Contractors	APMO, Akesu Traffic Bureau, Community representatives.	Included in construction contracts

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		<p>section.</p> <ul style="list-style-type: none"> – Selecting haulage routes to reduce disturbance to regular traffic (where possible). – Diverting or limiting construction traffic at peak traffic hours. – Siting and management of interim tracks to avoid traffic problems. – Blocking and reinstating interim tracks to original condition on completion of construction. – Maintain adequate traffic control measures throughout the duration of the Contract and such measures shall be subject to prior approval of IA. – Carefully and clearly mark pedestrian- safe access routes. – If school children are in the vicinity, include traffic safety personnel to direct traffic during school hours. – Maintain a supply for traffic signs (including paint, easel, sign material, etc.), road marking, and guard rails to maintain pedestrian safety during construction. 			
	<p>Borrow and spoil disposal sites identified and approved by AEPB</p>	<ul style="list-style-type: none"> – Borrows and spoils for all subprojects are balanced. In case design changes require borrows or spoils, the spoil sites and borrow pit locations should be defined in the construction tender documents, subject to approval by the AEPB. – If new borrow or spoil disposal sites are required, selection should use the following criteria: – Siting to minimize transportation and the need for temporary storage. – Siting to avoid potential flood areas or floodways. – Sites to be small, and have no encroachment on cultivated land or forestland. – Design of spoil disposal sites to only use borrow pits designated by local authorities. – Avoid sites with known contamination and/or erosion problems. – Install adequate fencing. – Avoid damage to adjacent lands while providing for haulage roads. – Store, protect and re-use top soils for re- instating the pit. Shape and compact slope before applying former topsoil layers. – Develop a Management Plan for borrow pit operations, including all planned operations, quantities, hauling arrangements and security precautions. 	<p>LDIs, Contractors</p>	<p>AEPB</p>	<p>Included in the detail design stage</p>

Item/Media	Environmental Issues / Impacts	Mitigation Measures and / or Safeguards	Implementation	Supervision	Estimate of Incremental Cost (In 10,000 CNY)
		<ul style="list-style-type: none"> - This Management Plan, to be prepared by the Contractor and approved by the AEPB and Water Resources Bureau (WRB), shall also describe the intended reshaping and re-installation of the pit. 			
	Environmental Training	<ul style="list-style-type: none"> - Environmental specialists and / or officials of AEPB to be invited to provide training on implementation and supervision of environmental mitigation measures to contractors. 	EMG, AEPB, LIC	APMO	Regular government budget, LIC budget
2. Construction Stage					
2.1 Water Resources	<p>Illicit groundwater extraction</p> <p>Construction wastewater from washing aggregates, pouring and curing concrete, machinery repairs; handling of hazardous and harmful materials, accidental spills</p>	<ul style="list-style-type: none"> - No groundwater shall be extracted without extraction permits/approvals. <p>To avoid pollution of surface and groundwater resources in the project areas, including accidental spills, the contractors shall ensure that:</p> <ul style="list-style-type: none"> - Sedimentation tanks are built, and after settling out of solids the upper clear liquid is recycled for spraying the construction site (dust control), and the waste residue in the tank is cleared and transported to designated landfills. - Oil traps are provided for service areas and parking areas, and oil-water separators are installed before the sedimentation tank for oil-containing wastewater. - All construction machinery is repaired and washed at special repairing shops. No onsite machine repair and washing shall be allowed. - Storage facilities for fuels, oil, and other hazardous materials are within secured areas on impermeable surfaces, and provided with bunds and cleanup kits. - Vehicles and equipment is properly staged in designated areas to prevent contamination of soil and surface water. - The contractors' fuel suppliers are properly licensed, follow proper protocol for transferring fuel, and are in compliance with Transportation, Loading and Unloading of Dangerous or Harmful Goods (JT 3145-88). - Fuel storage and refilling areas are located at least 300 m from drainage structures and important water bodies; - Material stockpiles are protected against wind and runoff waters which might transport them to surface waters. - A construction materials handling and disposal protocol including spill responses is defined in the site-specific EMP. - Any spills are cleaned up according to PRC norms and codes within 24 hours of the occurrence, with contaminated soils and 	Contractor	EMG, AEPB, LIC	-
			Contractors	EMG, ESCs, AEPB, LIC	60

Item/Media	Environmental Issues / Impacts	Mitigation Measures and / or Safeguards	Implementation	Supervision	Estimate of Incremental Cost (In 10,000 CNY)
		water treated according to PRC norms and codes. Records must be handed over without delay to the APMO and AEPB.			
2.2 Air Quality	Generation of dust by construction activities; air emission from vehicles and equipment; generation of asphalt flue gas	<p>The Contractor shall include all necessary measures to reduce air pollution and dust development that would impact the public health, by:</p> <ul style="list-style-type: none"> – Regular water spraying at hauling and access roads to borrow pits. The water spraying times shall be determined based on weather conditions. The basic principle is once during 0900-1030, once during 1300-1430 and once during 1900-2030; – Equipping asphalt, hot mix and batching plants with fabric filters and/or wet scrubbers to reduce the level of dust emissions. Ensure compliance with the asphalt flue gas standard of GB16297-1996. Additionally, asphalt mixing stations will be sited at least 500 meters away from residential areas; – Mounting protective canvasses on all trucks which transport material that could generate dust; – Assigning haulage routes and schedules to avoid transport occurring in the central areas, traffic intensive areas or residential areas. For the areas with high-demand on environmental quality, transport should be arranged at night. – Construction vehicles and machinery shall be kept in good working order, regularly serviced and engines turned off when not in use; – Vehicle emissions must be in compliance with PRC-GB18352-2005, GB17691- 2005, GB 11340-2005, GB3847; – High-horsepower equipment will be installed with tail gas purifier to ensure emissions be in compliance with PRC GB16297-1996; – Vehicles with an open load-carrying case, which transport potentially dust-producing materials, shall have proper fitting sides and tail boards. Dust-prone materials shall not be loaded to a level higher than the side and tail boards, and shall always be covered with a strong tarpaulin; – In periods of high wind, dust-generating operations shall not be permitted within 200 m of residential areas. Special precautions need to be applied in the vicinity of sensitive areas such as schools, kindergartens and hospitals; – Material stockpiles and concrete mixing equipment will be equipped with dust shrouds. For the earthwork management for backfill, measures should include surface press and periodical spraying and covering. The extra earth or dreg should be cleared from the project site in time to avoid the long term pile. 	Contractors	EMG, AEPB, LIC	30

Item/Media	Environmental Issues / Impacts	Mitigation Measures and / or Safeguards	Implementation	Supervision	Estimate of Incremental Cost (In 10,000 CNY)
		<p>The height of stockpiles should be less than 0.7 m;</p> <ul style="list-style-type: none"> – Unauthorized burning of construction waste material shall be subject to penalties for the Contractor, and withholding of payment. 			
2.3 Noise	Noise from Vehicles and construction machinery	<ul style="list-style-type: none"> – During daytime construction, the contractor will ensure that: (a) noise levels from equipment and machinery conform to the PRC standard of GB 12523-2011, and properly maintain machinery to minimize noise; (b) equipment with high noise and high vibration are not used in village or township areas and only low noise machinery or the equipment with sound insulation is employed; (c) sites for concrete-mixing plants and similar activities will be located at least 500-m away from sensitive areas; and (d) temporary anti-noise barriers will be installed to shield residences; – Restriction of the operation of machinery generating high levels of noise, such as piling, and movement of heavy vehicles between 22:00 to 08:00 and 13:30 to 16:00 during summer and 20:00 to 8:00 and 14:00 to 15:30 during spring and autumn in accordance with PRC regulations; – Construction at night within 280 m of sensitive receivers shall be strictly prohibited; – In unexpected cases where construction noise needs to continue into the night, the construction unit must reach an agreement with APs and provide compensation; – Provide the construction workers with suitable hearing protection (ear muffs); – Noise enclosures will be used when construction takes place in the vicinity of sensitive spots and during sensitive hours; – Noise at sensitive areas will be monitored at regular intervals (refer to the monitoring plan). If noise standards are exceeded by more than 3dB, equipment and construction conditions shall be checked, and mitigation measures shall be implemented to rectify the situation. 	Contractors	EMG, AEPB, LIC	Included in regular construction costs
2.4 Solid wastes	Construction waste	<ul style="list-style-type: none"> – Construction wastes that cannot be reused will be regularly transported off-site for disposal, and not allowed to accumulate on site over long periods. 	Contractors	EMG, AEPB, ESCs, LIC	Included in regular construction costs
	Hazardous waste	<p>In the framework of site-specific EMP development, the Contractors will ensure the following:</p> <ul style="list-style-type: none"> – Development of a management plan for transport, handling and storing hazardous material; and – Preparation of a contingency plan in the event of an accident involving hazardous material. Such emergency plan needs to 	Contractors	EMG, AEPB, ESCs, LIC	Included in regular construction costs

