

# Project Administration Manual

Project Number: 49029-002  
Loan Number: LXXXX-PRC  
August 2017

People's Republic of China: Xinjiang Changji  
Integrated Urban–Rural Infrastructure  
Demonstration Project

## ABBREVIATIONS

ADB	–	Asian Development Bank
CBT	–	competency-based training
CHAPG	–	Changji Hui Autonomous Prefecture Government
DMF	–	design and monitoring framework
EIA	–	environmental impact assessment
EMP	–	environmental management plan
FCG	–	Fukang City Government
GDP	–	gross domestic product
HCG	–	Hutubi County Government
NCB	–	national competitive bidding
O&M	–	operation and maintenance
PAM	–	project administration manual
PCR	–	project completion report
PIEC	–	project implementation environment consultant
PIU	–	project implementation unit
PMO	–	project management office
PPMS	–	project performance management system
PPTA	–	project preparatory technical assistance
PRC	–	People's Republic of China
QCBS	–	quality- and cost-based selection
QCG	–	Qitai County Government
SGAP	–	social and gender action plan
SOE	–	statement of expenditure
SPS	–	ADB Safeguard Policy Statement (2009)
TOR	–	terms of reference
XUARG	–	Xinjiang Uygur Autonomous Region Government

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### **Project Administration Manual Purpose and Process**

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with the policies and procedures of the government and Asian Development Bank (ADB). 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 Region (Xinjiang) Government as the executing agency, and Fukang City Government, Hutubi County Government, and Qitai County Government as implementing agencies, are wholly responsible for the implementation of ADB-financed projects, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation including compliance by Xinjiang Government as the executing agency, and Fukang City Government, Hutubi County Government, and Qitai County Government as implementing agencies 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 recommendations of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval, they will be subsequently incorporated in the PAM.

## I. PROJECT DESCRIPTION

### Rationale

1. Xinjiang Uygur Autonomous Region (Xinjiang) is located on the northwestern frontier of the PRC. It shares borders with eight countries and lies on the ancient Silk Road. Xinjiang's rapid rate of economic growth (9.8%) and urbanization since the early 1990s has improved the overall economic well-being of its residents.<sup>1</sup> Urumqi, the capital city of Xinjiang, serves as a regional transportation and logistics hub between the PRC and Central Asia. The value of Xinjiang's international trade increased during 2001–2013 at an average annual rate of 25.7%.<sup>2</sup> However, Xinjiang remains one of the PRC's least developed regions, and as such has been a beneficiary of the National Strategy for Development of the Western Region.<sup>3</sup> The region also suffers from poor industrial performance and low educational attainment among workers.<sup>4</sup>

2. Changji covers an area of 73,140 square kilometers, and is situated on a narrow piedmont plain between the Tianshan mountain ranges in the south and the Gurbantunggut Desert in the north; the corridor (40–80 kilometers [km] in width) contains settlements, agriculture, and industries. Changji surrounds Urumqi; Changji City (seat of the prefecture) is located 30 km from Urumqi. Changji is located at the center of the Northern Tianshan economic zone, the Urumqi–Changji–Shihezi city cluster, and the Urumqi–Changji economic corridor. This location gives Changji an important role, and some key service activities provided by Urumqi have been relocated to Changji. It is urbanizing rapidly reflecting the PRC's strategy to accelerate the development of the western regions and its policy to promote regional economic cooperation with neighboring countries, but the Prefecture's economic development is constrained by significant deficiencies in urban infrastructure and environmental management, including (i) inadequate connectivity of Changji's cities and towns to the major corridor, (ii) poor service-level solid waste management, (iii) rapid depletion of groundwater supplies, (iv) soil erosion caused by geologic and severe climatic conditions, and (v) weak urban management capacity. Changji's favorable location and its potential for economic growth encourages companies and industries to locate there, and has resulted in increased pressure on the environment and the inadequate, poorly performing urban infrastructure.

3. Fukang City and Hutubi and Qitai counties of Changji, located in the Urumqi–Changji economic corridor, have experienced significant economic growth during 1994–2014, driven mainly by growth in urban-based secondary and tertiary sectors, and rural-based primary sector.<sup>5</sup> Consequently, an appropriate urbanization process—involving both physical and social aspects of urbanization—is needed to accommodate the rural–urban shift of economic activities. An industrial demand analysis conducted during project preparation projected significant demand for employees and industrial land in Fukang, Hutubi, and Qitai. However, the current business environment and urban infrastructure facilities in Fukang, Hutubi, and Qitai are relatively weak. Many people living in the urban center, peripheries, and villages within the urban area—a large number of whom are rural migrants—still lack access to safe and reliable basic urban

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<sup>1</sup> The PRC government is pursuing urbanization to enable more efficient provision of public and social services.

<sup>2</sup> Xinjiang Statistical Bureau. Various years. *Xinjiang Uygur Autonomous Region Statistical Yearbook*. Urumqi.

<sup>3</sup> Government of the PRC, State Council. 2000. *The National Strategy for Development of the Western Region*. Beijing. The PRC's western region has six provinces, five autonomous regions (including Xinjiang), and one municipality.

<sup>4</sup> A 2014 labor market survey of Xinjiang indicated 71.8% of enterprises experienced difficulties finding appropriately skilled workers; 69.0% experienced difficulties in recruitment, including 30.1% with difficulties in recruiting technicians. G. Wang, et al. 2014. *Research on Workforce Demand and Supply in Enterprises*. Xinjiang.

<sup>5</sup> Average annual GDP growth rates in Fukang, Hutubi, and Qitai in 2004–2014 were 8.6%–9.1% in the primary sector, 13.7%–30.3% in the secondary sector, and 13.4%–15.3% in the tertiary sector.

infrastructure services. Establishment of a sound economic base and livable environment requires that Fukang, Hutubi, and Qitai respond to economic and social development challenges, and take advantage of the economic growth opportunities available to cities and towns in the Urumqi–Changji economic corridor.

4. **Value added by Asian Development Bank assistance.** The Asian Development Bank (ADB) provided project preparatory technical assistance involving rigorous policy dialogue and engagement, and supported adoption by the government of a strategic, holistic, and integrated multisector people-centered urban development approach as compared to construction-focused approach in Changji.<sup>6</sup> This aligns with the PRC’s National New-type Urbanization Plan, 2014–2020 (NNUP),<sup>7</sup> and ADB’s country partnership strategy for the PRC, 2016–2020.<sup>8</sup> In addition to engineering solutions to address basic infrastructure needs and environmental issues, Changji recognized the importance of adding nonstructural components (as part of outputs 2, 4, and 5) to the project to address issues including the needs to (i) strengthen urban planning capacity, introduce people-centered approaches to urban planning and development consistent with the PRC Government’s urbanization direction, and apply people-centered approaches during master plan updates that may be undertaken during project implementation; (ii) address the needs of workers and employers by enhancing the quality of technical and vocational education and training; and (iii) improve solid waste management and raise environmental awareness by piloting waste reduction, reuse, and recycling in Xinjiang. The original project scope mainly focusing on roads and pipes was completely transformed by ADB intervention into strategic multisector, people-centered urbanization, and sustainable approach. A climate risk and vulnerability assessment (CRVA) was conducted confirming the project’s medium climate risk categorization. A list of design and engineering strategies that address the vulnerabilities identified in the CRVA has been incorporated into the design of project components.

5. Development prospects in the project areas are attracting rural migrants to industrial centers in search of employment opportunities. In line with the NNUP, the project aims to demonstrate a modern, innovative approach to urban–rural development that creates integrated, livable, green, and economically sustainable communities.<sup>9</sup> In addition to physical infrastructure, the project’s integrated social infrastructure components seek to facilitate the transition of rural migrants to the urban environment by providing them with skills to take advantage of employment and income opportunities in emerging communities around the industrial zones. High economic growth together with improved business and living environments resulting from project investments could attract additional private sector investments, with spillover effects on small cities and county towns along the strategic economic corridor, including Fukang, Hutubi, and Qitai. The experience in Changji could serve as a demonstration project for other small cities and towns in Xinjiang and the PRC.

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<sup>6</sup> Initially, the government proposal included 67 new road segments of 137 km, which justification was identified to be inadequate to contribute to sustainable or resilient development, as they are widely dispersed, unconnected, and simply fill gaps in the master plans to expand the urban areas in the three city and counties. The proposal was reduced to 22 segments of 36.4 km, including both new and rehabilitated roads, that are assessed to be justifiable for ADB investment. Furthermore, ADB organized a New-type Urbanization workshop to engage with stakeholders to share information on how Changji’s project proposal for ADB investment aligns with the sustainable urban development agenda of the PRC. This participatory workshop was in itself an innovation for Changji.

<sup>7</sup> Government of the PRC, State Council. 2015. *National New-type Urbanization Plan, 2014–2020*. Beijing.

<sup>8</sup> ADB. 2016. *Transforming Partnership: People’s Republic of China and Asian Development Bank, 2016–2020*. Manila.

<sup>9</sup> The strategy of the PRC government is to efficiently integrate services in urban areas by linking nearby rural areas through better road networks and extending service availability to nearby rural residents.

6. **Strategic fit.** The proposed project closely aligns with the (i) the PRC's Thirteenth Five-Year Plan, which aims to balance the development of rural and urban areas to facilitate inclusive urbanization and industrial transformation;<sup>10</sup> (ii) the NNUP (footnote 7), which promotes people-centered urbanization and development of small and medium-sized cities and towns; (iii) the ADB country partnership strategy for the PRC, 2016–2020 (footnote 8), with strategic priorities that include (a) integrated, green, inclusive, and competitive urban development, focusing on small and medium-sized cities in less-developed regions; (b) regional cooperation and integration; and (c) managing climate change and the environment; and (iv) the ADB Urban Operational Plan, 2012–2020, which supports green, competitive, and inclusive development.<sup>11</sup>

## A. Impact and Outcome

7. The project is aligned with the following impacts: (i) Changji's cities and counties' urbanization and business environment enhanced, and (ii) people's living conditions in small cities and towns improved.<sup>12</sup> The project will have the following outcome: services provided by urban–rural infrastructure and environmental features improved.<sup>13</sup>

## B. Outputs

8. **Output 1: Roads and road ancillary facilities (including utility pipes) constructed or rehabilitated.** The project will (i) construct five roads of 7.2 km and rehabilitate four roads of 6.4 km with ancillary facilities, including utility pipes (water, wastewater, and heating), and the purchase of road maintenance equipment for the Fukang urban area; (ii) construct five roads of 3.4 km with ancillary facilities, including utility pipes (water, wastewater, and heating), and the purchase of road maintenance equipment for Ganhezi Town of Fukang; (iii) construct three roads of 8.0 km with ancillary facilities, including utility pipes (water, wastewater, heating, and gas) in Hutubi; and (iv) construct five roads of 11.4 km with ancillary facilities, including water pipes in Qitai. Road ancillary facilities include underground utility pipes; green space with irrigation systems; ditches, culverts and drainage systems; and road safety facilities, such as light-emitting diode street lighting, signals, and signage. The roads will improve connectivity and facilitate transfer of goods, while pipe installations will cover previously unserved areas and fill gaps in existing utility networks.

9. **Output 2: Water supply and solid waste management facilities in Qitai improved.** In Qitai, the project will (i) build water transmission pipelines of about 68 km; (ii) construct a domestic solid waste sanitary landfill with capacity of 1.81 million cubic meters; (iii) close an existing domestic solid waste landfill with capacity of 787,000 cubic meters to avoid adverse effects on adjacent urban facilities and industrial parks; (iv) provide waste management facilities, including a waste transfer station and waste bins; and (v) conduct a waste reduction, reuse, and recycling pilot in Qitai Secondary Vocational and Technical School. The water transmission pipeline is part of a larger scheme to augment Qitai's water supplies that includes two reservoirs and a water treatment plant.<sup>14</sup>

<sup>10</sup> Government of the PRC, State Council. 2015. *National Economy and Social Development Thirteenth Five-Year Plan, 2016–2020*. Beijing.

<sup>11</sup> ADB. 2013. *Urban Operational Plan, 2012–2020*. Manila.

<sup>12</sup> Changji Hui Autonomous Prefecture Government. 2012. *Changji Urban-System Plan, 2012–2030*. Changji.

<sup>13</sup> The design and monitoring framework is in Chapter IX.

<sup>14</sup> The water treatment plant is being financed and will be operated under a public–private partnership arrangement. The reservoirs and plant are either completed or under construction.

10. **Output 3: Ecological protection shelterbelts in Fukang created.** In Fukang, the project will plant trees on (i) 220 hectares (ha) along provincial road S303 as a shelterbelt; (ii) 89 ha along North Ring Road as a shelterbelt; and (iii) 377 ha in the southern part of the city for soil and flood protection. This output is designed to protect urban and rural settlements, roads, and farmland from wind and sand, prevent soil erosion, mitigate road noise, and increase forest coverage to improve the environment in Fukang.

11. **Output 4: Capacity of technical and vocational education and training enhanced.** The project will (i) construct environment-friendly school facilities with total floor area of about 9,787 square meters and install equipment in Fukang Technician College; and (ii) conduct capacity-building activities to improve the quality of training courses, upgrade teachers' qualifications, and strengthen quality assurance systems and school culture programs in senior technical schools in Fukang, Hutubi, and Qitai.

12. **Output 5: Capacity of project management and urban planning enhanced.** The project will (i) strengthen urban planning capacity of the project city and counties through training to introduce new approaches in urban master and detail planning, and development plans consistent with the NNUP; (ii) conduct workshops and training activities to enhance project management capacity; and (iii) provide intensive implementation support on various aspects of project management through project implementation consultants.