Item/Media	Environmental Issues / Impacts	Mitigation Measures and / or Safeguards	Implementation	Supervision	Estimate of Incremental Cost (In 10,000 CNY)
		be consulted and coordinated with the local health facilities.			
2.5 Soil erosion and stability	Erosion from construction sites	<p>The following safeguards will be implemented for all construction-related earthworks:</p> <ul style="list-style-type: none"> – Construct interception ditches and drains to prevent runoff entering construction sites, and divert runoff from sites to existing drainage. – Limit construction and material handling during periods of rains and high winds. – Stabilize all cut slopes, embankments, and other erosion-prone working areas while works are going on. – Preserve existing vegetation where no construction activity is planned. – Stockpiles shall be short-termed, placed in sheltered and guarded areas near the actual construction sites or within the fenced camp sites, covered with clean tarpaulins, and spray water shall be applied during dry and windy weather conditions. – All earthwork disturbance areas shall be stabilized within 30 days after earthworks have ceased at the sites. 	Contractors	EMG, AEPB, ESCs, LIC	Included in regular construction costs
	Excess spoil from earthworks (if necessary)	<ul style="list-style-type: none"> – Use only approved spoil disposal sites – (see Item 1.3 above); – Construct intercepting ditches and drains to prevent outside runoff entering disposal sites, and divert runoff from sites. – Rehabilitate terrain contours and re-vegetate spoil disposal sites at completion of use. 	Contractors	EMG, AEPB, ESCs, LIC	Included in regular construction costs
2.6 Wetland ecosystem	Water quality	<ul style="list-style-type: none"> – Dredging and other construction activities will be scheduled to winter to reduce water quality impacts – Weirs and settlement ponds will be used to prevent muddy water and any wastewater from flowing to downstream waters – When constructing embankments, sand bags will be used to prevent soils into the water body – Silt fences will be used to contain sediments from flowing away to wider areas – Construction garbage will be collected and disposed in local landfill – Maintenance of machinery and equipment will be sited away from the wetland areas and sand filters and separators will be used to collect oils for safe disposal 	Contractors	EMG, AEPB, ESCs, LIC	Included in regular construction costs
	Aquatic plants	<ul style="list-style-type: none"> – Valued aquatic plants will be carefully relocated and replanted immediately after construction 	Contractors	EMG, AEPB, ESCs, LIC	Included in regular construction costs

Item/Media	Environmental Issues / Impacts	Mitigation Measures and / or Safeguards	Implementation	Supervision	Estimate of Incremental Cost (In 10,000 CNY)
		<ul style="list-style-type: none"> – Regular plants will be relocated to designated locations in the reconstructed wetlands 			
	Birds	<ul style="list-style-type: none"> – Earthworks and construction activities should be reduced or minimized during peak bird migration periods (Spring migration: April-May; and Autumn migration: Sept-Oct), to reduce disturbance to waterbird flocks utilizing the site; – Earthworks and construction activities should be sensitive to breeding bird requirements. Complete destruction or removal of large areas of nesting habitats (reed and cat-tail vegetation, vegetated islands, etc.) should be avoided during the nesting (breeding) period for birds (June-July). – Earthworks and construction activities should be done in a phased approach, whereby at any one time, at least 30% of the site (area) remains either as intact wetland, or as newly rehabilitated wetland (to allow sensitive species to move into undisturbed zones during construction works in other parts of the site); – Prohibit construction activities at night; Locate construction camp at least 500-m away from the wetlands; – Use of low-air-emission and low-noise construction machinery; – Awareness building and training of construction workers. 	Contractors	EMG, AEPB, ESCs, LIC	Included in regular construction costs
		<ul style="list-style-type: none"> – Establish a wetland monitoring and management system, develop a manual and instructions to carry out the wetland monitoring for data collection and analysis; – Develop training and education programs for local residents, schools, government agencies for wetland protection and conservation 	Akesu Forestry Bureau, EMG, LIC	APMO, ADB	Included in LIC budget
	Sediment dredging	<ul style="list-style-type: none"> – Conduct dredging works after draining and solidifying sediments to avoid sediment leachate and minimize odors. – Where wet dredge spoil is produced, undertake on-site dewatering with the sludge covered with a layer of soil to reduce odors. Confirm quality of sludge against GB4284-84 and GB15618-95 to ensure safe disposal; – Depending upon testing results, dewatered dredge sludge shall be taken to approved spoil disposal sites/uses or to sanitary landfill. – Transport dried sediment in closed trucks to prevent scattering along the way. 	Contractors	EMG, AEPB, ESCs, LIC	Included in regular construction costs

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2.7 Social and Cultural	Resettlement of affected persons	<ul style="list-style-type: none"> – All affected persons will be resettled in a timely and adequate manner, in accordance with the Resettlement Plan. 	APMO, Akesu Resettlement Office	XPMO, Loan implementation resettlement specialist	Included in the RP
	Compensation of lost assets	<ul style="list-style-type: none"> – All affected persons will be compensated in a timely and adequate manner, in accordance with the Resettlement Plan. 	APMO, Akesu Resettlement Office	XPMO, Loan implementation resettlement specialist	Included in the RP
	Construction Camps (wetlands, nursery)	<p>Mandatory mitigation actions to be included in the site-specific EMP include:</p> <ul style="list-style-type: none"> – All contracted labor shall undergo a medical examination which should form the basis of an (obligatory) health/accident insurance and welfare provisions to be included in the work contracts. The contractors shall maintain records of health and welfare conditions for each person contractually engaged; – Each contractor shall seek his own electric supply system, preferably separated from the public grid; – Each contractor shall provide adequate and functional systems for sanitary conditions, toilet facilities, waste management, labor dormitories and cooking facilities. Work camp wastewater shall be discharged into municipal sewer system where possible. Work camps should also adhere to basic principles of aesthetics and landscaping. They equally shall include sport and recreational facilities for managers, foremen and laborers; – The camp sites and particularly the fuelling area shall be equipped with special wastewater collectors combined with separator basins. The camp sites need to have their own sealed containers for sludge disposal from septic tanks; – The camp sites should be secured against unauthorized access. Special precaution measures are required for securing and storing hazardous materials; – Each contractor shall construct, maintain and completely remove after work completion his own sewage management system. He will also be fully responsible for safe transport, storage and security to dispose all hazardous materials used in work processes; – To encounter possible social conflicts, each contractor shall seek good relationship with the local communities and engage in local social welfare and education programs. He shall offer, to the maximum possible, employment opportunities to local residents, particularly for unskilled labor; – Each contractor shall reinstate the land provided for 	Contractors, EMG	APMO, Health Bureau, LIC, ESCs	<p>10 (For workers' health materials)</p> <p>Other costs are included in the construction contract as "EHS costs"</p>

Item/Media	Environmental Issues / Impacts	Mitigation Measures and / or Safeguards	Implementation	Supervision	Estimate of Incremental Cost (In 10,000 CNY)
		<p>diversions to a condition similar to that prior to the commencement of construction.</p> <ul style="list-style-type: none"> – Construction site operations must comply with PRC's State Administration of Worker Safety Laws and Regulations. – An education program for HIV/AIDS and STDs will be implemented concurrently with the project implementation. 			
	Traffic management – all projects	<ul style="list-style-type: none"> – Schedule linear constructions (road and water management) section by section. – Selecting haulage routes to reduce disturbance to regular traffic (where possible). – Traffic delays with traffic lights or flagmen shall be kept at reasonable periods (max. 10 min). – Diversions shall be well-illuminated, furnished with drainage structures, and fenced with marked barriers. – Where applicable, for example at sites where school children approach the work sites, flagmen need to be present during critical hours. – Any hindrance and obstacles for maintaining free access of the public general to local utilities, social gatherings and to public transport facilities should be avoided. 	Contractors	EMG, Traffic Management Bureaus, LIC	Included in the construction contract as "EHS costs"
	Interruption of public utilities and services	<ul style="list-style-type: none"> – Locate and confirm the details of all public services (water pipes, gas pipes, heating pipes, electric cables, phone lines) that may potentially be affected by the works; – All utilities subject to removal need to be fully replaced before disconnecting the existing service. – An "advance notice" of service interruption shall be published before the construction through radio and TV. – Construction billboards, which include construction contents, schedule, responsible person and complaint phone number, shall be erected at each construction site. – Any damage or hindrance/disadvantage to local businesses caused by the premature removal or insufficient replacement of public utilities is subject to full compensation, all at the full liability of the contractor who caused the problem. – The contractor shall also maintain unhindered access and use of social, cultural and religious sites (e.g. mosques, cemeteries, cultural gathering places, sports facilities). – Should damage to private properties occur, the contractor will be held fully liable to compensate and rectify the inflicted damage. 	Contractors, Akesu Daily, Akesu TV Station	EMG, AHURDB, LIC	<p>10 (For notifying affected residents)</p> <p>Other costs are included in the construction contract</p>
	Community health and safety	<ul style="list-style-type: none"> – Advance notice of construction will be published before the 	Contractors, APMO, Akesu Daily, Akesu TV	CSCs, ESCs, LIC	10 (For public education materials)

Item/Media	Environmental Issues / Impacts	Mitigation Measures and / or Safeguards	Implementation	Supervision	Estimate of Incremental Cost (In 10,000 CNY)
		<ul style="list-style-type: none"> – construction through radio and TV. – Construction billboards, which include construction contents, schedule, responsible person and complaint phone number, will be erected at each construction site. – Contractors will erect barriers to prevent public access to construction sites. – Traffic control staff at construction sites 	Station		
	Construction site safety	<ul style="list-style-type: none"> – At all times during construction, the contractor will provide safe and convenient passages for vehicles, pedestrians, and livestock to and from side roads; – The Contractor’s responsibilities include the protection of every person and nearby property from construction accidents. The Contractor shall be responsible for complying with all national and local safety requirements and any other measures necessary to avoid accidents, including the following: <ul style="list-style-type: none"> – Provide personal protective equipment and clothing (goggles, gloves, respirators, dust masks, hard hats, steel-toed boots) for construction workers and enforce their use; – During heavy rains or emergencies of any kind, suspend all work; – Brace electrical and mechanical equipment to withstand seismic events during the construction. – Present details regarding maximum permissible vehicular speed on each section of road; – Establish safe sight distance in both construction areas and construction camp sites; – Place signs around the construction areas to facilitate traffic movement, provide directions to various components of the works, and provide safety advice and warnings. 	Contractors	EMG, CSCs, ESCs, LIC, Akesu Labor Bureau	Included in the construction contract as “EHS costs”
	Cultural, physical and natural heritage protection	<ul style="list-style-type: none"> – In case an important site is unearthed, work should be stopped immediately and the matter promptly referred to the local Cultural Relics Preservation Bureau for evaluation and decision on appropriate actions. 	Contractors	IA, Local Cultural Relics Office	Included in construction costs and contingency
2.8 Unexpected environmental impacts		<ul style="list-style-type: none"> – If unexpected environmental impacts occur during project construction phase, the Contractors will update their site-specific EMP, EMG will update the Project EMP, and environmental protection measures will be designed and resources will be utilized to cope with these impacts. 	Contractors, EMG	APMO, LIC, AEPB	Included in construction costs and contingency
3. Operation Stage (Project Roads)					
3.1 Noise	Noise from increasing	– Improve traffic and parking management to avoid noise	OE, Akesu Traffic	AEPB	Included in operational

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	traffic volumes on Project roads	<p>produced by stop-and-start driving and traffic jams;</p> <ul style="list-style-type: none"> – Enforce driving speed limitations; – Control large and heavily loaded vehicles during night time; – Signs to reduce use of horn; – Road maintenance and timely repair of damaged road pavements; – Proper maintenance of trees planted along the proposed roadsides after construction; – For those roads where violations still persist with the implementation of the above mitigation measures, the AMG will undertake additional measures to bring the noise levels in the residences to meet the applicable standards. Possible measures will include installation of sound-proof windows for the violating buildings. 	Bureau		costs (costs for sound-proof windows are estimated at US\$ 406,000)
3.2 Air quality	Exhaust emissions from predicted traffic volumes on roads	<ul style="list-style-type: none"> – Speed limiting signs and enforcement; – Conduct periodic examination of emission of vehicle exhaust pollutants for each vehicle, including public buses, in accordance with PRC regulation (such as GB18352.3-2005); – Refuse registration to vehicles with excessive emissions; 	OE, Akesu Traffic Bureau, AEMC	AEPB	Included in operational costs
3.3 Dangerous goods	Hazardous goods haulage	<ul style="list-style-type: none"> – Ensure that all trucks carrying hazardous materials are marked according to PRC norms; – Enforce traffic controls, and set speed limits for trucks carrying hazardous material; – Prepare a rapid spill response and clean up protocol so that in the event of a spill the appropriate people and equipment are quickly notified and action can be taken. 	OE, Akesu Traffic Bureau	AMG, AEPB	20
3.4 Community safety	Traffic management and public safety education	<ul style="list-style-type: none"> – The capacity building program contains a human-centered urban transport and public safety education program. The recommendations from the capacity building program will be implemented. 	OE, Akesu Traffic Bureau	AMG	50 (Capacity building program, included in LIC services) Cost in the operational phase will be included in the regular O&M budget of the OE
3.5 Living Streets	Replication of Living Streets pilot program	<ul style="list-style-type: none"> – If the Living Streets pilot program is successful, the OE will replicate to other suitable urban districts. 	OE, AHURDB	AMG, LIC	50 (Capacity building program, included in LIC services)

Item/Media	Environmental Issues / Impacts	Mitigation Measures and / or Safeguards	Implementation	Supervision	Estimate of Incremental Cost (In 10,000 CNY)
					Cost in the operational phase will be included in the regular O&M budget of the OE
4. Operation Stage (Water Supply and Sewerage Pipelines)					
4.1 Water supply and sewerage pipelines	Potential damages to pipelines	<ul style="list-style-type: none"> – No tree planting within 5 m on both side of the pipelines' central lines, to prevent root penetration and damage; – Grass and small shrubs will be encouraged to grow over the backfill to assist in soil stabilization; – Undertake periodical checks and maintenance of the pipeline during the operation period. 	OE	AMG	Included in regular O&M budget of the OE
	Pipe maintenance, performance of associated facilities	<ul style="list-style-type: none"> – Regularly inspect and maintain water supply pipes sewers; – Review performance of linked WTPs and WWTPs (treatment performance, compliance with water quality and effluent standards), mitigate performance problems using process control measures. 	OE	AMG	Included in regular O&M budget of the OE
5. Operation Stage (Central Heating Pipes and Heat Exchange Stations)					
5.1 Central heating pipelines	Potential damages to pipelines	<ul style="list-style-type: none"> – No tree planting within 5 m on both side of the pipelines' central lines, to prevent root penetration and damage; – Grass and small shrubs will be encouraged to grow over the backfill to assist in soil stabilization; – Undertake periodical checks and maintenance of the pipeline during the operation period. 	OE	AMG	Included in regular O&M budget of the OE
5.2 Heat exchange stations	Noise	<ul style="list-style-type: none"> – Machines will be maintained on a regular basis; – Machines will be inspected on a regular basis, and malfunctioning and worn parts will be repaired / replaced timely. 	OE	AMG, AEPB	Included in regular O&M budget of the OE
	Backwash effluent	<ul style="list-style-type: none"> – Build and maintain equalization and sedimentation tanks in each HES for pH adjustment and sedimentation (SS≤400mg/L) before discharging backwash effluent into the municipal sewer; – Regularly clean the sedimentation tank, dispose of accumulated sludge and sediments in the municipal landfill; 	OE	AMG, AEPB	Included in regular O&M budget of the OE
6. Operation Stage (Solid Waste Management)					
6.1 Solid waste collection	Cleaning of garbage bins and containers	<ul style="list-style-type: none"> – Garbage bins and containers will be cleaned on a regular basis; collection will be more frequent during summer; – Broken bins and containers will be replaced / repaired timely. 	OE	AMG, Law Enforcement Bureau	Included in regular O&M budget of the OE
6.2 Waste transport	Transport of domestic garbage	<ul style="list-style-type: none"> – Select haulage routes to minimize impacts to residential areas. – Ensure garbage haulage trucks are properly covered, 	OE	AMG, Law Enforcement Bureau	Included in regular O&M budget of the OE