## II. IMPLEMENTATION PLANS

### A. Project Readiness Activities

Indicative Activities	2017												Responsible Unit
	1	2	3	4	5	6	7	8	9	10	11	12	
Establishment of project implementation arrangements													XUARG, FCG, HCG, QCG
Advance contracting actions for some packages													XUARG, FCG, HCG, QCG
Retroactive financing actions													XUARG, FCG, HCG, QCG
Recruitment of procurement agent													XPMO
Recruitment of design institute for preliminary/detailed design													FCG, HCG, QCG
Prepare preliminary/detailed design for all packages													FCG, HCG, QCG, design institute
ADB management review													ADB
Approval of FSRs													XDRC
Submission and approval of FCUP and PEOP													XDRC, XFD, NDRC, MOF
Loan negotiations													ADB, MOF, XUARG
Bid document preparation for advance contracting packages, prior review, and approval													XUARG, FCG, HCG, QCG, procurement agent, ADB
Procurement of advance contracting packages													FCG, QCG, procurement agent
Government counterpart budget													XUARG
ADB's Board approval													ADB
Loan signing													MOF, XUARG, XFD
Government legal opinion provided													NDRC
Loan effectiveness													ADB, MOF

ADB = Asian Development Bank, FCG = Fukang City Government, FCUP = foreign capital utilization plan, FSR = feasibility study report, HCG = Hutubi County Government, MOF = Ministry of Finance, NDRC = National Development and Reform Commission, PEOP = project evaluation opinion report, QCG = Qitai County Government, XDRC = Xinjiang Development and Reform Commission, XFD = Xinjiang Finance Department, XPMO = Xinjiang project management office, XUARG = Xinjiang Uygur Autonomous Region Government.

Source: Asian Development Bank estimates.

### B. Overall Project Implementation Plan

13. A Gantt chart recording outputs with key implementation activities (on a quarterly basis) that is updated annually and submitted to ADB with contract and disbursement projections from 2017 to 2023 is presented in Table 1.



Indicative Activities	2017				2018				2019				2020				2021				2022				2023			
	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
Output 5: Capacity of project management and urban planning enhanced																												
5.1 Complete necessary organizational arrangements by 2017																												
5.2 Recruit and mobilize initial implementation support consultants by Q3 2017																												
5.3 Initial implementation support																												
5.4 Recruit and mobilize implementation support and urban planning capacity development consultants by Q3 2018																												
5.5 Undertake project management in 2018–2023																												
5.6 Implement various capacity development training during 2018–2021																												
5.7 Finalize institutional arrangements between EA and IAs, update resettlement plans based on preliminary design, and implement EMDP, EMP, SGAP, and RPs by Q3 2020																												
5.8 Monitor and report on the implementation of EMDP, EMP, SGAP, and RPs in 2018–2023																												
5.9 Annual and/or midterm review																												
5.10 Conduct project specific surveys to measure results for the midterm review (2020) and project completion (2023)																												
5.11 Project completion report																												

DMF = design and monitoring framework, EA = executing agency, EMDP = ethnic minority development plan, EMP = environmental management plan, IA = implementing agency, RP = resettlement plan, SGAP = social and gender action plan, TVET = technical and vocational education and training.

Source: Asian Development Bank estimates.

### III. PROJECT MANAGEMENT ARRANGEMENTS

#### A. Project Implementation Organizations: Roles and Responsibilities

**Table 2: Project Implementation Organization**

<b>Project Implementation Organizations</b>	<b>Management Roles and Responsibilities</b>
Xinjiang Uygur Autonomous Region (Xinjiang) Government (Executing Agency)	<ul style="list-style-type: none"> <li>(i) Responsible for overall implementation of the project</li> <li>(ii) Provide overall policy guidance, facilitate inter-agency coordination, and resolve any institutional problems that may affect the project implementation</li> <li>(iii) Supervise the implementing agencies</li> <li>(iv) Facilitate disbursement</li> <li>(v) Facilitate audit of project accounts</li> </ul>
XPMO	<ul style="list-style-type: none"> <li>(i) On behalf of Xinjiang government, supervise all implementation work</li> <li>(ii) Prepare project documents and report to Xinjiang government and ADB</li> <li>(iii) Submit project implementation progress reports, safeguards monitoring reports, and annual audit reports to ADB</li> <li>(iv) Submit all procurement and disbursement documents to ADB</li> <li>(v) Engage all capacity building consultants</li> <li>(vi) Implement capacity development component of the project</li> <li>(vii) Carry out project performance and compliance monitoring</li> <li>(viii) Disclose project-related information and documents in accordance with ADB guidelines</li> </ul>
Xinjiang Finance Department	<ul style="list-style-type: none"> <li>(i) Provide overall project guidance and coordination</li> <li>(ii) Establish and manage the project imprest account</li> <li>(iii) Submit withdrawal applications to ADB</li> <li>(iv) Manage and supervise loan repayment</li> <li>(v) Oversee and facilitate provision of counterpart funds</li> </ul>
CHAPG	<ul style="list-style-type: none"> <li>(i) Responsible for overall implementation of the project with the guidance of Xinjiang government</li> <li>(ii) Facilitate inter-agency coordination, and resolve any institutional problems within Changji government that may affect the project implementation</li> <li>(iii) Provide general supervision, coordination, and support to XPMO to manage the tendering agent and consulting firms</li> </ul>
CPMO	<ul style="list-style-type: none"> <li>(i) Provide oversight of the project preparation and implementation with the guidance of Xinjiang and Changji governments</li> <li>(ii) Ensure coordination across sectors</li> <li>(iii) Coordinate training and capacity development activities</li> <li>(iv) Supervise implementation of resettlement plans, EMP, EMDP, and SGAP</li> <li>(v) Coordinate between implementing agencies and Changji Finance Bureau for financial transactions and payment</li> </ul>
Changji Finance Bureau	<ul style="list-style-type: none"> <li>(i) Maintain separate accounting records for the project, and prepare project financial statements and have them audited</li> </ul>

<b>Project Implementation Organizations</b>	<b>Management Roles and Responsibilities</b>
Fukang City Government, Hutubi County Government, Qitai County Government (Implementing Agencies)	<ul style="list-style-type: none"> <li>(i) Responsible for implementation of the project with the guidance of Xinjiang and Changji governments</li> <li>(ii) Facilitate inter-agency coordination, and resolve any institutional problems that may affect the project implementation</li> <li>(iii) Review withdrawal applications</li> <li>(iv) Facilitate audit of project accounts</li> <li>(v) Responsible for providing counterpart funds</li> <li>(vi) Coordinate land approvals, implementation of respective resettlement plans, and ensure timely provision of counterpart funds for resettlement</li> <li>(vii) Implement EMDP and SGAP</li> </ul>
Fukang City HURCB, Fukang Technician College, Fukang City Forestry Bureau, Ganhezi Town Government, Hutubi County HURCB, Qitai County HURCB (project implementation units)	<ul style="list-style-type: none"> <li>(i) Develop project management procedures, implementation plan, and financial management</li> <li>(ii) Responsible for day-to-day project implementation activities for all infrastructure subcomponents</li> <li>(iii) Support XPMO to design and procure works and goods under all infrastructure subcomponents</li> <li>(iv) Administer and monitor the contractors and suppliers, with the support of design institutes, tendering agent, and supervision companies</li> <li>(v) Undertake contract management, construction supervision, and quality control, with the support of supervision companies</li> <li>(vi) Prepare withdrawal applications for relevant project expenses</li> <li>(vii) Participate in training and capacity development activities</li> <li>(viii) Maintain separate accounting records for the project</li> <li>(ix) Prepare and update site EMPs and other project documents</li> <li>(x) Organize project acceptance verification</li> </ul>
ADB	<ul style="list-style-type: none"> <li>(i) Provide the CHAPG and implementing agencies with guidance to ensure smooth project implementation and achieve the desired development impacts and their sustainability</li> <li>(ii) Conduct regular loan review, midterm review, and project completion review missions</li> <li>(iii) Review and approve procurement actions</li> <li>(iv) Approve withdrawal applications and disburse loan proceeds</li> </ul>

ADB = Asian Development Bank, CHAPG = Changji Hui Autonomous Prefecture Government, CPMO = Changji project management office, EMP = environmental management plan, HURCB = Housing and Urban–Rural Construction Bureau, SGAP = social and gender action plan, XPMO = Xinjiang project management office, XUARG = Xinjiang Uygur Autonomous Region Government.

Source: Asian Development Bank.

**Table 3: Implementation Arrangement**

<b>Output</b>	<b>Works</b>	<b>Project Implementation Unit</b>
<b><i>Fukang City urban area</i></b>		
(i) Roads and road ancillary facilities (including utility pipes) constructed or rehabilitated	(i) Construct or rehabilitate pipelines for water supply, drainage, and heating under nine roads (ii) Construct or rehabilitate nine roads to connect peri-urban and inner-urban poor villages to existing urban roads including bridges (iii) Procure road maintenance equipment (iv) Plant ecological shelterbelts for soil and flood protection	Fukang City HURCB
(ii) Capacity of TVET enhanced	Establish one TVET center and support equipment and facility to meet the needs of the local industries for skilled workers	Fukang Technician College
(iii) Ecological protection shelterbelts in Fukang created	Plant windbreak shelterbelts	Fukang City Forestry Bureau
<b><i>Ganhezi Town of Fukang City</i></b>		
(i) Roads and road ancillary facilities (including utility pipes) constructed or rehabilitated	(i) Construct or rehabilitate pipelines for water supply, drainage, heating, and gas under five roads (ii) Construct or rehabilitate five roads to connect peri-urban and inner-urban poor villages to existing urban roads including bridges (iii) Procure snow removal equipment	Ganhezi Town Government
<b><i>Hutubi County</i></b>		
(i) Roads and road ancillary facilities (including utility pipes) constructed or rehabilitated	(i) Construct pipelines for water supply, wastewater, heating, and gas under three new roads (ii) Construct three roads, to connect peri-urban and inner-urban poor villages to existing urban roads	Hutubi County HURCB
<b><i>Qitai County</i></b>		
(i) Water supply and solid waste management facilities in Qitai improved	(i) Construct water transmission and distribution pipelines for a new water supply plant, including pipelines under five new roads	Qitai County HURCB

Output	Works	Project Implementation Unit
	(ii) Construct a sanitary landfill and garbage transfer stations, purchase garbage transport equipment and bins, and close an existing landfill	
(ii) Roads and road ancillary facilities (including utility pipes) constructed or rehabilitated	Construct five roads to connect peri-urban and urban poor villages left within the urban areas to existing urban roads	Qitai County HURCB
<b>Nonstructural outputs</b>		
(i) Capacity of project management and urban planning enhanced	(i) Institutional strengthening for effective functioning of executing agency and implementing agencies (ii) Capacity strengthening for urban planning	XPMO  XPMO lead with support of CPMO, FPMO, HPMO, and QPMO
(ii) Capacity of TVET enhanced	Capacity building for TVET curriculum development	XPMO lead with support of Fukang Technician College, Hutubi County Technical School, and Qitai Secondary Vocational and Technical School
(iii) External monitoring	External monitoring for resettlement, social (social, gender, ethnic minorities), and environmental management	XPMO

CPMO = Changji project management office, FPMO = Fukang project management office, HPMO = Hutubi project management office, HURCB = Housing and Urban–Rural Construction Bureau, QPMO = Qitai project management office, TVET = technical and vocational education and training, XPMO = Xinjiang project management office.

Source: Asian Development Bank.

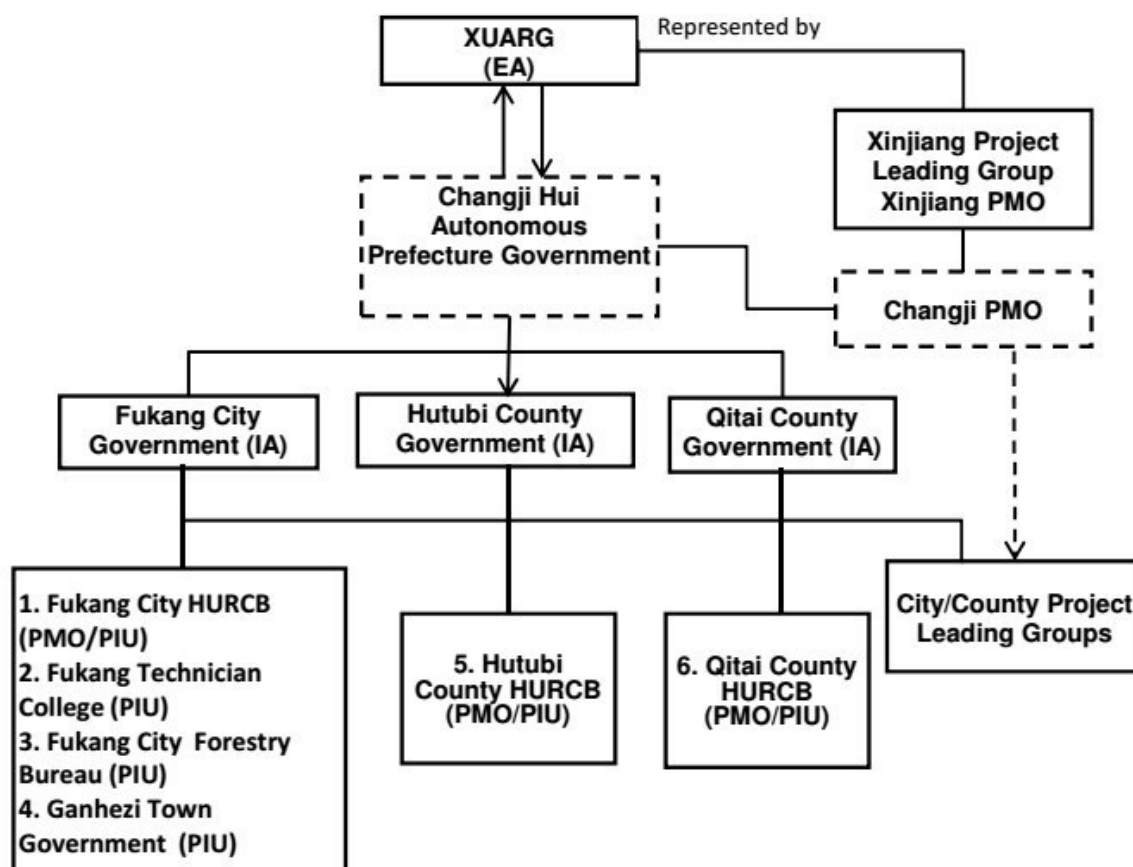
## B. Key Persons Involved in Implementation

**Table 4: Key Persons in Project Leadership**

<b>Executing Agency</b>	
Xinjiang Uygur Autonomous Region Government	Officer's Name: Li Xuedong Position: Director, Xinjiang Project Management Office Telephone: +86 991 2841298 Email address: jstjhcwc_changji@sina.com Office Address: Room 1203, Xinjiang Uygur Autonomous Regional Bureau of Housing and Urban-Rural Development, No. 462 Zhongshan Road, Urumqi, Xinjiang, 830002
Changji Hui Autonomous Prefecture Government	
Changji project management office	Officer's Name: Yue Yong Position: Vice Chairman, Changji Hui Autonomous Prefecture Telephone: +86 994 2357758 Email address: cjhymb@sina.cn Office Address: No. 22 South Beijing Road, Changji City, Xinjiang
<b>Asian Development Bank</b>	
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### C. Project Organization Structure



EA = executing agency, HURCB = housing and urban-rural construction bureau, IA = implementing agency, PIU = project implementation unit, PMO = project management office, XUARG = Xinjiang Uygur Autonomous Region Government.