Item/Media	Environmental Issues / Impacts	Mitigation Measures and / or Safeguards	Implementation	Supervision	Estimate of Incremental Cost (In 10,000 CNY)
		maintained and operated.			
6.3 Waste transfer station	Future urban expansion	<ul style="list-style-type: none"> Urban planning should restrict urban expansion from a radius of at least 30 m from the transfer station, in accordance from the Technical Specifications for Residential Solid Waste Transfer Stations (GJJ47-2006). 	Akesu Planning Bureau	AMG	--
	Operation of station	<ul style="list-style-type: none"> Environmental protection equipment and measures (e.g., odor removal, screens) should be maintained on a regular basis; malfunctioning and broken ones should be replaced / repaired timely; Buffer tree belts surrounding the borders of the station should be maintained regularly and properly. 	OE	AMG, Law Enforcement Bureau	Included in regular O&M budget of the OE
7. Operation Stage (Public and Street Parks)					
7.1 Vegetation	Maintenance of vegetation	<ul style="list-style-type: none"> The vegetation will be well maintained by regular irrigation and by replanting when necessary; Plants will be irrigated regularly on an as-needed basis. Vegetation will be fertilized regularly, with the use of dredged sediment from the Duolang wetlands or other types of organic fertilizers; Pest control will be undertaken regularly to ensure proper plant growth; Low-toxicity pesticides should be used. 	OE	AMG, Akesu Landscape Bureau	Included in regular O&M budget of the OE
8. Operation Stage (Wetland Rehabilitation)					
8.1 Dredging	Dredging of sedimentation zone	<ul style="list-style-type: none"> The sedimentation zone will be dredged as required to maintain its sediment removal function; Dredging should be scheduled to avoid sensitive periods during the waterbird migration season (April/May and September/October) 	OE	AMG, Akesu Forest Bureau	Included in regular O&M budget of the OE
8.2 Dredged sediment	Transport, storage and use of dredged sediment	<ul style="list-style-type: none"> Transport of dredged sediment should use sealed and covered vehicles to avoid leakage and littering along the transport routes; Transport routes should be periodically reviewed and adjusted if necessary to avoid sensitive receptors and areas; Storage site (nearby Duolang Canal) should be protected from secondary pollution of air, surface and groundwater; Dredged sediment should be used for urban landscaping and for other beneficial purposes (e.g., farming, construction materials, etc.). 	OE	AMG, Akesu Forest Bureau, AEPB	Included in regular O&M budget of the OE
8.3 Water source	Water source protection from degradation	<ul style="list-style-type: none"> Industrial and urban point source and agricultural non-point source pollution regulations and standards should be strictly enforced to protect the water source of the wetlands. If pollution loads exceed the carrying capacity of the 	AEPB	AMG	Costs will be borne by polluters under the "polluter-pays principle"

Item/Media	Environmental Issues / Impacts	Mitigation Measures and / or Safeguards	Implementation	Supervision	Estimate of Incremental Cost (In 10,000 CNY)
		wetlands, reduction targets should be set and enforced.			
8.4 Wetland health	Protection of wetland from outside impacts	<ul style="list-style-type: none"> – Establish pollution control measures at perimeters to ensure that neighboring land uses do not pollute the wetlands; – Access control will be implemented to ensure that illegal dumping or poaching of wildlife is prevented. 	OE	AMG, Akesu Forest Bureau, AEPB	Included in regular O&M budget of the OE
	Biodiversity	<ul style="list-style-type: none"> – Develop training and education programs for local residents, schools, government agencies for wetland protection and conservation; – Implement the comprehensive biodiversity and habitat survey/monitoring program (2015-2020), see Table A1.4(b). 	OE, LIC	AMG, Akesu Forest Bureau, AEPB	Included in regular O&M budget of the OE

Sources: PPTA Team; Domestic EIS

ADB = Asian Development Bank, EIS = Environmental Impact Statement, AEPB = Akesu Environment Protection Bureau, AFB = Akesu Finance Bureau, AHURDB = Akesu Housing and Urban-Rural Development Bureau, AMG = Akesu Municipal Government, APLG = Akesu Project Leading Group, APMO = Akesu Project Management Office, CSC = Construction Supervision Company, EHS = Environment, Health and Safety, EMG = Environmental Management Unit, ESC = Environmental Supervision Company, IA = Implementing Agency, LDI = Local Design Institute, LIC = Loan Implementation Consultant, OE = Project Operating Entity, RP = Resettlement Plan, WRB = Water Resources Bureau, XPMO = Xinjiang Project Management Office, XUAR = Xinjiang Uygur Autonomous Region, XUARG = Xinjiang Uygur Autonomous Region Government.

D. Assessment of Project Readiness

13. Before construction, the LIC will assess the project's readiness in terms of environmental management based on a set of indicators (**Table A1.3**), and report it to ADB, XPMO and the APMO. This assessment will demonstrate that environmental commitments are being carried out and environmental management systems are in place before construction starts, or suggest corrective actions to ensure that all requirements are met.

Table A1.3: Project Readiness Assessment Indicators

Indicator	Criteria	Assessment
Environmental safeguards documents approval and disclosure	<ul style="list-style-type: none"> – The IEE was approved by ADB, and disclosed on ADB's project website – The EIS approved by XEPB 	
Measures during detailed design implemented	<ul style="list-style-type: none"> – Measures defined in Table A1.2, Pre- Construction Stage, included in detailed designs for each component 	
EMP update	<ul style="list-style-type: none"> – The EMP is updated after detailed design, cleared by ADB, and disclosed on the project website 	
Compliance with loan covenants	<ul style="list-style-type: none"> – The borrower complies with loan covenants related to project design and environmental management planning 	
Consultation, GRM	<ul style="list-style-type: none"> – The completion and agreements to resettlement plans before the construction 	
	<ul style="list-style-type: none"> – Consultation plan revised and confirmed for ongoing consultation during project implementation. 	
	<ul style="list-style-type: none"> – GRM (including GRO) established and discussed with / disseminated to relevant stakeholders and GRM entry points 	
Environmental Supervision in place	<ul style="list-style-type: none"> – EMG established within APMO – LIC contracted – EMS contracted, physical monitoring plan defined – CSCs and ESCs contracted – AEPB fully appraised about the subprojects and the relevant EMP 	
Bidding documents and contracts with environmental safeguards	<ul style="list-style-type: none"> – Bidding documents and contracts incorporating the impact mitigation and environmental management provisions of the EMP – Site-specific EMPs prepared for civil works contracts, reviewed and cleared by EMG and LIC – Onsite environment engineer (OEE) appointed by contractors 	
EMP financial support	<ul style="list-style-type: none"> – The required funds have been set aside to support the EMP implementation according to the financial plan. 	

Sources: PPTA team, ADB missions.

E. Environmental Monitoring and Inspection

14. An environmental monitoring program is presented in **Table A1.4**. This program considers the scope of monitoring, environmental media, monitoring parameters, time and frequency, implementing and supervising agencies. The monitoring will follow the methodology provided in the national standard methods for monitoring pollutants. Other associated standards are national environmental quality standards and pollutant discharge/emission standards. Environmental safeguard monitoring will be coordinated by the APMO through the environmental management group (EMG).

15. **Internal monitoring.** Internal inspections will be undertaken on a daily basis to oversee the implementation of the EMP and monitor the actual environmental impacts that will occur. It

will be conducted by the OEE, the CSC and ESC, and EMG. The internal monitoring will also cover non-quantitative parameters such as solid waste management and soil erosion control, and it will be carried out through visual inspections. Results will be reported through the CSCs' monthly reports to the APMO.

16. **External (physical) monitoring.** The APMO will contract the Akesu environmental monitoring station (AEMS) to undertake the external environmental monitoring program, including field sampling, lab analysis and reporting, in compliance with the monitoring plan defined in the EMP (Table A1.4). External environmental monitoring reports will be prepared on a quarterly basis by the AEMS and will be used by the LIC to prepare the annual environment monitoring reports (EMRs) which will be submitted to the AMG, XPMO and ADB.

17. **PRC Laws and Regulations Compliance Monitoring and Inspection.** The AEPB will be responsible to commissioning regular and random compliance monitoring and inspection before, during, and after construction, as well as in the event of emergencies. If abnormalities are found, the AEPB will impose a fine and issue a notice of rectification with a specific deadline, in accordance with PRC laws and regulations.

18. **EMP compliance monitoring.** The EMG, with the support of the LIC, will conduct regular site visits, monitor and assess overall project activities under the project design and monitoring framework, including environmental targets, review and clear site-EMPs developed by contractors, review the contractors' performance and compliance with the site EMPs, supervise the work of the EMS, and report to ADB and XPMO the progress of the EMP, information on project implementation, environmental performance of the contractors, and environmental compliance through the semi-annual project progress reports and annual environmental monitoring reports. The progress reports on the EMP will pay particular attention to consultation and participation, and to public and worker safety and health. The annual environment monitoring report will follow the structure defined in the EMP.