Source: Asian Development Bank.

#### IV. COSTS AND FINANCING

14. The government has requested a regular loan of \$150 million from ADB's ordinary capital resources to help finance the project. The loan will have a 26-year term, including a grace period of 5 years, an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.15% per year (the interest and other charges during construction to be capitalized in the loan); and such other terms and conditions set forth in the draft loan and project agreements. Based on the straight-line method, the average maturity is 15.75 years and the maturity premium payable to ADB is 0.10% per year. ADB's Controller's Department will provide the final confirmation and issue the loan repayment schedule at loan negotiations.

15. The ADB loan will finance 58.73% of the project cost, including works and engineering installation, equipment and its installation, technical and vocational education and training program, and capacity building and training and project management. The borrower of the loan is the PRC Government and will make the loan available, through the Xinjiang Uygur Autonomous Region Government (XUARG), to Changji Hui Autonomous Prefecture Government (CHAPG) on the same terms and conditions as those of the ADB loan. XUARG will assume the foreign exchange and interest variation risks of the ADB loan. The PRC, XUARG, and CHAPG have assured ADB that counterpart funding will be provided in a timely manner, and any additional counterpart funding required for any shortfall of funds or cost overruns will be provided. The Xinjiang Uygur Autonomous Region Finance Department (XUARFD) will open an imprest account, and CHAPG, Fukang City Government, Hutubi County Government, and Qitai County Government finance bureaus each will open their own dedicated project accounts in a commercial bank of their choosing. These accounts will be used for local project funds. ADB funds will be retained by the XUARG for payment to contractors.

##### A. Cost Estimates Preparation and Revisions

16. **Preparation.** The cost estimates were prepared based on the feasibility study in accordance with ADB's Guidelines on Preparing and Presenting Cost Estimates for Projects and Programs Financed by ADB.<sup>15</sup>

17. **Revisions.** The cost estimates may be updated prior to approval and during the implementation of the project particularly in the procurement plan to reflect the actual contract prices, contract variations, and updated cost estimates.

##### B. Key Assumptions

18. The following key assumptions underpin the cost estimates and financing plan:

- (i) Exchange rate at CNY6.9 = \$1.0 (as of 1 December 2016); and
- (ii) Price contingencies based on expected inflation over the implementation period.

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<sup>15</sup> ADB. 2014. *Preparing and Presenting Cost Estimates for Projects and Programs Financed by the Asian Development Bank*. Manila.

**Table 5: Escalation Rates for Price Contingency Calculation (%)**

Item	2016	2017	2018	2019	2020	2021	Average
International cost escalation factor <sup>a</sup>	1.5	1.4	1.5	1.5	1.5	1.5	1.5
Domestic cost escalation factor <sup>b</sup>	2.0	2.2	2.3	2.3	2.3	2.3	2.2

<sup>a</sup> World Bank Manufacturer's Unit Value (MUV) Index, July 2014.

<sup>b</sup> ADB. 2016. *Asian Development Outlook 2016*. Manila.

Source: Asian Development Bank estimates.

**Table 6: Project Investment Plan**  
(\$ million)

Item	Amount <sup>a</sup>
<b>A. Base Cost<sup>b</sup></b>	
1. Output 1: Roads and road ancillary facilities	
Road works	70.59
Road ancillary facilities including utility pipes	62.17
2. Output 2: Water supply and solid waste management facilities in Qitai	46.94
3. Output 3: Ecological protection shelterbelts in Fukang	32.94
4. Output 4: Technical and vocational education and training	7.44
5. Output 5: Project management and urban planning capacity enhancement	1.70
<b>Subtotal (A)</b>	<b>221.78</b>
<b>B. Contingencies<sup>c</sup></b>	<b>23.75</b>
<b>C. Financial Charges During Implementation<sup>d</sup></b>	<b>9.89</b>
<b>Total (A+B+C)</b>	<b>255.42</b>

<sup>a</sup> Includes taxes and duties of \$7.2 million. This amount does not represent an excessive share of the project cost.

<sup>b</sup> In October 2016 prices, and an exchange rate \$1.0 = CNY6.9 as of 1 December 2016.

<sup>c</sup> Physical contingencies computed at 5% for civil works. Price contingencies computed at average of 1.5% on foreign exchange costs and 2.2% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>d</sup> Includes interest and commitment charges. Interest during construction for the ordinary capital resources (OCR) loan 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 the OCR loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

**Table 7: Financing Plan**  
(\$ million)

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (regular loan)	150.00	58.73
Government	105.42	41.27
Fukang City Government	33.55	13.13
Hutubi County Government	18.47	7.23
Qitai County Government	53.40	20.91
<b>Total</b>	<b>255.42</b>	<b>100.00</b>

Source: Asian Development Bank estimates.

### C. Detailed Cost Estimates by Expenditure Category

**Table 8: Cost Estimates by Expenditure Category**

Item	(CNY million)			(\$ million) <sup>a</sup>			% of Base Cost	% of Total Cost
	Foreign Exchange Cost	Local Currency Cost	Total Cost	Foreign Exchange Cost	Local Currency Cost	Total Cost		
<b>A. Investment Costs<sup>b</sup></b>								
1. Civil Works	190.52	571.55	762.07	27.61	82.83	110.44	49.80	43.24
2. Equipment	45.79	106.85	152.64	6.64	15.49	22.12	9.97	8.66
3. Engineering installation	51.10	153.31	204.41	7.41	22.22	29.63	13.36	11.60
4. Design, monitoring, and evaluation	0.0	95.99	95.99	0.0	13.91	13.91	6.27	5.45
5. Land acquisition and resettlement	0.0	297.89	297.89	0.0	43.17	43.17	19.47	16.90
6. Technical and vocational education and training (nonstructural component) <sup>c</sup>	0.0	5.52	5.52	0.0	0.80	0.80	0.36	0.31
7. Capacity building and training <sup>d</sup>	0.0	4.14	4.14	0.0	0.60	0.60	0.27	0.23
8. Project management <sup>e</sup>	0.0	7.59	7.59	0.0	1.10	1.10	0.50	0.43
<b>Subtotal (A)</b>	<b>287.41</b>	<b>1,242.84</b>	<b>1,530.26</b>	<b>41.66</b>	<b>180.12</b>	<b>221.78</b>	<b>100.00</b>	<b>86.83</b>
<b>B. Contingencies<sup>f</sup></b>								
1. Physical	14.37	62.14	76.51	2.08	9.01	11.09	5.00	4.34
2. Price	16.40	70.93	87.33	2.38	10.28	12.66	5.71	4.96
<b>Subtotal (B)</b>	<b>30.77</b>	<b>133.07</b>	<b>163.84</b>	<b>4.46</b>	<b>19.29</b>	<b>23.75</b>	<b>10.71</b>	<b>9.30</b>
<b>C. Financial Charges During Implementation<sup>g</sup></b>	<b>-</b>	<b>68.27</b>	<b>68.27</b>	<b>-</b>	<b>9.89</b>	<b>9.89</b>	<b>4.46</b>	<b>3.87</b>
<b>Total Project Cost (A+B+C)</b>	<b>318.19</b>	<b>1,444.18</b>	<b>1,762.37</b>	<b>46.11</b>	<b>209.30</b>	<b>255.42</b>	<b>115.17</b>	<b>100.00</b>

Note: Numbers may not sum precisely because of rounding.

<sup>a</sup> In October 2016 prices, and an exchange rate of CNY6.9 per \$1 as of 1 December 2016.

<sup>b</sup> Includes taxes and duties of \$7.20 million.

<sup>c</sup> Including cost for (i) consulting service for technical and vocational education and training course development, and (ii) various capacity building and training items required for the course development, in-service teacher training, quality assurance system development, and school culture development, to be charged directly to the project account.

<sup>d</sup> Including cost for (i) urban planning capacity development consulting service; (ii) solid waste management 3R pilot program; and (iii) training items required for workshops, seminars, study tours and on-the-job training, to be charged directly to the project account.

<sup>e</sup> Including cost for (i) project management and institutional strengthening support; and (ii) initial project implementation support.

<sup>f</sup> Physical contingencies computed at 5% for civil works. Price contingencies computed at average of 1.5% on foreign exchange costs and 2.2% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>g</sup> Includes interest and commitment charges. Interest during construction for the ordinary capital resources (OCR) loan 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 the OCR loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

**D. Allocation and Withdrawal of Loan Proceeds**

Item	Total Amount Allocated (\$ million) <sup>a</sup>		ADB Financing Basis
	Category	Subcategory	Percentage and Basis for Withdrawal from the Loan Account
1. Works and engineering installation	115.48		
1A. For Fukang components		59.18	93.26% of total expenditure claimed
1B. For Hutubi components		21.70	94.97% of total expenditure claimed
1C. For Qitai components		34.60	64.36% of total expenditure claimed
2. Equipment, capacity building, training and project management	24.63		100% of total expenditure claimed
3. Interest and commitment charges	9.89		100% of amount due
<b>Total</b>	<b>150.00</b>		

<sup>a</sup> Includes taxes and duties of \$7.2 million.

Source: Asian Development Bank estimates.

**E. Detailed Cost Estimates by Financier**

Item	ADB Loan		Government		Total Costs
	Amount <sup>a</sup> (\$ million)	% Cost Category	Amount (\$ million)	% Cost Category	
<b>A. Investment Costs<sup>b</sup></b>					
1. Civil Works and engineering installation	115.48	82.44	24.59	17.56	140.07
1A. For Fukang components	59.18	93.26	4.28	6.74	63.46
1B. For Hutubi components	21.70	94.97	1.15	5.03	22.85
1C. For Qitai Components	34.60	64.36	19.16	35.64	53.76
2. Equipment	22.13	100.00	0.00	0.00	22.13
3. Design, monitoring, and evaluation	0.00	0.00	13.91	100.00	13.91
4. Land acquisition and resettlement	0.00	0.00	43.17	100.00	43.17
5. Technical and vocational education and training (nonstructural component) <sup>c</sup>	0.80	100.00	0.00	0.00	0.80
6. Capacity building and training <sup>d</sup>	0.60	100.00	0.00	0.00	0.60
7. Project management <sup>e</sup>	1.10	100.00	0.00	0.00	1.10
<b>Subtotal (A)</b>	<b>140.11</b>	<b>63.18</b>	<b>81.67</b>	<b>36.82</b>	<b>221.78</b>
<b>B. Contingencies<sup>f</sup></b>	<b>0.00</b>	<b>0.00</b>	<b>23.75</b>	<b>100.00</b>	<b>23.75</b>
<b>C. Financial Charges During Implementation<sup>g</sup></b>	<b>9.89</b>	<b>100.00</b>	<b>0.00</b>	<b>0.00</b>	<b>9.89</b>
<b>Total Project Cost (A+B+C)</b>	<b>150.00</b>	<b>58.73</b>	<b>105.42</b>	<b>41.27</b>	<b>255.42</b>

Note: Numbers may not sum precisely because of rounding.

<sup>a</sup> In October 2016 prices, and an exchange rate of CNY6.9 per \$1 as of 1 December 2016.

<sup>b</sup> Includes taxes and duties of \$7.20 million.

<sup>c</sup> Including cost for (i) consulting service for technical and vocational education and training course development, and (ii) various capacity building and training items required for the course development, in-service teacher training, quality assurance system development, and school culture development, to be charged directly to the project account.

<sup>d</sup> Including cost for (i) urban planning capacity development consulting service; (ii) solid waste management 3R pilot program; and (iii) training items required for workshops, seminars, study tours, and on-the-job training, to be charged directly to the project account.

<sup>e</sup> Including cost for (i) project management and institutional strengthening support; and (ii) initial project implementation support.