19. **Environmental Acceptance Monitoring and Audit.** Moreover, within 3 months after each subcomponent completion, or no later than 1 year with permission from the responsible environmental authorities, environmental acceptance monitoring and audit reports will be (i) prepared by a qualified environmental institute in accordance with the *MEP Guideline on Project Completion Environmental Audit* (2001); (ii) reviewed for approval by environmental authorities who has given the approval to the domestic EIS (i.e., XEPD), and (iii) finally submitted to the ADB.

20. **Environmental Monitoring during Project Operations.** During operation, the operating entities (OEs) will conduct regular monitoring in accordance with their O&M plans, to be developed in assistance with the LIC. Ambient environmental monitoring in relation to the subcomponents will be incorporated into the regular ambient environmental monitoring program of AEPB and its AEMS. The monitoring will cover water quality, air quality and acoustic quality. Air quality and noise monitoring will cover the residential areas along the road alignments, with special attention to the sensitive spots. Water quality monitoring will include the wetlands, rivers and canals. Biodiversity monitoring in the Akesu-Duolang wetlands, as established during project implementation, will continue during project operation under the lead of the Duolang Wetland Management Station, Akesu Forestry Bureau.

21. Environmental monitoring, including the environmental benefits monitoring, will be incorporated into the **Project Performance management System (PPMS)**. The APMO with assistance from the LIC will be responsible for analyzing and consolidating the data through

their management information system. The PPMS will be designed to allow adequate flexibility to adopt remedial actions regarding project design, schedules, activities, and development impacts. At the beginning of the project, the APMO and LIC will develop comprehensive PPMS procedures to systematically generate data on inputs and outputs of the project components and agree on environmental and related social economic indicators to be used to measure project impacts. The APMO, with assistance from the LIC, will refine the PPMS framework, confirm achievable goals, firm up monitoring and recording arrangements, and establish systems and procedures no later than 6 months after loan effectiveness.

22. The monitoring results will be used to evaluate: (i) the extent and severity of environmental impacts compared with the predicted impacts, (ii) performance of the environmental protection measures or compliance with related rules and regulations, (iii) trends of impacts, and (iv) overall effectiveness of the EMP. Effectiveness of mitigation measures and monitoring plans will be evaluated through a feedback reporting system. Modification of measures required by the EMP will be performed, if necessary. The APMO and AEPB play critical roles in this feedback and adjustment mechanism as shown in **Figure A1.1**.

23. The environmental monitoring program is included in **Table A1.4**. The cost estimates for the environmental monitoring program are shown in **Table A1.5**. Before implementing the monitoring plan, responsible agencies (including the AEMS, ESC, AFB and EMG) will provide more accurate estimates of the costs and present a further detailed breakdown of the cost estimates. The detailed and adjusted environmental monitoring costs shall not be revised down, unless for clear reasons (such as revised monitoring plan resulting from revised project scope, improved monitoring methodologies, etc).

Table A1.4: Environmental Monitoring Program

Item	Parameters	Location	Time and Frequency	Implementing Agency	Supervising Agency
A. Construction, Urban Infrastructure and Services Component					
1.1 Water Quality – Wastewater	Sewage and construction wastewater	Construction camps (wetlands, nursery) and construction sites	Visual inspection for proper operation of settling ponds, septic tanks and sewerage connections; daily (OEE, CSC), monthly (EMG)	OEE, ESC, EMG	APMO
1.2 Water Quality – urban areas	pH, NH ₃ -N, TN, TP, BOD, COD, SS, oils	For each subcomponent, minimum 2 locations on the river upstream and downstream of the construction site	3 samples each time; at beginning of construction and quarterly thereafter	AEMS	EMG, AEPB
1.3 Water Quality – Wetlands	pH, NH ₃ -N, TN, TP, BOD, COD, SS, oils	Akesu-Duolang wetlands	6-8 locations in the wetlands, quarterly	AEMS	EMG, AEPB
2.1 Air quality - All	TSP, PM ₁₀ , CO, NO _x	2 monitoring locations for each construction site	3 samples at each location each time; quarterly during construction season	AEMS	EMG, AEPB

Item	Parameters	Location	Time and Frequency	Implementing Agency	Supervising Agency
2.2 Air quality – Wetlands	Odor (Intensity Index 0-5, see IEE Table 38)	Wetland shore, 30-m distance.	Quarterly during dredging period.	OEE, ESC, EMG	AEPB, PIC
3.1 Noise – urban areas	Leq (dB(A))	1 location at the border with settlements within 200 m of each construction site	Twice (day-time and night-time) each time; monthly during peak construction, quarterly otherwise	AEMS	EMG, AEPB
3.2 Noise - Wetlands	Leq (dB(A))	8 locations, including 4 borders, one center, 3 locations around dredging activities.	Twice (day-time and night-time) each time; monthly during entire construction period	AEMS	EMG
4. Solid Waste - All	Garbage from construction camps and construction sites	All camps and construction sites, along roads.	Visual inspection; daily (OEE, CSC), monthly (EMG)	OEE, ESC, EMG	APMO
5. Vegetation - All	Removal of vegetation and exposed surface	All sites	Visual inspection; daily (OEE, CSC), monthly (EMG)	OEE, ESC, EMG	AMG
6. Soil erosion - All	Soil Erosion control measures (Topsoil stockpile, detention ponds construction, intercepting ditches, rehabilitate construction sites)	All borrow pits, spoil disposal sites and construction sites	Visual inspection; weekly (OEE, CSC), monthly (EMG)	OEE, ESC, EMG	AMG
7.1 Biodiversity - Wetlands	Disturbance of wildlife by construction workers	Akesu-Duolang Wetlands	Regular inspections, weekly (OEE), monthly (AFB)	OEE, ESC, EMG, Akesu Forestry Bureau (AFB)	APMO
	Bird population (see Table A1.4(b) below)	Akesu-Duolang Wetlands	See Table A1.4(b) below ¹	LEI, AFB, LIC	APMO
8. Occupational Health and Safety - All	Health status, hygiene status, availability of clean water, emergency response plans	Construction sites and work camps	Quarterly during construction	Akesu Health Bureau, OEE, EMG	APMO
B. Construction Completion Environmental Audit					
1. Urban areas, waste transfer station	Air Quality: NO _x , CO, TSP, PM ₁₀	2 locations for each road, 1 location for each HES, the waste	Once upon completion, 3 samples per day for 3	LEI	AEPB






¹ The biodiversity monitoring program is drafted in Table A1.4(b) below, and will be refined with support from the wetland and biodiversity specialists, to be contracted under the LIC services.

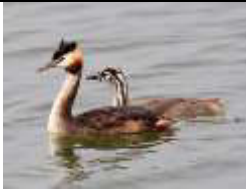



Item	Parameters	Location	Time and Frequency	Implementing Agency	Supervising Agency
		transfer station	consecutive days at each location		
	Odor: H ₂ S, NH ₃	4 borders of waste transfer station	Once upon completion, 3 samples per day for 3 consecutive days	LEI	AEPB
2. Noise	Noise: Leq (dB(A))	Roads: all sensitive receptors defined in Table 59, IEE; 4 borders of waste transfer station	2 samples for 1 day at each location	LEI	AEPB
3. Soil and Vegetation	Re-vegetation, landscaping	All sites	Visual inspection for compliance with design	LEI	AEPB
4. Wetlands	Surface water: 23 basic parameters as per class III of PRC <i>Surface Water Quality Standards (GB 3838-2002)</i>	6-8 locations in wetlands	Once upon completion, 3 samples per day for 3 consecutive days at each location	LEI	AEPB
	Air: TSP	4 location at 4 borders	Once upon completion, 3 samples per day for 3 consecutive days at each location	LEI	AEPB
	Noise: Leq (dB(A))	4 locations at borders	2 samples for 1 day at each location	LEI	AEPB
C. Operation (Ambient Monitoring)					
1. Air Quality	Odor, TSP, PM ₁₀ , NO _x , NO ₂ , CO, as per PRC <i>Ambient Air Quality Standards (GB 3095-2012)</i> .	All sensitive receptors along project roads (see Table 30, IEE); 1 location within wetlands; 4 borders of waste transfer station; at boundary of 28 HESs	3 samples per day for 3 consecutive days; twice per year	AEMS	AEPB
2. Surface Water Quality	23 basic parameters as per class III of PRC <i>Surface Water Quality Standards (GB 3838-2002)</i> , plus SS.	Qingnian Canal, Duolang wetlands, Duolang Canal	3 samples each time; twice per year	AEMS	AEPB
4. Noise	Leq (dB(A)) as per PRC <i>Ambient Acoustic Quality Standards (GB 3096-2008)</i> .	All sensitive receptors along project roads (see Table 59, IEE); 6-8 locations within wetlands; 4 borders of	2 samples each time, 2 samples during daytime, 2 at night each time; twice per year	AEMS	AEPB