<sup>f</sup> Physical contingencies computed at 5% for civil works. Price contingencies computed at average of 1.5% on foreign exchange costs and 2.2% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>g</sup> Includes interest and commitment charges. Interest during construction for the ordinary capital resources (OCR) loan 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 the OCR loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

## F. Detailed Cost Estimates by Outputs and Components

Item	Total Amount <sup>a</sup> (\$ million)	Fukang City		Hutubi County		Qitai County		Project Management and Capacity Building	
		Amount (\$ million)	% Cost Category	Amount (\$ million)	% Cost Category	Amount (\$ million)	% Cost Category	Amount (\$ million)	% Cost Category
<b>A. Investment Costs<sup>b</sup></b>									
1. Civil Works and engineering installation	140.07	63.46	45.31	22.85	16.31	53.76	38.38	0.00	0.00
2. Equipment	22.13	9.74	44.01	1.56	7.05	10.83	48.94	0.00	0.00
3. Design, monitoring, and evaluation	13.91	5.76	41.41	2.19	15.74	5.96	42.85	0.00	0.00
4. Land acquisition and resettlement	43.17	13.40	31.04	10.60	24.55	19.17	44.41	0.00	0.00
5. Technical and vocational education and training (nonstructural component) <sup>c</sup>	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.80	100.00
6. Capacity building and training <sup>d</sup>	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.60	100.00
7. Project management <sup>e</sup>	1.10	0.00	0.00	0.00	0.00	0.00	0.00	1.10	100.00
<b>Subtotal (A)</b>	<b>221.78</b>	<b>92.36</b>	<b>41.64</b>	<b>37.20</b>	<b>16.77</b>	<b>89.72</b>	<b>40.45</b>	<b>2.50</b>	<b>1.13</b>
<b>B. Contingencies<sup>f</sup></b>									
1. Physical	11.09	4.68	42.20	1.88	16.95	4.53	40.85	0.00	0.00
2. Price	12.66	5.43	42.89	2.65	20.93	4.58	36.18	0.00	0.00
<b>Subtotal (B)</b>	<b>23.75</b>	<b>10.11</b>	<b>42.57</b>	<b>4.53</b>	<b>19.07</b>	<b>9.11</b>	<b>38.36</b>	<b>0.00</b>	<b>0.00</b>
<b>C. Financial Charges during Implementation<sup>g</sup></b>	<b>9.89</b>	<b>4.83</b>	<b>48.83</b>	<b>1.33</b>	<b>13.45</b>	<b>3.73</b>	<b>37.71</b>	<b>0.00</b>	<b>0.00</b>
<b>Total Project Cost (A+B+C)</b>	<b>255.42</b>	<b>107.30</b>	<b>42.01</b>	<b>43.06</b>	<b>16.86</b>	<b>102.56</b>	<b>40.15</b>	<b>2.50</b>	<b>0.98</b>

Note: Numbers may not sum precisely because of rounding.

<sup>a</sup> In October 2016 prices, and an exchange rate of CNY6.9 per \$1 as of 1 December 2016.

<sup>b</sup> Includes taxes and duties of \$7.20 million.

<sup>c</sup> Including cost for (i) consulting service for technical and vocational education and training course development, and (ii) various capacity building and training items required for the course development, in-service teacher training, quality assurance system development, and school culture development, to be charged directly to the project account.

<sup>d</sup> Including cost for (i) urban planning capacity development consulting service; (ii) solid waste management 3R pilot program; and (iii) training items required for workshops, seminars, study tours and on-the-job training, to be charged directly to the project account.

<sup>e</sup> Including cost for (i) project management and institutional strengthening support; and (ii) initial project implementation support

<sup>f</sup> Physical contingencies computed at 5% for civil works. Price contingencies computed at average of 1.5% on foreign exchange costs and 2.2% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>g</sup> Includes interest and commitment charges. Interest during construction for the OCR loan 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 the OCR loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

**G. Detailed Cost Estimates by Year**

Item	2018		2019		2020		2021		2022		Total
	\$ million	%	\$ million	%	\$ million	%	\$ million	%	\$ million	%	\$ million
<b>A. Investment Costs<sup>a</sup></b>											
1. Roads and road ancillary Facilities	20.74	15.62	38.80	29.22	45.28	34.11	20.12	15.16	7.83	5.90	132.76
2. Water transmission pipelines and solid waste management facilities in Qitai	21.79	46.41	14.61	31.11	6.63	14.12	1.99	4.24	1.93	4.11	46.94
3. Ecological protection shelterbelts in Fukang	11.07	33.61	13.53	41.06	7.80	23.66	0.23	0.70	0.32	0.97	32.94
4. Technical and vocational education and training <sup>b</sup>	1.78	23.92	2.11	28.36	1.94	26.01	1.51	20.23	0.11	1.48	7.44
5. Project management and urban planning capacity enhancement <sup>c</sup>	0.60	35.29	0.40	23.53	0.40	23.53	0.20	11.76	0.10	5.88	1.70
<b>Subtotal (A)</b>	<b>55.97</b>	<b>25.24</b>	<b>69.44</b>	<b>31.31</b>	<b>62.04</b>	<b>27.97</b>	<b>24.05</b>	<b>10.84</b>	<b>10.29</b>	<b>4.64</b>	<b>221.78</b>
<b>B. Contingencies<sup>d</sup></b>	<b>4.61</b>	<b>19.41</b>	<b>7.07</b>	<b>29.75</b>	<b>7.25</b>	<b>30.51</b>	<b>3.06</b>	<b>12.88</b>	<b>1.77</b>	<b>7.45</b>	<b>23.75</b>
<b>C. Financial Charges During Implementation<sup>e</sup></b>	<b>0.74</b>	<b>7.48</b>	<b>1.38</b>	<b>13.95</b>	<b>2.52</b>	<b>25.48</b>	<b>1.55</b>	<b>15.67</b>	<b>3.70</b>	<b>37.41</b>	<b>9.89</b>
<b>Total (A+B+C)</b>	<b>61.32</b>	<b>24.01</b>	<b>77.88</b>	<b>30.49</b>	<b>71.81</b>	<b>28.11</b>	<b>28.66</b>	<b>11.22</b>	<b>15.76</b>	<b>6.17</b>	<b>255.42</b>

Note: In October 2016 prices, and an exchange rate of CNY6.9 per \$1 as of 1 December 2016. Numbers may not sum precisely because of rounding.

<sup>a</sup> Includes taxes and duties of \$7.20 million.

<sup>b</sup> Including cost for (i) consulting service for technical and vocational education and training course development, and (ii) various capacity building and training items required for the course development, in-service teacher training, quality assurance system development, and school culture development, to be charged directly to the project account.

<sup>c</sup> Including cost for (i) project management and institutional strengthening support; and (ii) initial project implementation support (iii) urban planning capacity development consulting service; (iv) solid waste management 3R pilot program; and (v) training items required for workshops, seminars, study tours, and on-the-job training, to be charged directly to the project account.

<sup>d</sup> Physical contingencies computed at 5% for civil works. Price contingencies computed at average of 1.5% on foreign exchange costs and 2.2% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>e</sup> Includes interest and commitment charges. Interest during construction for the ordinary capital resources (OCR) loan 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 the OCR loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.



## H. Contract and Disbursement S-Curve

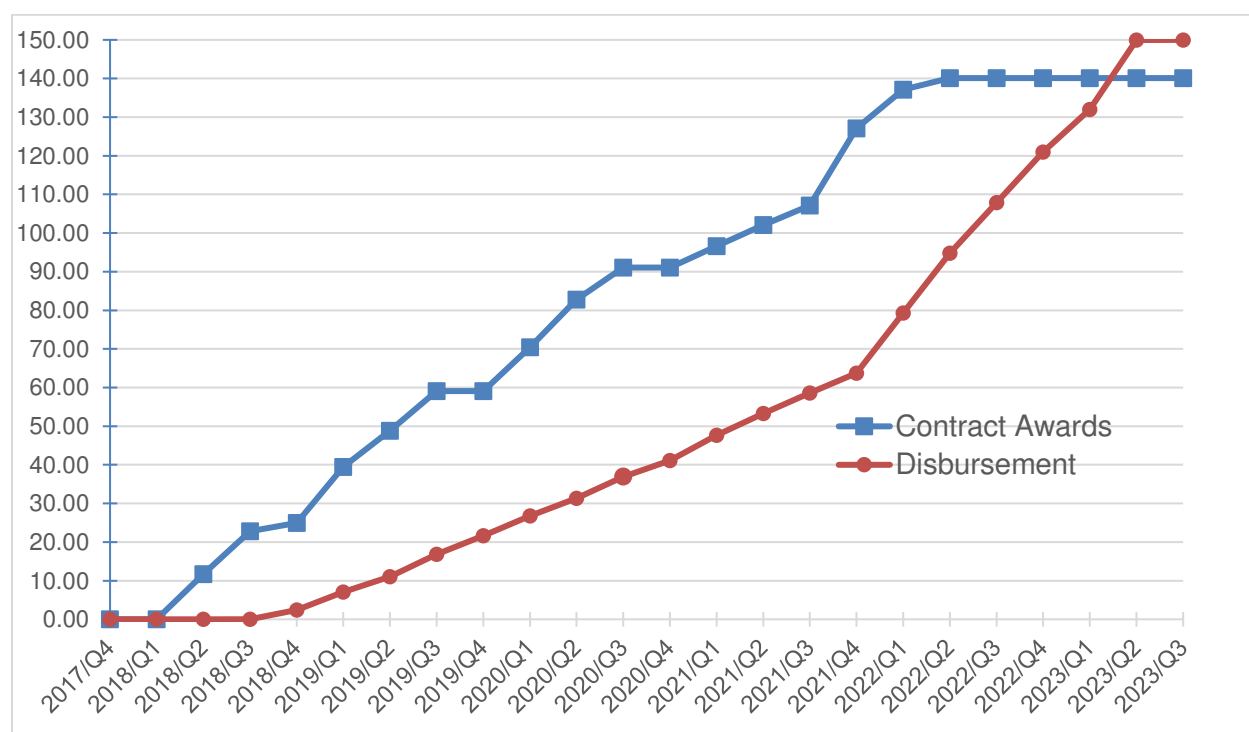
Year	Contract Awards					Disbursement				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2017				-	-				-	-
2018	-	11.73 <sup>a</sup>	11.08	2.12	24.93	-	-	0.03 <sup>a</sup>	2.40	2.43
2019	14.50	9.38	10.30	-	34.18	4.66	3.99	5.73	4.84	19.22
2020	11.35	12.33	8.30	-	31.98	5.10	4.59	5.57	4.20	19.46
2021	5.50	5.52	5.00	20.00	11.02	6.59	5.59	5.35	5.08	22.61
2022	10.00	3.00	-	-	13.00	15.55	15.55	13.10	13.08	57.29
2023	-	-	-		-	11.00	18.00	-		29.00
<b>Total</b>					<b>140.11<sup>b</sup></b>					<b>150.00</b>

Note: Numbers may not sum precisely because of rounding.

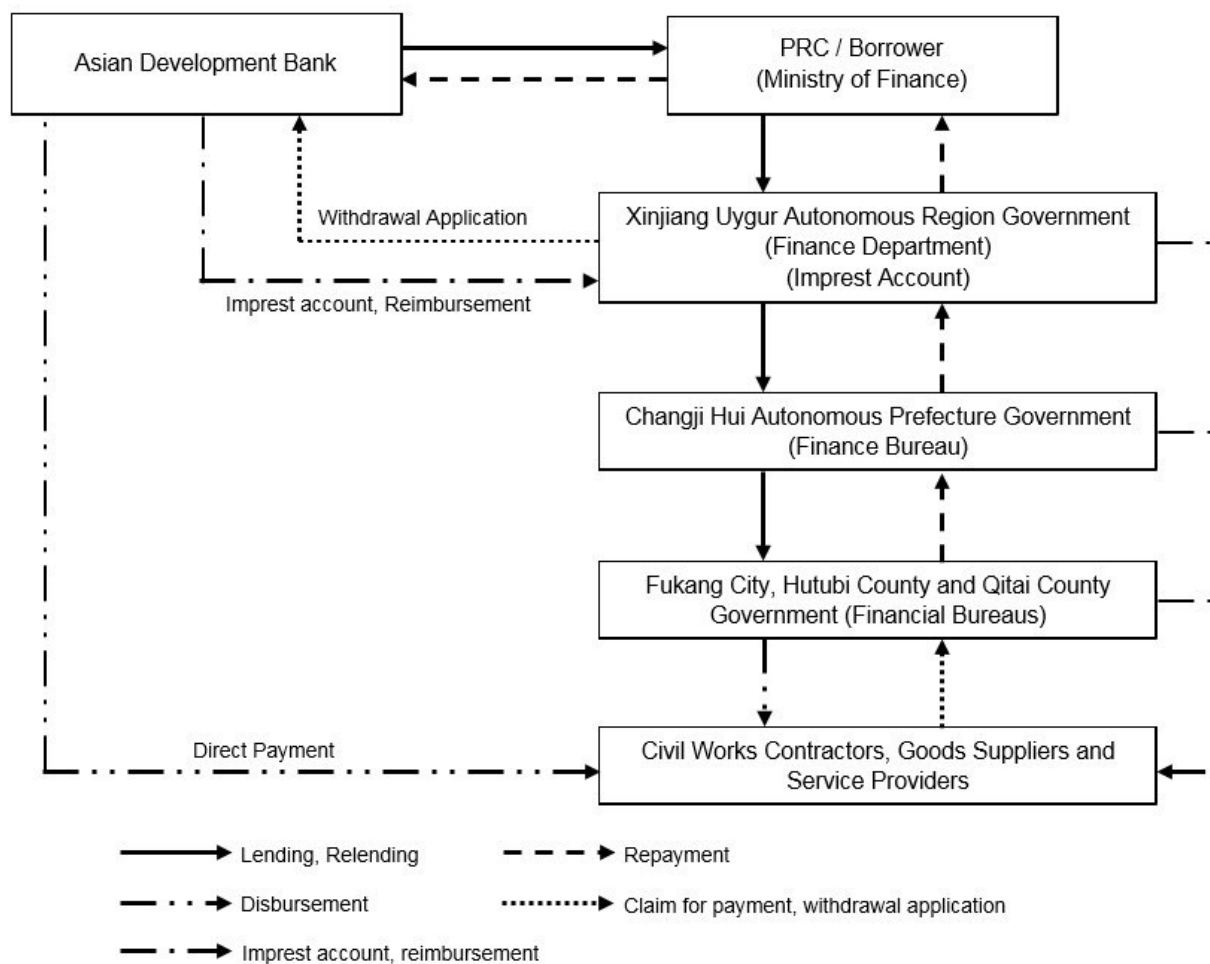
<sup>a</sup> Includes contract awards and disbursement during advance contracting and retroactive financing before loan effectiveness and imprest account opening.