Item	Parameters	Location	Time and Frequency	Implementing Agency	Supervising Agency
		waste transfer station; at boundary of 28 HESs.			
5. Wetland Sediment	Parameters as per <i>Soil Quality Standards (GB 15618-1995)</i>	Sedimentation zone of Duolang wetlands	5 samples at the center of wetlands, before dredging	Duolang Wetland Management Station	AEPB
6. Wetland ecosystem monitoring	<i>As defined in Table A1.4(b) (to be refined during project implementation)</i>	Entire Duolang wetlands	<i>As defined in Table A1.4(b)(to be refined during project implementation)</i>	Duolang Wetland Management Station, Akesu Forestry Bureau	AEPB

AEPB = Akesu environmental protection bureau, AEMC = Akesu environmental monitoring center, APMO = Akesu project management office, BOD = biochemical oxygen demand, COD = chemical oxygen demand, dB(A) = A-weighted decibel, EMG = environmental management group, ESC = environment supervision company, LEI = licensed environmental institute, L_{eq} = equivalent continuous noise level, m = meter, NH_3-N = ammonia nitrogen, OEE = onsite environmental engineer, pH = measure of acidity and alkalinity, PM_{10} = particulate matter smaller than 10 micrometers, SS = suspended solids, TN = total nitrogen, TP = total phosphorus, TSP = total suspended particulates.

Table A1.4(b): Biodiversity Monitoring Program

Monitoring target(s)	Frequency	Period/season	Photo
(1) Migrant and wintering waterbirds:			
a) Whooper swan (<i>Cygnus cygnus</i>)	Monthly counts	Nov-Feb	
(2) Wetland-dependent breeding birds:			
a) Reed-dependent passerines (songbirds): Great reed warbler (<i>Acrocephalus arundinaceus</i>)	Monthly counts of singing males (territories)	April-Sept	
b) Common breeding ducks: (b1) Ferruginous duck (<i>Aythya nyroca</i>) (b2) Common pochard (<i>Aythya ferina</i>) (b3) Spot-billed duck (<i>Anas poecilorhyncha</i>)	Monthly counts of pairs with chicks	Aug-Oct	 
c) Grebes: (c1) Little grebe (<i>Tachybaptus ruficollis</i>)	Monthly counts of pairs with chicks	Aug-Oct	

(c2) Great-crested grebe (<i>Podiceps cristatus</i>)			
d) Breeding marsh terns: (d1) Whiskered Tern (<i>Chlidonias hybridus</i>) (d2) White-winged Black Tern (<i>Chlidonias leucopterus</i>)	Monthly counts of nests	June-Aug	 
e) Other common breeding waterbirds: Coot (<i>Fulica atra</i>)	Monthly counts of pairs with chicks	Aug-Oct	
(3) Aquatic invertebrates:			
a) Odonata (dragonflies)	Monthly transect counts of displaying males / pairs	May-Sept	

Source: PPTA DFR, SA-07, November 2014. Pictures: *Wikipedia* (January 2015).

Table A1.5: Environmental Monitoring Costs (10⁴ CNY)

Monitoring Cost	Internal Monitoring	Physical Monitoring
Construction stage (lump sum over the construction period)	6	80
Operation stage (per annum cost)	Part of OE operational costs	10

Source: EIS institute estimates.

24. **Quality assurance (QA) /quality control (QC) for external monitoring.** To ensure monitoring accuracy, the QA/QC procedure will be conducted in accordance with the following regulations:

- i) *Regulations of QA/AC Management for Environmental Monitoring* issued by SEPA in July 2006;
- ii) *QA/QC Manual for Environmental Water Monitoring (Second Edition)*, published by the State Environmental Monitoring Centre in 2001; and
- iii) *QA/QC Manual for Environmental Air Monitoring* published by the State Environmental Monitoring Centre in 2001.

F. EMP Implementation Costs

25. The cost for environmental management and impact mitigation measures are listed against line items in the EMP matrix (**Table A1.2**). Environmental monitoring costs are also included in the monitoring plan (**Table A1.5**). These are to be included in the construction contracts and counterpart budgets. APMO will pay for external monitoring carried out by the Akesu environment monitoring station (AEMS). During implementation, the cost required can be adjusted based on actual requirements. If there are unpredictable environmental impacts found during the implementation of the environmental monitoring, the Project IEE and EMP should be updated in a timely manner and mitigation measures will be put forward to reduce the impacts to acceptable levels.

26. Internal monitoring costs will be borne by the contractors during construction and by the OEs during operation. Before implementing a monitoring plan, the APMO and EMG, supported by the LIC, will present a more detailed breakdown of the estimated budget. During sub-component implementation, the budgets will be adjusted based on actual requirements.

27. Contractors will bear the costs for all mitigation measures during construction, which will be included in the tender and contract documents. The OEs will bear the costs related to mitigation measures during operation. The Project as a whole will bear the costs for training and the Loan Implementation Consultant (LIC).

G. Consultation, Participation and Information Disclosure

28. **Consultation during Project Preparation.** Meaningful consultation was conducted during project preparation. The consultation process and its outcome are described in Chapter VI of this IEE. Direct public participation was conducted as an ongoing element in the development of the sub-components. These activities were carried out by the LDIs in the preparation of the FSR and EIS and by the Technical Assistance (TA) Consultants following *PRC National Environmental Impact Assessments Technical Guidelines* and *ADB's Safeguard Policy Statement (2009)*.

29. **Future Consultation Plan.** Future plans for public involvement during detailed design, construction and operation phases were developed during project preparation. Affected people will be consulted and informed through site visits and informal interviews by the APMO (through the EMG), with support of the LIC. Public meetings will be organized by the APMO prior to mid-term mission to present and discuss EMP implementation progress, solicit community opinions and concerns, and agree on required corrective actions. The LIC will, prior to project completion report, organize surveys in the project affected areas to assess community satisfaction with project implementation, project outputs, and EMP implementation performance. The results will be documented in the project completion report (PCR).

30. **Information Disclosure.** The project's environmental information will be disclosed as follows: (i) the project IEE is disclosed at www.adb.org; (ii) the Chinese EIS was disclosed on the website of the XUAR Environment Protection Department; and (iii) the annual environment monitoring reports will be disclosed at www.adb.org and on the website of the AMG.

Table A1.6: Consultation and Participation Plan

Organizer	Approach	Frequency	Subjects	Participants
Project preparation				
Domestic EIA Institute	Questionnaires and interviews	During field work for domestic EIS	Project priority, effects, attitudes to the Project / components, and suggestions	Residents within subproject areas and construction areas
PPTA Consultant, ADB	Site visits, and public consultations	Formal consultations, 3 review missions during PPTA, informal interviews during site visits	Comments and recommendations of affected people and stakeholders	Representatives of affected people and stakeholder agencies
APMO, PPTA Consultant	Establish Grievance Redress Mechanism	Ongoing	Pathway for complaints from and resolution of environmental problems in construction and operation	Affected persons, AP representatives and other stakeholders
Construction				
EMG, APMO, LIC	Site visits, informal interviews	Regularly (during site inspections by EMG and LIC)	Construction impacts, site safety, comments and suggestions	Construction workers within construction area; and residents within construction area
LIC, EMG, APMO	Public meetings in each project city	Once prior to midterm review	EMP implementation progress, adjusting mitigation measures if necessary, construction impacts, comments and suggestions	Representatives of residents, APs, and related local agencies
Operation				
LIC, EMG, APMO	Questionnaire survey	Prior to project completion	Community satisfaction with project implementation, project outputs, and EMP implementation performance.	Representatives of residents, APs, and related local agencies

APMO = Akesu Project Management Office, EIS = Environmental Impact Statement, LIC = Loan Implementation Consultant, OE = Project Operating Entity. Source: APMO, domestic EIS.

H. Institutional Strengthening and Training

31. Main **institutional strengthening** measures for environmental management include (i) the establishment of the Environment Management Group (EMG) within the APMO; (ii) the contracting of a loan implementation consultant (LIC), including one international and one national environment specialist as well as experts in wetland management, biodiversity monitoring, traffic safety, etc, to support EMP implementation and provide training; (iii) the contracting of the Akesu environment monitoring station (AEMS) for the conduct of environmental impact monitoring; and (iv) the procurement of construction supervision companies (CSCs). In addition, the following institutional strengthening measures are included:

32. **Capacity building.** To ensure effective implementation of the EMP and project sustainability, a capacity building component was included in the project. The main purpose of the capacity building component is to enhance the capacity of the AMG, APMO and the OEs to implement and operate the project facilities. The scope will focus on the following areas: (1) living streets (pilot); (2) planning of slow-traffic system, solid waste management, wetland

management and biodiversity protection; (3) ADB policies and procedures and all project management-related aspects (PPMS, procurement, financial management, contract management, fund withdrawal, disbursement, EMP and environmental safeguard monitoring, and social safeguard monitoring including RP / EMDP / GAP. Detailed capacity building tasks are defined in the PAM.