<sup>b</sup> The difference between the total disbursement of \$150 million and the total contract awards of \$140.11 million is the IDC (interest during construction) of \$9.89 million.

Source: Asian Development Bank estimates.



## I. Fund Flow Diagram



PRC = People's Republic of China.  
Source: Asian Development Bank.

## V. FINANCIAL MANAGEMENT

### A. Financial Management Assessment

19. The financial management assessment was conducted in accordance with Asian Development Bank (ADB)'s *Guidelines for the Financial Management and Analysis of Projects* (2005), *Financial Due Diligence: a Methodology Note*, and *Technical Guidance Note: Financial Management Assessment*.<sup>16</sup> According to the implementation arrangement, Xinjiang Uygur Autonomous Region (Xinjiang) Government is the executing agency with the overall responsibility of planning and implementation of the project and its PMO is set in Xinjiang Housing and Urban–Rural Construction Department. There are three implementing agencies, which PMOs are established in (i) Fukang City Housing and Urban–Rural Construction Bureau, (ii) Hutubi County Housing and Urban–Rural Construction Bureau, and (iii) Qitai County Housing and Urban–Rural Construction Bureau to implement the seven project components. The assessment covered funds-flow arrangements, staffing, accounting and financial reporting systems, internal and external auditing arrangements, and financial information systems. The instrument used for the assessment is ADB's standard financial management assessment questionnaire with consideration of the country partnership strategy.

20. The assessment identified the main financial management risks as: (i) implementation risk—lack of familiarity with ADB disbursement procedures and requirements, which could delay project implementation; (ii) compliance risk—lack of familiarity with ADB financial management requirements, particularly on accounting, reporting, and auditing, which may delay project reporting and derail identification of issues on the use of loan proceeds; and (iii) financing risk—delays in provision of or inadequate counterpart funding, which could delay project implementation. Without continued national government subsidies, the poor financial condition of FCG, HCG, and QCG may affect the ability to pay the loan debt service after completion of the project. The overall financial management risk rating of the project before considering mitigating measures is moderate. The identified financial management risks will be closely monitored during project implementation. The financial management action plan is as follows:

**Table 9: Financial Management Action Plan**

Action	Responsibility	Timing
1. Training on ADB disbursement procedures and requirements	ADB	1 month before first disbursement
2. Training on ADB financial management requirements, including accounting and auditing, foreign exchange, and interest rate risk management	ADB	3 months before loan effectiveness
3. Recruitment of experienced consultants and skilled accountants to enhance the operational capacities	EA	3 months after loan effectiveness
4. Development of financial management manuals	EA	Before loan effectiveness
5. Close monitoring to timely identify potential issues in counterpart funding	EA	At least once a year during project implementation
6. Discussion on possible interventions to review tariff structure and identify strategy for tariff reforms	EA	1st year of project implementation

ADB = Asian Development Bank, EA = executing agency, PMO = project management office.  
Source: Asian Development Bank.

<sup>16</sup> ADB. 2005. *Financial Management and Analysis of Projects*. Manila; ADB. 2009. *Financial Due Diligence: A Methodology Note*. Manila; and ADB. 2015. *Financial Management Technical Guidance Note: Financial Management Assessment*. Manila.

## B. Disbursement

21. The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time),<sup>17</sup> and detailed arrangements agreed upon between the government and ADB. Online training for project staff on disbursement policies and procedures is available at: [http://wpqr4.adb.org/disbursement\\_elearning](http://wpqr4.adb.org/disbursement_elearning). Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

22. The project will use the combination of direct payment by ADB, reimbursement, and imprest fund procedures for disbursements of the loan. Responsibilities for different disbursement activities can be summarized as follows: (i) the Changji PMO will prepare project-level disbursement projections based on individual projections prepared by each implementing agency; (ii) CHAPG will be responsible for arranging counterpart financing or requesting budgetary allocations for counterpart funding, as appropriate; (iii) Fukang, Hutubi, and Qitai PMOs will prepare reimbursement claims and supporting documents, which will then be forwarded to Changji PMO for review and endorsement before onward transmission to XUARG; and (iv) XUARG is responsible for making payments from the imprest account (see next paragraph) and is also responsible for sending loan withdrawal applications to ADB to initiate either imprest account replenishment or where appropriate, to request direct payments by ADB to consultants or suppliers.

23. **Imprest fund procedure.** To facilitate project implementation through timely release of loan proceeds, Xinjiang Finance Department will establish an imprest account promptly after loan effectiveness at a commercial bank. The imprest account is to be used exclusively for the ADB's share of eligible expenditures. The currency of the imprest account will be the US dollar. Xinjiang Finance Department, who established the imprest account in its name, is accountable and responsible for proper use of advances to the imprest account. The total outstanding advance to the imprest account should not exceed the estimate of ADB's share of expenditures to be paid through the imprest account for the forthcoming 6 months. Xinjiang PMO may request for initial and additional advances to the imprest account based on an estimate of expenditure sheet<sup>18</sup> setting out the estimated expenditures to be financed through the account for the forthcoming 6 months. Supporting documents should be submitted to ADB or retained by Xinjiang PMO in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time) when liquidating and replenishing the imprest account.

24. **Statement of expenditure procedure.** The statement of expenditure (SOE) procedure<sup>19</sup> may be used for reimbursement of eligible expenditures or liquidation of advances to the imprest account. The ceiling of the SOE procedure is the equivalent of \$200,000 per individual payment. Supporting documents and records for the expenditures claimed under SOE should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit. Reimbursement and liquidation of individual payments in excess of the SOE ceiling should be supported by full documentation when submitting the withdrawal application to ADB.

<sup>17</sup> The handbook is available electronically from the ADB website (<https://www.adb.org/sites/default/files/institutional-document/33606/adb-loan-disbursement-handbook-2017.pdf>)

<sup>18</sup> Estimate of Expenditure sheet is available in Appendix 8A of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

<sup>19</sup> SOE forms are available in Appendix 7B and 7D of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

25. Before the submission of the first withdrawal application, the Xinjiang PMO, on behalf of XUARG, should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is stipulated in the *Loan Disbursement Handbook*. Individual payments below such amount should be paid (i) by the XUARG and subsequently claimed to ADB through reimbursement; or (ii) through the imprest fund procedure, unless otherwise accepted by ADB.

26. For the counterpart funds, the implementing agencies will allocate the designated funding for the project as indicated in the project agreement. Counterpart funds from the government will be disbursed and liquidated by the PIUs to contractors, suppliers, and service providers. The disbursement procedures follow this process: (i) a project implementing agreement will be mutually signed between each PIU and the respective city or county government; (ii) the project implementing agreement will become effective; (iii) according to the progress of the contract, PIUs will submit disbursement request to the project management office of the respective city or county governments; and (iv) once approved, counterpart funds will be disbursed from the finance bureau of the respective city or county governments.

### **C. Accounting**

27. Each implementing agency will prepare its own project accounts covering its respective components of the project that it implements and submit them to the Changji PMO after verification by the concerned local finance bureau. Project accounts will follow the prescribed government's accounting laws and regulations. The Changji PMO will verify and consolidate the accounts of all the implementing agencies, and incorporate the expenses incurred by Changji and Xinjiang's PMOs for the operation of the project. An assurance allowing an auditor of Xinjiang PMO to perform an audit when all supporting documents are likely to be available with the implementing agencies will be included in the Project Agreement. The XUARG will maintain separate books and records by funding source for all expenditures incurred on the project. The XUARG will prepare consolidated project financial statements in accordance with the government's accounting laws and regulations, and financial reporting standards, which are consistent with international accounting principles and practices and are acceptable to ADB.

### **D. Auditing and Public Disclosure**

28. XUARG will cause the detailed consolidated project financial statements<sup>20</sup> to be audited in accordance with International Standards on Auditing and with the Government's national auditing standards, by an independent auditor acceptable to ADB.<sup>21</sup> XUARG will submit the audited project financial statements in the English language to ADB within 6 months from the end of the fiscal year.

29. The annual audit report for the project accounts will include an audit management letter and auditor's opinions which cover (i) whether the project financial statements present an accurate and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting standards; (ii) whether loan proceeds were used only for the purposes of the project or not; and (iii) whether the financial covenants contained in the legal agreements for the project was in compliance with the financial covenants contained in the legal agreements (where applicable).

<sup>20</sup> The consolidated project financial statements will be prepared using an accrual basis.

<sup>21</sup> ADB. 2015. *Financial Management Technical Guidance Note: Project Financial Reporting and Auditing*. Manila.

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

31. The XUARG and the implementing agencies have been made aware of ADB's approach to delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.<sup>22</sup> 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.

32. Public disclosure of the audited project financial statements, including the auditor's opinion on the audited project financial statements, will be guided by ADB's Public Communications Policy 2011.<sup>23</sup> After the review, ADB will disclose the audited project financial statements for the project and the opinion of the auditors on the project financial statements no later than 14 calendar days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter, additional auditor's opinions, and audited entity financial statements will not be disclosed.<sup>24</sup>

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<sup>22</sup> ADB's approach and procedures regarding delayed submission of audited project financial statements:

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

<sup>23</sup> Public Communications Policy: <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>

<sup>24</sup> This type of information would generally fall under public communications policy exceptions to disclosure. ADB. 2011. *Public Communications Policy*. Paragraph 97(iv) and/or 97(v).

## VI. PROCUREMENT AND CONSULTING SERVICES

33. A project procurement risk assessment was conducted for the project, in accordance with ADB's *Guide on Assessing Procurement Risks and Determining Project Procurement Classification*.<sup>25</sup> The overall project procurement risk is moderate.

34. The only weakness identified is that though the XPMO has sufficient experience in managing ADB-financed projects, the local city or county level PMOs do not have sufficient knowledge and experience in procurement for ADB-financed projects.

35. These risks are being and will be mitigated as (i) the PMO has committed to fulfill ADB's requirements for all procurements and consultant recruitments for the project, (ii) ADB, procurement consultants, and a procurement agency conducted, are conducting, and will conduct capacity development, and (iii) procurement consultants and a procurement agency will provide support for procurement and consultant requirements.

36. The XPMO and CPMO have confirmed that during project implementation, XPMO will manage all the procurement activities with support from project implementation units (PIUs) under the implementing agencies. A procurement capacity assessment (PCA), therefore, has been conducted to assess the capacity of the XPMO and the PIUs to procure goods, works, and consulting services under the project. The standard procurement capacity questionnaire was delivered. A project procurement risk assessment was conducted based on the review of regional procurement practices and the feedback from the questionnaire survey. The risk category is proposed to be moderate and the project procurement classification is Category B.

37. The communications with the XPMO revealed that the XPMO has extensive procurement experience with ADB-funded projects, as it has managed several previous ADB projects in Xinjiang. However, the implementing agencies and PIUs both have very limited ADB project experience. Such risk can be effectively mitigated through a series of measures, such as (i) hiring of a qualified and experienced tendering agent to assist in the procurement activities, i.e., bidding documents preparation, advertisement, bid tendering, etc.; (ii) early engagement of a start-up consultant and project implementation consultants at initial stage of project implementation or before the tendering agent is mobilized; and (iii) provision of extensive training and support on ADB procurement policies and procedures.

### A. Advance Contracting and Retroactive Financing

38. All advance contracting and retroactive financing will be undertaken in conformity with ADB's Procurement Guidelines (2015, as amended from time to time),<sup>26</sup> and ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).<sup>27</sup> The issuance of invitations for bid under advance contracting and retroactive financing will be subject to ADB approval. The borrower, XUARG, and the implementing agencies have been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the project.

39. **Advance contracting.** Advance contracting applies to the consulting services contract for initial project implementation support, few contracts for the water transmission pipelines for Qitai

<sup>25</sup> ADB. 2015. *Guide on Assessing Procurement Risks and Determining Project Procurement Classification*.

<sup>26</sup> Procurement Guidelines: [https://www.adb.org/documents/procurement-guidelines\\_](https://www.adb.org/documents/procurement-guidelines_)

<sup>27</sup> Consulting Guidelines: <https://www.adb.org/documents/guidelines-use-consultants-asian-development-bank-and-its-borrowers>.

County, windbreak shelterbelts near North Ring Road for Fukang City. Advance contracting will be undertaken with the following conditions:

- (i) ADB has reviewed and cleared the resettlement plan and the environment management plan (EMP);
- (ii) In case land acquisition and resettlement activities commence ahead of approval of the resettlement plan, a resettlement due diligence report (by an external monitor, confirming that the resettlement plan implementation is in accordance with the resettlement plan and ADB policies and procedures) should be prepared in addition to the resettlement plan itself; and
- (iii) All conditions precedent to contract award, such as approval of the finalized resettlement plan (and due diligence report) reflecting detailed measurement survey and approval of project environmental impact assessment (EIA), are satisfied.

40. **Retroactive financing.** XUARG was advised that retroactive financing may only apply up to the equivalent of 20% of the total ADB loan, to cover eligible expenditures incurred for works, goods, and consulting services procured through advance contracting before loan effectiveness, but not earlier than 12 months before the signing of the loan agreement. Retroactive financing applies to the consulting services contracts for the initial project implementation support.

## **B. Procurement of Goods, Works, and Consulting Services**

41. All procurement of goods and works will be undertaken in accordance with ADB's Procurement Guidelines and the *Procurement Reform–10 Point Action Plan* and associated reforms. The relevant sections of ADB's Anticorruption Policy (1998, as amended to date) will be included in procurement documents and contracts. Before the start of any procurement ADB and the government will review the public procurement laws of the central and autonomous regional governments to ensure consistency with ADB's Procurement Guidelines.

### **1. International Competitive Bidding Method**

42. International competitive bidding (ICB) method will be used for civil works contracts estimated to cost \$40 million and above, while national competitive bidding (NCB) method will be used for civil works contracts estimated to cost less than \$40 million in accordance with the PRC's Tendering and Bidding Law (1999), subject to modifications agreed upon with ADB and incorporated in the NCB annex of the procurement plan. Major contracts for goods valued at \$3 million and above will be procured through ADB's ICB method, while smaller packages for goods valued at less than \$3 million will be procured following NCB method. The shopping procurement method will be allowed for contracts valued at below \$100,000 for civil works and below \$100,000 for goods.

43. Unless otherwise specified, the procurement under ICB procedures will use the single-stage one-envelope procedure. Procurement shall use the latest ADB standard bidding documents, which can be downloaded from the ADB website.

44. For all contracts procured under ICB, prior review of the following documents is required: application for consulting services recruitment notice (CSRN), invitations for bids, invitations for prequalification, draft prequalification documents, draft bidding documents, and prequalification. Bid evaluation reports will be submitted to ADB for prior review and no objection. Use of ICB is subject to ADB's Procurement Guidelines.



## 2. National Competitive Bidding Method

45. NCB will be used for civil works contracts estimated to cost over \$100,000 to below \$40 million and for goods contracts from over \$100,000 to below \$3 million. Chinese Yuan (CNY) may be used for the purpose of bidding and payment. NCB contracts with estimated cost of \$500,000 or more for goods and \$1 million or more for works may be advertised in Business Opportunities of ADB's website.

46. 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. The first NCB civil works contract and those higher than \$10 million as well as the first NCB goods contract and those higher than \$1 million are subject to prior review.

47. Procurement for goods and works contracts with value of \$10 million and below and goods contracts with value of \$1 million and below are subject to post review. Documents must be recorded and submitted for post review no later than 1 month after they are awarded.

48. For procurement under NCB, the following provisions should be applied: (i) the advertisement may be limited to the national press, an official gazette or an open access website; (ii) bidding shall follow the standard bidding documents recently updated by Ministry of Finance (MOF) in 2015 and approved by ADB; (iii) bidding documents may be only in the Chinese language. Procurement under NCB will be subject to the provisions of the NCB annex.

49. For contracts under NCB and Shopping procedures (other than the first NCB civil works and goods contract discussed above, and the first shopping contract), post review modality will apply whereby, procurement documents are submitted for review while procurement can proceed without waiting for the outcome of ADB's review. ADB-approved master bidding documents will be used as model for all subsequent NCB procurement financed by ADB for the project, and need not be subject to further review.

## 3. Shopping

50. The shopping procurement method will be allowed for contracts valued at \$100,000 and below for civil works and goods, respectively.

51. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is in Section C.

## 4. Consulting Services

52. All consultants will be recruited according to ADB's Guidelines on the Use of Consultants.<sup>28</sup> The terms of reference for all consulting services are detailed in Section D. Under the ADB loan, an estimated total of 201 person-months (22 international and 179 national) of consulting services are required for (i) project management and institutional strengthening support (CS1); (ii) initial project implementation support (CS2); (iii) planning capacity development (CS3); (iv) TVET course development support (CS4); and (v) 3R Pilot Program (CS5). Consulting firms will be engaged using the quality- and cost-based selection (QCBS) method with a standard

<sup>28</sup> Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>

quality-cost ratio of 90:10 using full technical proposal procedure for CS1 and simplified technical proposal procedure for CS3; consultants' qualifications selection (CQS) method for CS4 and CS5; and individual consultant selection (ICS) method for CS2.

53. Three other consulting service contracts for external environmental monitoring, resettlement and social monitoring and project performance monitoring will utilize domestic counterpart funding.

### C. Procurement Plan

54. A procurement plan indicating procurement or selection methods, estimated costs of contracts, thresholds, and review procedures for goods, works, and consulting service contract packages has been prepared and summarized below. The procurement plan shall be executed in the manner in which ADB has approved it. The procurement plan shall be updated annually or as needed throughout the duration of the project. The contract packages are categorized into three categories including goods, works, and consulting services. The works contracts are mainly in the areas of water supply, solid waste management, road etc., which are common in the PRC and in XUAR. Some of the equipment and materials are included in the works contracts to reduce contract interfaces and minimize the contract management risks, based on the nature of the equipment and materials and their interaction with relevant works. Other equipment and materials that are independent of the civil works are listed as goods contracts. The technical assistance and studies designed to strengthen the capacity of the PMO and implementing agencies during implementation and O&M of the project are packaged into consulting service contracts.

#### PROCUREMENT PLAN

##### Basic Data

<b>Project Name:</b> Xinjiang Changji Integrated Urban–Rural Infrastructure Demonstration Project	
<b>Project Number:</b> 49029-002	<b>Approval Number:</b>
<b>Country:</b> China, People's Republic of	<b>Executing Agency:</b> Xinjiang Uygur Autonomous Region Government
<b>Project Procurement Classification:</b> Category B	<b>Implementing Agency:</b> Fukang City Government Hutubi County Government Qitai County Government
<b>Project Procurement Risk:</b> Moderate	
<b>Project Financing Amount:</b> US\$ 255,420,000 <b>ADB Financing:</b> US\$ 150,000,000 <b>Cofinancing (ADB Administered):</b> <b>Non-ADB Financing:</b> US\$ 105,420,000	<b>Project Closing Date:</b> 30 September 2023
<b>Date of First Procurement Plan:</b> 23 March 2017	<b>Date of this Procurement Plan:</b> 1 August 2017

#### (i) Methods, Thresholds, Review and 18-Month Procurement Plan

##### 1. Procurement and Consulting Methods and Thresholds

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

<b>Procurement of Goods and Works</b>		
<b>Method</b>	<b>Threshold</b>	<b>Comments</b>
International Competitive Bidding for Goods	US\$ 3,000,000 and Above	Prior review
National Competitive Bidding for Goods	Between US\$100,001 and US\$2,999,999	The first NCB contract and contracts higher than \$1,000,000 are subject to prior review; contracts at \$1,000,000 and below are subject to post review.
Shopping for Goods	Up to US\$100,000	The first contract is subject to prior review, thereafter post review.
International Competitive Bidding for Works	US\$40,000,000 and Above	Prior review
National Competitive Bidding for Works	Between US\$100,001 and US\$39,999,999	The first NCB contract and contracts higher than \$10,000,000 are subject to prior review; contracts at \$10,000,000 and below are subject to post review.
Shopping for Works	Up to US\$100,000	The first contract is subject to prior review, thereafter post review.

<b>Consulting Services</b>	
<b>Method</b>	<b>Comments</b>
Consultant's Qualification Selection for Consulting Firm	STP; prior review
Quality- and Cost-Based Selection for Consulting Firm	Quality and cost ratio: 90:10, FTP/STP; prior review
Individual Consultants Selection for Individual Consultant	

**a. ADB Prior or Post Review**

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

Procurement Method	Prior or Post	Remarks
Procurement of Goods and Works		
ICB Works	Prior	Prior review applies to all ICB packages. <sup>a</sup>
ICB Goods		
NCB Works	Prior / Post	The English language-version of the procurement documents of the first package of contracts or any packages with contract value higher than \$10 million to be submitted to ADB for prior review and approval.
NCB Goods	Prior / Post	The English language-version of the procurement documents of the first package of contracts or any packages with contract value higher than \$1 million to be submitted to ADB for prior review and approval.
Shopping for Works	Post	The first contract is subject to prior review, thereafter post review.
Shopping for Goods		
Recruitment of Consulting Firms or Individuals		
Quality- and Cost-Based Selection (QCBS)	Prior	Six submissions: (0) Application for CSRN; (1) shortlist, (2) technical evaluation; (3) financial evaluation and ranking of technical proposals; (4) draft negotiated contract, and (5) signed contract
Consultants' Qualifications Selection (CQS)	Prior	Five submissions: (0) Application for CSRN; (1) evaluation of expressions of interest and request for proposals, (2) technical proposal evaluation, (3) draft negotiated contract; and (4) signed contract.
Individual consultant selection (ICS)	Prior	Three submissions: (0) Application for CSRN; (i) proposal for engagement of consultant, including shortlist, and (ii) signed contract

CSRN = consulting services recruitment notice, ICB = international competitive bidding, NCB = national competitive bidding.

<sup>a</sup> Though ADB allows post review for ICB with cost estimate below the prior review threshold, the XPMO advised their preference of applying prior review for all ICBs.

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

57. 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.

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
FK-G1	Fukang City roads maintenance equipment and Ganhezi Town snow clearing equipment	3,461,000.00	ICB	Prior	1S1E	Q4 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Goods
FK-G2	Fukang Technician College: TVET building equipment	2,900,000.00	NCB	Prior	1S1E	Q1 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Goods
FK-W1	Fukang City roads and associated utilities (Tianshan Street and Tianchi Street): Works and pipeline installation (water supply, wastewater and	5,714,000.00	NCB	Post	1S1E	Q1 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	heating)						Document: Small Works
FK-W10	South Area ecological protection of 2,800 mu	4,808,000.00	NCB	Post	1S1E	Q1 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
FK-W11	South Area ecological protection of 2,846.3 mu	4,888,000.00	NCB	Post	1S1E	Q2 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
FK-W12	Ganhezi Town roads and associated utilities (Weiqi Road and Changqing Road): Works, supply and installation	3,496,000.00	NCB	Post	1S1E	Q1 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
FK-W13	Ganhezi Town roads and associated utilities (Guangming Road, Honglingjin Road and Zhenxi Road): Works, supply and installation	4,843,000.00	NCB	Post	1S1E	Q3 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
FK-W2	Fukang City roads and associated utilities (Yingbin Road): works and pipeline installation (water supply, wastewater and heating)	5,738,000.00	NCB	Post	1S1E	Q2 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
FK-W3	Fukang City roads and associated utilities (Bofeng Road): Works and pipeline installation (water supply, wastewater and heating)	5,900,000.00	NCB	Post	1S1E	Q4 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
FK-W4	Fukang City roads and associated utilities (Huiyuan Road, Ruiying Road and Boya Road): Works and pipeline installation (water supply, wastewater and heating)	6,303,000.00	NCB	Post	1S1E	Q1 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
FK-W5	Fukang City roads and associated utilities (Guangyuan Road and Ankang Road): Works and pipeline installation (water supply, wastewater and heating)	6,511,000.00	NCB	Post	1S1E	Q3 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
FK-W6	Fukang Technician College: civil works	3,259,000.00	NCB	Post	1S1E	Q1 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
FK-W7	North Ring Road ecological protection: Works, supply and planting in the southern part	5,566,000.00	NCB	Prior	1S1E	Q1 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
FK-W8	North Ring Road ecological protection: Works, supply and planting in the northern part	6,663,000.00	NCB	Post	1S1E	Q1 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
FK-W9	S303 landscape and water conservation – works, supply and planting	3,154,000.00	NCB	Post	1S1E	Q2 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
HTB-W1	Hutubi County roads (Dongfeng Avenue): Works and pipeline installation (water supply and wastewater)	7,024,000.00	NCB	Post	1S1E	Q3 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
HTB-W3	Hutubi County roads (Changhua Road): Works and pipeline installation (water supply and wastewater)	4,350,000.00	NCB	Prior	1S1E	Q1 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
HTB-W5	Hutubi County roads: pipeline installation (heating)	3,352,000.00	NCB	Post	1S1E	Q1 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
QT-G1	Qitai County landfill operational equipment, management area, solid waste collection equipment, waste transfer station equipment	2,911,000.00	NCB	Prior	1S1E	Q2 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Goods
QT-G2	Qitai County water transmission pipeline equipment	16,441,000.00	ICB	Prior	1S1E	Q4 / 2017	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Goods  Comments: Advance contracting
QT-W1	Qitai County water transmission works: pipelines supply and installation	7,636,000.00	NCB	Prior	1S1E	Q4 / 2017	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works  Comments: Advance contracting

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
QT-W2	Qitai County sanitary landfill works (buried zone, management area, and access road)	5,594,000.00	NCB	Post	1S1E	Q1 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
QT-W3	Solid waste transfer station works (civil works and equipment)	2,098,000.00	NCB	Post	1S1E	Q4 / 2017	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works  Comments: Advance contracting
QT-W5	Qitai County roads:(Urumqi East Road, and Bajiahu Road): Works and pipelines installation (water supply)	9,135,000.00	NCB	Post	1S1E	Q2 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
QT-W6	Qitai County roads:(Urumqi West Road, Wenhua West Road and Xingfu Road): Works and pipelines installation (water supply)	13,785,000.00	NCB	Prior	1S1E	Q1 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Large Works

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

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

Package Number	General Description	Estimated Value	Recruitment Method	Review (Prior/Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
CS1	Project management and institutional strengthening support	1,013,000.00	QCBS	Prior	Q1 / 2018	FTP	Assignment: International  Quality-Cost Ratio: 90:10 Comments: 90:10 agreed at fact-finding
CS2	Initial project implementation support	100,000.00	ICS	Prior	Q3 / 2017		Assignment: National



Package Number	General Description	Estimated Value	Recruitment Method	Review (Prior/ Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
							Expertise: project implementation support  Comments: Advance contracting
CS3	Planning capacity development	350,000.00	QCBS	Prior	Q1 / 2018	STP	Assignment: International  Quality-Cost Ratio: 90:10  Comments: 90:10 agreed at fact-finding

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

59. 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.

Goods and Works								
Package Number	General Description	Estimated Value	Number of Contracts	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
HTB-W4	Hutubi County roads: Pipeline installation (gas)	587,000.00	1	NCB	Post	1S1E	Q1 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works
QT-G3	Environmental sanitation equipment	630,000.00	1	NCB	Post	1S1E	Q2 / 2018	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Goods

Consulting Services								
Package Number	General Description	Estimated Value	Number of Contracts	Recruitment Method	Review (Prior/ Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
None								

## (ii) Indicative List of Packages Required Under the Project

60. 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).