33. **Training.** The LIC and other consultants hired for the Project will offer EMP and other trainings that is specific to their roles for the project. Major training emphases will be (i) to ensure that contractors are well versed in environmentally sound practices and are able to undertake all construction with the appropriate environmental safeguards; and (ii) to ensure that all staff at all levels are trained in appropriate work practices for wetland management. The provisional training plan is provided in **Table A1.7**. During the inception phase of the consulting service the LIC will conduct a training needs assessment (TNA) and update and refine the plan as needed. The training plan will be revised on an annual basis and disclosed through the annual environment monitoring report. Funding of this training is included in the Project budget. The estimated incremental costs for the institutional strengthening and training are shown in **Table A1.2**.

Table A1.7: Training Plan

Activities	Target Agencies	Time	Modality	Location
1. ADB Policies (ADB country partnership strategy, priorities, project cycle, safeguard policy, PPMS, etc.)	APMO and OEs	Once, at the inception	Lecture	APMO
2. ADB Guidelines (Procurement Guideline, Use of Consultants Guideline, fund withdrawal and disbursement procedures, Loan Agreement, etc.)	APMO, XPMO, OEs	Once, at the inception	Lecture	APMO
3. Environment Management during Construction (Grievance Redress Mechanism, Relevant national laws and regulations, international best practices, project EMP, site-EMPs, etc.)	APMO, EMG, EPB, OEs, contractors (including their on-site environmental engineers, OEE), and CSCs	6 times, 1 time at inception, and semi-annually for new contractors and OEEs and CSCs	Lectures and site visits	APMO and construction sites
4. Social Safeguards: Relevant national laws and regulations, RP, EMDP, GAP	APMO, Resettlement Office, Civil Affairs and Religion Bureau, Women Federation	3 times, 1 at the inception, and semiannually.	Lecture and site-visits	APMO and resettlement communities
5. Living Streets (1): International and domestic new concepts and best practices, project design	Top decision makers of AMG	One time in first year	Lecture	AMG
6. Living Streets (2): International and domestic new concepts and best practice, project design	APMO, related departments, DRC, FB, Planning Bureau, Housing and Urban-rural Development Bureau, Law Enforcement Bureau, Civil Affairs and Religion Bureau	One time, in the first year	Lecture	AMG
7. Living Streets (3): International and domestic new	Demonstration communities and neighborhoods,	2 times before start of the project	Lecture, discussion,	Demonstration communities

Activities	Target Agencies	Time	Modality	Location
concepts and best practice, project design	representatives of the communities		consultations	
8. Green and Human-Centered Transport System (1): International and national new concepts and best practice in green and human-centered transport system	AM Party committee and AMG	One time, in the first year.	Lecture	AMG
9. Green and Human-Centered Transport System (2): International and national new concepts and best practice in green and human-centered transport system; methodologies for preparing green and human-centered transport system master plan	APMO, related departments, DRC, FB, Planning Bureau, Housing and Urban-rural Development Bureau, Law Enforcement Bureau, Civil Affairs and Religion Bureau, O&M agencies	One time, the first year.	Lecture and site visits	APMO
10. Integrated Solid Waste Management (1): International and national new concepts and best practices of integrated solid waste management, including 3R	Top decision makers of AMG	One time in the first year	Lecture	AMG
11. Integrated Solid Waste Management (2): International and national new concepts and best practices of solid waste management, including 3R, public education and outreach; ISWM case studies; preparation of ISWM plan and O&M plan	APMO, relevant departments, DRC, FB, Planning Bureau, Housing and Urban-rural Development Bureau, Law Enforcement Bureau, EPB, Akesu Water Group	One time in the first year	Lecture, workshop and site visits	APMO
12. Integrated Solid Waste Management (3): Solid waste management case study, preparation of ISWM plan.	Law enforcement Bureau, Planning Bureau, EPB, Akesu Water Group, Jingyu Sanitation Co.	3 times in the first year and second year.	Lecture and workshop	APMO and project area,
13. Wetland Management and Biodiversity Protection (1): International and national new concept and best practice in wetland management and project design	Top decision makers of AMG	One time first year.	Lecture	AMG
14. Wetland Management and Biodiversity Protection (2): International and national new concept and best practice in wetland management and project design	APMO and related government departments (DRC, FB, Planning Bureau, Forest Bureau, EPB, Water Resource Bureau)	One time, first year	Lecture and site visits	APMO

Activities	Target Agencies	Time	Modality	Location
15. Wetland Management and Biodiversity Protection (2): Duolang River Wetland Park Management Plan, Wetland Biodiversity Monitoring Plan, Wetland water source protection, public education	Relevant sections of Duolang River Wetland Park Management Station, Forest Bureau, EPB, WRB	One time, first year,	Lecture and workshop	APMO
16. Domestic Study Tour (1): Living streets and green and human-centered transport systems)	XPMO, APMO, relevant departments: DRC, FB, Planning Bureau, Housing and Urban-Rural Development Bureau, Transport Bureau, Law Enforcement Bureau, road O&M agency	One time, first year	Study tour	Beijing, Shanghai, Guangzhou, Shenzhen
17. Domestic Study Tour (2): Wetland management and biodiversity protection	XPMO, APMO, relevant departments: DRC, FB, Planning Bureau, Forest Bureau, EPB, WRB	One time, second year	Study tour	Northeast area, (Sanjiang plain wetlands), Ningxia Yinchuan Wetland Park, Dongting Lake, Boyang Lake
18. Domestic Study Tour (3): Solid Waste	XPMO, APMO, relevant departments: DRC, FB, Planning Bureau, Bureau, Transport Bureau, Law Enforcement Bureau, Road O&M Agency, EPA	One time, second year	Study tour	Sanitation Model cities
19. Overseas Study tour (1): Living streets and green and human-centered transport	XPMO, APMO, and relevant AMG agencies	One time, first year	Study tour	TBD
20. Overseas Study Tour (2): Wetland management, biodiversity protection, and integrated solid waste management	XPMO, APMO, and relevant AMG agencies	One time, second year	Study tour	TBD
21. Workshops during ADB Loan Review Missions: Inception, implementation, completion workshops)	APMO, AMG, related agencies, project operating agencies	6-8 times, inception, mid-term, completion, and annual loan review missions	Workshop and site visits	APMO and construction sites

I. Reporting and Supervision

34. **Semi-annual progress reports.** The EMG of the AMPO will prepare an EMP related section to the semi-annual project progress reports, presenting: (i) project implementation status; (ii) environmental mitigation measures implemented; (iii) monitoring activities; (iv) monitoring data of air, noise and surface water; (v) analysis of monitoring data against relevant standards; (vi) violations of environmental regulations; (vii) any additional mitigation measures and corrective actions required; (viii) environmental training conducted; (ix) occupational health and

safety reporting (e.g. accidents during construction); (x) major events or issues that happened during the reporting period and follow-up actions needed; and (xi) complaints received from the public and how these were resolved through the GRM.

35. Annual environmental monitoring report. The APMO will submit annual environmental monitoring and EMP progress reports in English and submit these to ADB. The LIC will help prepare the reports. The annual environment monitoring report should confirm the project's compliance with the EMP and PRC legislated standards, identify any environment-related implementation issues and necessary corrective actions; and present: (i) project implementation status; (ii) environmental mitigation measures implemented; (iii) monitoring activities; (iv) monitoring data; (v) analysis of monitoring data against relevant standards; (vi) violations of environmental regulations; (vii) any additional mitigation measures and corrective actions required; (viii) environmental training conducted; (ix) occupational health and safety reporting (e.g. accidents during construction); (x) major events or issues that happened during the reporting period and follow-up actions needed; and (xi) complaints received from the public and how these were resolved through the GRM. APMO will send the report to the XPMO and ADB. The report will be disclosed on ADB's website.

36. Report of environmental acceptance monitoring and audit. No later than a month after completion of the construction work for each subproject, the EMG shall collect data/reports from all contractors and CSCs, and submit construction mitigation completion reports to the APMO and AEPB. The reports will indicate the timing, extent, and effectiveness of completed mitigation and maintenance, as well as point out the needs for further mitigation measures and monitoring during operations. Moreover, within two months after project completion, environmental acceptance monitoring and audit reports of subproject completions will be (i) prepared in accordance with the *PRC Regulation on Environmental Check-and- Acceptance of Project Completion* (State Environmental Protection Agency, 2001); (ii) reviewed for approval by the EPB, and (iii) finally reported to ADB by the XPMO.