Goods and Works							
Package Number	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Review (Prior/Post)	Bidding Procedure	Comments
HTB-W2	Hutubi County roads (Hufang Road): Works and pipeline installation (water supply, wastewater)	9,083,000.00	1	NCB	Post	1S1E	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works  Comments: Q3 2019
QT-W4	Existing landfill closure	3,777,000.00	1	NCB	Post	1S1E	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Small Works  Comments: Q3 2019

Consulting Services							
Package Number	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Recruitment Method	Review (Prior/Post)	Type of Proposal	Comments
CS4	TVET course development	200,000.00	1	CQS	Prior	STP	Assignment: International  Comments: Q1 2019
CS5	3R Pilot	137,000.00	1	CQS	Prior	STP	Assignment: International  Comments: Q1 2019

## (iii) Non-ADB Financing

61. The following table lists goods, works and consulting services contracts over the life of the project, financed by Non-ADB sources.

Goods and Works				
General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Comments
None				

<b>Consulting Services</b>				
<b>General Description</b>	<b>Estimated Value (cumulative)</b>	<b>Estimated Number of Contracts</b>	<b>Recruitment Method</b>	<b>Comments</b>
External resettlement and social (SGAP, EMDP) implementation monitoring	200,000.00	1	CQS	
External EMP implementation monitoring	200,000.00	1	CQS	
External socioeconomic and PPMS monitoring	200,000.00	1	CQS	

#### **(iv) National Competitive Bidding**

##### **a) Regulation and Reference Documents**

62. The procedures to be followed for national competitive bidding shall be those set forth in The Government Procurement Law of People's Republic of China approved on 29 June 2002 and Law of the People's Republic of China on Bid Invitation and Bidding of the People's Republic of China promulgated on August 30, 1999 with the clarifications and modifications described in the following paragraphs required for compliance with the provisions of the ADB Procurement Guidelines.

##### **b) Procurement Procedures**

##### **1. Competitive Bidding Procedure** (Procurement Law Art. 26 and Law on Bidding Art. 10).

63. Public tendering is the acceptable method of government procurement, and public invitation is the accepted bid invitation mode.

##### **2. Eligibility**

64. The eligibility of bidders shall be as defined under section I of the Procurement Guidelines; accordingly, no bidder or potential bidder should be declared ineligible for reasons other than those provided in section I of the Guidelines, as amended from time to time.

##### **3. Advertising**

65. All invitations to prequalify or to bid shall be advertised in the national press (China Daily Newspaper) or a free and open access website ([www.chinabidding.com](http://www.chinabidding.com)). 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 twenty-eight (28) 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.

##### **4. Bidding Period**

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

## **5. Participation by Government-Owned Enterprises**

67. 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.

## **6. Rebidding**

68. Re-bidding shall not be allowed solely because the number of bids is less than three (3).

### **c) Bidding Documents**

## **7. Qualification requirements**

69. 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.

## **8. Bid Submission and Opening**

70. Bidders shall be allowed to submit bids by mail or by hand.

71. 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.

## **9. Bid Evaluation and Award**

72. 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.

73. 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.

## **10. ADB Policy Clauses**

74. 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.

75. A provision shall be included in all bidding documents for NCB works and goods contracts financed by ADB stating that the Borrower shall reject a proposal for award if it determines that the bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question.

76. A provision shall be included in all bidding documents for NCB works and goods contracts financed by ADB stating that ADB will declare a firm or individual ineligible, either indefinitely or for a stated period, to be awarded a contract financed by ADB, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices or any integrity violation in competing for, or in executing, ADB-financed contract.

#### **D. Consultant's Terms of Reference**

##### **1. Package CS1—Project Implementation and Institutional Strengthening Support**

77. Project implementation and institutional strengthening consulting service of estimated 10 person-months of international and 103 person-months of national consultants will be engaged by QCBS method with a standard quality: cost ratio of 90:10 with full technical proposal procedure. The consultants will assist PMO in:

##### **a. Project Management Support during Project Implementation**

- (i) Setting up institutional framework, operational procedure, document control, design supervision, and contract management systems for the project and work plan to guide and facilitate the project implementation. This should utilize and adapt as necessary the arrangements set up for the earlier ADB projects in XUAR;
- (ii) establishing a project performance management system (PPMS) in accordance with ADB requirements, including establishing baseline and operation mechanism for data collection, analysis and reporting;
- (iii) developing comprehensive project implementation plans and procedures for monitoring and controlling overall project activities;
- (iv) conducting technical review and providing expert comments on detailed engineering design in accordance with the design codes and standards;
- (v) reviewing designs, drawings, and the bidding documents, including the identification of potential technical problems and suggesting means of resolving these, and incorporation of environmental mitigation measures where appropriate;
- (vi) ensuring that bidding documents include for contractors to provide equipment operation and maintenance manuals in Chinese and that training in equipment and maintenance is adequately provided for;
- (vii) technical, financial and procedural review of bid evaluation, and contract negotiations;
- (viii) conducting routine site visits and providing technical inputs to construction planning, supervision and monitoring for quality control of the project construction;
- (ix) conducting contract management, including monitoring construction progress, preparing semiannual progress reports, reviewing the contractors' claims for payments, coordinating project implementation among contractors and various stakeholders, and coordinating daily operational tasks;
- (x) conducting technical review for construction supervision and management including:

- approval of construction methods;
- ensuring work is undertaken according to the intent of contract specifications;
- control over construction quality;
- adherence to contract work programs and recovery of slippage;
- site health and safety procedures as per EMP, resettlement plans, EMDP, and social and gender action plan (SGAP);
- record keeping systems to protect client interests in event of claims;
- claims assessment and determination;
- (xi) providing expert inputs, review and justification for contract variation and preparing necessary documentations in accordance with the Government and ADB requirements, if necessary;
- (xii) providing expert inputs on asset commissioning and handover, including a review of documentation provided by the contractors that they have fully discharged their training obligations;
- (xiii) establishing an efficient and effective financial management system for the project implementation in accordance with ADB policy and procedural requirements and implementing such financial management system;
- (xiv) assessing financial management and (a) reviewing current accounting and administrative capacities of the project operation units for the built facilities, (b) verifying if internal control system is employed, (c) checking current internal audit, external or government audit, and (d) recommending any changes as appropriate;
- (xv) assessing the financial performance of the project operation units for the past five years and evaluating their financial capacity regarding cost recovery, borrowing capacity, debt servicing, tariff collection, accounts receivable, and subsidies, as appropriate;
- (xvi) identifying areas for improvement and training needed with respect to the quality of financial statements, disclosure, and notes to the financial statements, and developing templates for the annual financial statements;
- (xvii) reviewing disbursement applications and supporting documents;
- (xviii) collecting all necessary information, editing, drafting, and submitting the reports required under loan and project covenants in a timely manner;
- (xix) reviewing and updating the EMP, resettlement plans, EMDP, and SGAP, and conducting internal monitoring of the implementation of the EMP, resettlement plans, EMDP, and SGAP on a semiannual basis;
- (xx) providing expert opinions to ensure effectiveness of the project components' environmental mitigation measures and enhancement package implementation;
- (xxi) collecting periodic information for PPMS updating;
- (xxii) preparing necessary information for ADB's loan administration missions including loan review, loan midterm review, and loan completion missions;
- (xxiii) updating project financial status, project cost tables, financing plan and financial and economic analysis, and safeguard implementation;
- (xxiv) organizing and providing semiannual training on effective project

- financial management, procurement, disbursement, safeguards, and anticorruption measures;
- (xxv) organizing and providing semiannual training on the skills necessary for construction supervision, project management, and implementation of social and environmental safeguards for ADB requirements;
- (xxvi) undertaking annual tariff reviews for water tariff and assessing the impact and affordability for the poor of the tariff increase;
- (xxvii) consulting with the stakeholders concerned, in particular the poor, and ensuring the poor's participation in the public hearing process for tariff increase in accordance with the government's policies and regulations;
- (xxviii) providing (a) training on prevention and control of communicable diseases, including HIV, and community disturbance to contractors, and (b) drug and human trafficking awareness campaigns to the local communities;
- (xxix) advising and training contractors and supervising companies on ADB policy and procedural requirements to ensure their full compliance;
- (xxx) sampling and monitoring of environmental data related to the project, and contracting out the official environmental monitoring service to an accredited environmental monitoring station;
- (xxxi) making recommendations to resolve any issues or problems on implementing the EMP, resettlement plans, EMDP, and SGAP;
- (xxxii) assessing the overall training needs except those mentioned above, and prepare a training program for PMOs;
- (xxxiii) developing and submitting the semiannual progress reports, including internal social, resettlement reports (semiannually), and environmental monitoring reports (annually), to ADB with quality acceptable to ADB; and
- (xxxiv) preparing a project completion report within three months of project completion.

#### **b. Other Specific Tasks**

78. The consultants will assist CPMO and implementing agencies in:

- (i) assisting the Qitai County Government in Non-Revenue Water management;
- (ii) providing suggestions and supports to the Qitai County Government in hydraulic modeling in pipeline networks;
- (iii) reviewing the current public-private partnership (PPP) contracts and provide comments to the 3 implementing agencies;
- (iv) reviewing the current practices of solid waste management system and provide improvement suggestions; and
- (v) providing assistance to the 3 implementing agencies in assets inventory and management plans.

#### **c. Detailed Requirements and Tasks**

79. **Team leader / project management specialist (international, 8 person-months).** The team leader shall be a registered professional engineer with a postgraduate degree and a minimum of 10 years of experience in urban development and urban infrastructure improvement

projects financed by ADB or the World Bank. The specialist shall take overall leadership to ensure the successful management and implementation of the project. Specific tasks are explained below:

- (i) Develop detailed work plan, including the specialist input schedule for the project implementation and update the work plan periodically based on the project implementation progress.
- (ii) Develop and establish the project management system to manage and monitor the project implementation progress. Prepare and submit a project management manual for approval.
- (iii) Develop and establish a contract management system to manage and monitor the procurement process and the implementation of the contracts. Prepare and submit a project contract management manual.
- (iv) Coordinate with the financial specialists to develop and establish a financial management and disbursement management system. Prepare and submit a project financial management manual.
- (v) Coordinate with team specialists to organize specialist inputs based on the project implementation progress and project development needs. Provide coordination among team specialists, ADB, executing agency, implementing agencies, and other stakeholders to facilitate the implementation of the project.
- (vi) Take overall responsibility to coordinate preparation and submission of all deliverables, including progress reports, monitoring reports, semiannual and annual reports, project completion report etc.
- (vii) Take responsibility to undertake with the executing agency at midterm and closing stages of the project a policy dialogue on water tariff reform.
- (viii) Develop a capacity development and training plan and coordinate and carry out capacity development and training.
- (ix) Monitor overall project progress, contract management, safeguards-related issues and plans, social and gender issues related targets and activities, and the project's development impacts through the PPMS.
- (x) Assist the executing agency to engage qualified external monitors timely in accordance with ADB policies and procedures.

**80. Deputy team leader / construction management specialist (national, 30 person-months).** The national construction management specialist shall be a civil engineer with a minimum of 8 years of experience in urban development and municipal services projects. The specialist shall take a leading role to work with the team leader to provide overall project management and coordination for the project implementation. The specific tasks may include the following:

- (i) Work with the team leader to provide day-to-day project management and coordination for the project implementation including communication among the executing agency, implementing agencies, and PIUs, contractors and other project entities.
- (ii) Provide overall guidance to project-wide construction supervision, contract management, financial and disbursement management; conduct regular site inspections and discussions with contractors to assist the implementing agencies and PIUs for construction supervision.
- (iii) Provide technical assistance in civil engineering, water supply, drainage, district heating and other municipal services for the project implementation.



- (iv) Assist the team leader to coordinate among the team specialists to supervise the tendering and contracting process.
- (v) Assist the executing agency, implementing agencies and PIUs for contract management by keeping good records of awarded contracts as well as proposed procurement packages, analyzing needs of contract variations, and issues arising from civil works construction and goods installment, and controlling overall disbursement and residual loan progress.
- (vi) Assist the team leader to coordinate with team specialists for their inputs based on the project implementation progress and project development needs. Provide coordination among team specialists, ADB, the executing agency, implementing agencies, and other stakeholders to facilitate the implementation of the project.
- (vii) Together with the team leader, undertake with the executing agency at midterm and closing stages of the project, a policy dialogue on water tariff reform.
- (viii) Work with the team leader to coordinate preparation and submission of all deliverables including progress reports, monitoring reports, semiannual and annual reports, project completion report etc.
- (ix) Monitor overall project progress, contract management, safeguards-related issues and plans, social and gender issues, related targets and activities, and the project's development impacts through the PPMS.
- (x) Prepare the plans for training and seminars and give the deliverables in both Chinese and English.

**81. Procurement and contract management specialist (national, 8 person-months).** The national procurement and contract management specialist shall have a minimum of 10 years of experience in procurement and contract management in urban infrastructure development and municipal service projects. The procurement and contract management specialist will be responsible for providing technical and management support for bidding document review, procurement assistance, and contract bid review and evaluation, and other procurement related tasks. The specific tasks may include:

- (i) Provide assistance in preparing and processing ADB project implementation including project management, contract management, social and environmental safeguard, financial management, and other project management tasks related to ADB project processing requirements.
- (ii) Assist the executing agency and implementing agencies to carry out procurement on civil work, equipment purchase and installation, consulting services, and other contracts in accordance with the PRC and ADB policies and procedure requirements.
- (iii) Provide technical support in the review of design, bills of quantities, bidding documents, technical specification, and other procurement documents. Provide bidding and procurement process assistance; coordinate with the bidding company and other involved agencies; provide assistance in bid review and bid evaluation, bid evaluation report preparation, and other bidding related tasks.
- (iv) Provide assistance in procurement processing including review of the bidding documents, bidding evaluation reports and contracts, and other related documents to bidding procedures.
- (v) Provide training and capacity development on ADB project implementation policies, procedures, safeguards etc.