Table A1.8: Reporting Plan

Reports		From	To	Frequency
Construction Phase				
Environmental impact monitoring reports	Environmental impact monitoring reports	AEMS (funded by APMO)	AEPB, APMO and XPMO	Quarterly
Reports to ADB	Semi-annual project progress reports (with section on EMP implementation)	APMO	XPMO, ADB	Semiannually
	Environmental monitoring and EMP progress reports	APMO, LIC	ADB, XPMO	Annually
Operation				
Environmental impact monitoring report	Environmental impact monitoring reports	AEMS (funded by APMO)	AEPB, APMO and XPMO	Twice per year, until PRC is issued
Reports to ADB	Environmental monitoring and EMP progress reports	APMO, LIC	XPMO, ADB	Yearly (until PCR is issued)
	Project completion report	APMO, LIC	ADB	Not later than 6 months after the physical completion of the project

ADB = Asian Development Bank, AEPB = Akesu Environment Protection Bureau, APMO = Akesu Project Management Office, EMC = Environmental Monitoring Center, EMG = Environmental Management Unit, LIC = Loan Implementation Consultant, XPMO = Xinjiang Project Management Office.

J. Mechanisms for Feedback and Adjustment

37. The EMP is a live document. The need to update and adjust the EMP will be reviewed when there are design changes, changes in construction methods and program, unfavorable environmental monitoring results or inappropriate monitoring locations, and ineffective or inadequate mitigation measures. Based on environmental monitoring and reporting systems in place, the APMO (under the supervision of XPMO and with the support of the LIC) shall assess whether further mitigation measures are required as corrective action, or improvement in environmental management practices are required. APMO will inform ADB and XPMO promptly on any changes to the project and needed adjustments to the EMP. The updated EMP will be submitted to ADB for review and approval, and will be disclosed on the project website. The feedback and adjustment mechanism is presented in **Figure A1.1**.

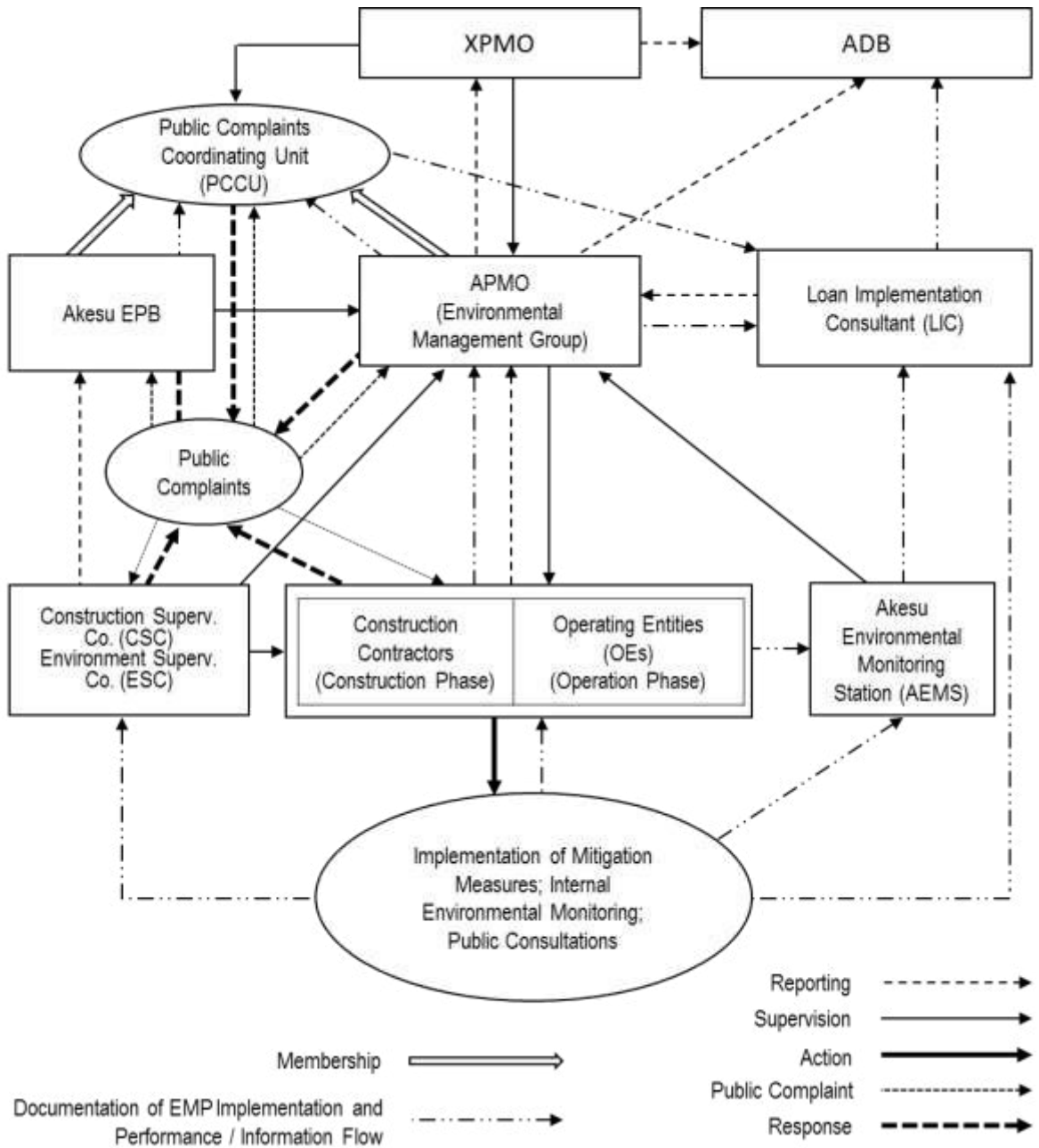


Figure A1.1: Mechanism for Feedback and Adjustment

Table A1.9: Project Implementation Schedule

	2014				2015				2016				2017				2018				2019				2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1. Urban Road Network & Associated Infrastructures																												
1.1 Design and Tender Documentation																												
1.2 Land Acquisition and Resettlement																												
1.3 Preparation for Construction																												
1.4 Tendering, Evaluation & Contract Awards																												
1.5 Civil Works Construction & Equipment																												
1.6 Acceptance Inspection and Commissioning																												
2. Water Supply Network																												
2.1 Design and Tender Documentation																												
2.2 Land Acquisition and Resettlement																												
2.3 Preparation for Construction																												
2.4 Tendering, Evaluation & Contract Awards																												
2.5 Civil Works Construction & Equipment																												
2.6 Acceptance Inspection and Commissioning																												
3. Sewerage Network																												
3.1 Design and Tender Documentation																												
3.2 Land Acquisition and Resettlement																												
3.3 Preparation for Construction																												
3.4 Tendering, Evaluation & Contract Awards																												
3.5 Civil Works Construction & Equipment																												
3.6 Acceptance Inspection and Commissioning																												
4. Central Heating Network																												
4.1 Design and Tender Documentation																												
4.2 Land Acquisition and Resettlement																												
4.3 Preparation for Construction																												
4.4 Tendering, Evaluation & Contract Awards																												
4.5 Civil Works Construction & Equipment																												
4.6 Acceptance Inspection and Commissioning																												
5. Public Parks																												
5.1 Design and Tender Documentation																												
5.2 Land Acquisition and Resettlement																												
5.3 Preparation for Construction																												
5.4 Tendering, Evaluation & Contract Awards																												
5.5 Civil Works Construction & Equipment																												
5.6 Acceptance Inspection and Commissioning																												
6. Solid Waste Management																												
6.1 Design and Tender Documentation																												
6.2 Land Acquisition and Resettlement																												
6.3 Preparation for Construction																												
6.4 Tendering, Evaluation & Contract Awards																												
6.5 Civil Works Construction & Equipment																												
6.6 Acceptance Inspection and Commissioning																												
7. Wetland Restoration and Rehabilitation																												
7.1 Design and Tender Documentation																												
7.2 Land Acquisition and Resettlement																												
7.3 Preparation for Construction																												
7.4 Tendering, Evaluation & Contract Awards																												
7.5 Civil Works Construction & Equipment																												
7.6 Acceptance Inspection and Commissioning																												
8. Project Management and Capacity Building																												
8.1 Design and Tender Documentation																												
8.2 Tendering, Evaluation & Contract Awards																												
8.3 Project Management Support																												
8.4 Capacity Building																												