**82. Urban transport specialist (national, 8 person-months).** The national urban transport specialist shall have a minimum of 10 years of experiences in the field of urban infrastructure such

as roads, urban planning and public transport for ADB and World Bank projects. The specialist will be responsible for providing technical and management support for the implementation of urban road and bridge components for the project city and/or counties. The specific tasks may include:

- (i) Provide all technical, procurement, and construction support for the implementation of the urban road component.
- (ii) Conduct technical review of the urban road component and provide expert comments on engineering detailed design in accordance with the contract documents and applicable national design codes and standards as well as the best international practices.
- (iii) Provide support and review on the bidding documents, bills of quantities, technical specifications, and other contract documents. Provide assistance to the procurement and bidding process including bid review and bid evaluation.
- (iv) Review the current urban planning of the project city and/or counties and provide recommendations on urban planning improvement in consideration of economic development, urbanization, green development, environmental and ecological preservation development etc.
- (v) Conduct site inspections to review construction progress, provide technical support to construction planning and construction methods, and verify the completion and compliance with the contract documents including the design drawings.
- (vi) Review and inspect the quality of the construction items and safety measures in the construction sites, carry out quality assurance and/or quality control and construction safety plans.
- (vii) Prepare and submit the report on the urban road component, provide technical input to other project required reports.
- (viii) Coordinate with the team leader and other team specialist to develop a capacity development and training program for people centered urban transport system, and provide training for urban transport improvement.

**83. Water and wastewater specialist (national, 4 person-months).** The national water and drainage specialist shall have a minimum of 10 years of experiences in the field of urban infrastructure such as water and drainage systems for ADB and World Bank projects. The specialist will be responsible for providing technical and management support for the implementation of the urban road and bridge component for the project city and/or counties. The specific tasks may include:

- (i) Provide all technical, procurement, and construction support for the implementation of the water and drainage related components.
- (ii) Conduct technical review of the water and drainage related components, and provide expert comments on engineering detailed design in accordance with the contract documents and applicable national design codes and standards as well as the best international practices.
- (iii) Provide support and review on the bidding documents, bills of quantities, technical specifications, and other contract documents. Provide assistance to the procurement and bidding process including bid review and bid evaluation.
- (iv) Review the current urban planning of the project city and/or counties and provide recommendations on urban planning improvement in consideration of economic development, urbanization, green development, environmental and ecological preservation development etc.

- (v) Conduct site inspections to review construction progress, provide technical support to construction planning and construction methods, and verify the completion and compliance with the contract documents including the design drawings.
- (vi) Review and inspect the quality of the construction items and safety measures in the construction sites, and carry out quality assurance and/or quality control and construction safety plans.
- (vii) Prepare and submit the report on water and drainage related components, and provide technical input to other project required reports.
- (viii) Coordinate with the team leader and other team specialists to develop a capacity development and training program for people centered water and drainage system, and provide training for water and drainage improvement.

**84. Afforestation specialist (national, 3 person-months).** The national afforestation specialist shall have a minimum of 10 years of experiences in the field of urban infrastructure such as windbreak forests for ADB and World Bank projects. The specialist will be responsible for providing technical and management support for the implementation of the ecological forestry component for the project city and/or counties. The specific tasks may include:

- (i) Provide all technical, procurement, and construction support for the implementation of the forestry related components.
- (ii) Conduct technical review of the forestry related components, and provide expert comments on engineering detailed design in accordance with the contract documents and applicable national design codes and standards as well as the best international practices.
- (iii) Provide support and review on the bidding documents, bills of quantities, technical specifications, and other contract documents. Provide assistance to the procurement and bidding process including bid review and bid evaluation.
- (iv) Review the current urban planning of the project city and/or counties and provide recommendations on urban planning improvement in consideration of economic development, urbanization, green development, environmental and ecological preservation development etc.
- (v) Conduct site inspections to review construction progress, provide technical support to construction planning and construction methods, and verify the completion and compliance with the contract documents including the design drawings.
- (vi) Review and inspect the quality of the construction items and safety measures in the construction sites, carry out quality assurance and/or quality control and construction safety plans.
- (vii) Prepare and submit the report on forestry related components, and provide technical input to other project required reports.
- (viii) Coordinate with the team leader and other team specialists to develop a capacity development and training program for people centered forestry related system, and provide training.

**85. Financial management specialist (national, 6 person-months).** The national financial management specialist shall have a minimum of 10 years of experience in urban infrastructure development and municipal service projects. The financial management specialist will be responsible for providing financial and economic support for the project implementation in compliance of ADB and domestic requirements on financial management, financial and economic analysis, disbursement and other financial and economic tasks. The specialist must have a professional accountancy qualification (certified public accountant). The specialist must have

good English proficiency to communicate with ADB and to fulfill all English reporting requirements. The specific tasks may include:

- (i) Assist the executing agency and implementing agencies to develop a financial management system, financial management plan, disbursement plan and projection; work with the team leader to prepare and submit a project financial management manual.
- (ii) Assist the executing agency and implementing agencies to establish a project accounting and disbursement system to comply with ADB disbursement requirements and domestic financial management and financial annual auditing requirements; provide assistance in accounting management and disbursement processing, annual auditing and other financial related tasks.
- (iii) Provide assistance to review the executing agency and implementing agencies financial statements and provide comments to meet ADB requirements.
- (iv) Provide the updated economic assessment and analysis for the midterm review and project completion report and to provide the updated economic analysis results for ADB.
- (v) Provide input of financial and economic aspects to progress reports, midterm report, project completion report, and other required documents.
- (vi) Assist the team leader to coordinate among the team specialists to provide project implementation support on technical review, and review of procurement documents, contract variation requests, due diligence reports, and contractors' claims, and other project management support.
- (vii) Provide support for carrying out capacity building training, and provide management support to the capacity development activities. Develop a training program and conduct training on: (a) ADB's disbursement procedures and financial management (including financial audit) and project financial management, (b) organizational financial management and financial audit system and (c) public financial management.
- (viii) Review the withdrawal applications and assist in disbursement application and process.

**86. Environmental specialist (national, 9 person-months).** The national environmental specialist shall have a minimum of 8 years of experience in environmental services for urban infrastructure development and municipal service projects, respectively. The environmental specialist will be responsible for providing technical and management support to ensure compliance during project implementation with the initial environmental examination (IEE) and environmental management plan (EMP). Specific tasks include:

- (i) Assist establishment of the environmental management system, consisting of relevant staffing, inspection, monitoring, and grievance redress mechanism, reporting, and initiating corrective actions or measures.
- (ii) Assist PMOs and PIUs to update the EMP including the mitigation measures and environmental monitoring program therein, based on the detailed engineering design and submit it for the EA and ADB's clearance and disclosure.
- (iii) Assist PIUs in contracting of environment monitoring agency/agencies and coordinate with the agency on all monitoring activities as required by domestic and ADB policies and procedures.
- (iv) Review the site-specific EMPs prepared by contractors.

- (v) Assist the PMOs and PIUs to establish a Grievance Redress Mechanism (GRM), including project public complaint units (PPCU), and provide training for the PPCU and GRM access points.
- (vi) Conduct regular EMP compliance assessments, undertake site visits as required, identify any environment-related implementation issues, propose necessary corrective actions, and reflect these in a corrective action plan.
- (vii) Assist the PIUs and PMOs to prepare annual environmental monitoring and progress reports to ADB.
- (viii) Provide training to XPMO, CPMO, county and/or city PMOs and PIUs on environmental laws, regulations and policies, ADB Safeguard Policy (2009), EMP implementation, and GRM in accordance with the training plan defined in the EMP.
- (ix) Help XPMO prepare a strategy to adapt to anticipated climate change. The strategy shall combine periodic assessment and review of the hydrology and the state of knowledge about climate change every 10 years, incremental upgrade of flood control facilities to restore the desired standard, and strong reliance on nonstructural measures (such as the review and strengthening of measures on flood monitoring and early warning systems, emergency preparedness and response plans etc.).
- (x) Prior to the mid-term review mission, provide support to local project management offices and PIUs in organizing public meetings in the project city and/or counties to present and discuss EMP implementation progress, solicit community opinions and concerns, and agree on required corrective actions.
- (xi) Prior to project completion, organize surveys in the project city and/or counties to assess community satisfaction with project implementation, project outputs, and EMP implementation performance, and document the results in the project completion report (PCR).
- (xii) Provide input of environmental protection to progress reports, midterm report, project completion report, and other project required documents.
- (xiii) Assist the team leader to coordinate among the team specialists to provide project implementation support on technical review, review of procurement documents, contract variation requests, due diligence reports, and contractors' claims, and other project management support.

**87. Social, gender, and ethnic minority development specialist (national, 8 person-months).** The national social, gender, ethnic minority development specialist shall have a minimum of 10 years of social development experience in urban infrastructure development and municipal service projects and previous work in Xinjiang. The specialist will be responsible for providing social development and social safeguard aspect support for the project implementation in compliance of ADB safeguard policies and procedures including the implementation of EMDP and SGAP, and coordinating the internal and external monitoring and other safeguard related tasks. The specialist must have good English proficiency to communicate with ADB and to fulfill all English reporting requirements. The specific tasks may include:

- (i) Provide practical advice for the executing agency and implementing agencies on the implementation of the EMDP and SGAP within both ADB and domestic policy frameworks.
- (ii) Ensure that the EMDP and SGAP are reviewed and updated, as needed. Make sure that the EMDP and SGAP are properly implemented.
- (iii) Assist the executing agency and implementing agencies to conduct monitoring and coordinate with the PIU resettlement/social specialists to ensure the implementation is carried out in accordance with the government and ADB policies and procedures.

- (iv) Assist the executing agency and implementing agencies to design and conduct public awareness campaigns identified under the EMDP and SGAP.
- (v) Work in close collaboration with and mentor the “safeguard” focal point staff in the PMOs and PIUs and the women appointed in the community offices.
- (vi) Together with the resettlement specialist provide assistance in selection of a resettlement and/or social external monitoring agency and coordinate with the external agency on all monitoring activities as ADB requires. Review external social monitoring reports during both construction and operation periods and submit them to the authority for concurrence, prior to submission to ADB.
- (vii) Provide relevant inputs for project progress reports, semiannual monitoring reports, project completion report, and other project required documents. The monitoring of EMDP implementation should be reported semiannually to ADB.
- (viii) Provide support for carrying out capacity building training, and provide management support to the capacity development activities. Provide training on (a) proper implementation of the EMDP and related ADB requirements and (b) proper implementation of the SGAP and related ADB requirements.
- (ix) Assist the team leader to coordinate among the team specialists to provide project implementation support on technical review, review of procurement documents, contract variation requests, due diligence reports, and contractors’ claims, and other project management support.

**88. Resettlement Specialist (national, 9 person-months).** The national resettlement specialist shall have a minimum of 10 years of experience in urban infrastructure development and municipal service projects. The resettlement specialist will be responsible for providing support for resettlement plan implementation in compliance of ADB safeguard policies and procedures, and coordinating the internal and external monitoring and other safeguard related tasks. The specialist must have good English proficiency to communicate with ADB and to fulfill all English reporting requirements. The specific tasks may include:

- (i) Develop a framework for implementing and monitoring the resettlement plans’ implementation. Verify and update the resettlement plans based on the detailed engineering design and detailed measurement survey (DMS) and submit them for the executing agency and ADB’s approval prior to start of land acquisition and resettlement activities to ensure actual practices are in accordance with the plans. Provide practical advice for PMOs and/or PIUs on the implementation of relevant plans within both ADB and domestic policy frameworks.
- (ii) Collect additional information and conduct additional consultation to ensure that the resettlement plans and EMDP are being implemented.
- (iii) Assist the executing agency and implementing agencies to develop a plan to carry out the resettlement plans, provide assistance in implementing the resettlement plans, conduct monitoring and coordinate with the external monitoring agency to ensure the implementation is carried out in accordance with the government and ADB policies and procedures.
- (iv) Assist PIUs to collect information and prepare quarterly monitoring reports for the PMOs.
- (v) Provide assistance in selection of a resettlement external monitoring agency and coordinate with the external agency on all monitoring activities as ADB requires. Review external environment monitoring reports during both construction and operation periods and submit them to the authorities for approval.

- (vi) Provide support for carrying out capacity building training, and provide management support to the capacity development activities. Provide training on proper implementation of resettlement plans and other ADB requirements.
- (vii) Assist PIUs with preparation of Resettlement Completion Reports.

89. **Solid waste management specialist (national, 6 person-months).** The national municipal solid waste (MSW) management specialist shall have a minimum of 8 years of experience in MSW planning, design, construction or management. The specialist will be responsible for providing technical and management support for the implementation of the solid waste management component in Qitai County, including closure of the existing landfill and construction of the new landfill (in particular the impermeable liner, leachate collection, treatment and discharge, and gas discharge guide system) and transfer station. The specific tasks may include:

- (i) Provide all technical, procurement, and construction support for the implementation of the solid waste management component, including guidance and recommendations to the implementing agency and design institute to develop the 3R pilot program. Advise the implementing agency and design institute on the relevant design, construction and operation standards and requirements, and the environmental specialists on the identification of environment-related issues.
- (ii) Assist the implementing agency to design and develop the public awareness campaign to promote 3Rs for urban residents as part of the capacity development program. Develop the MSW public awareness campaign implementation plan, and assist the implementation agency to implement the campaign.
- (iii) Conduct technical review of the solid waste management component and provide expert comments on engineering detailed design in accordance with the contract documents and applicable national design codes and standards as well as the best international practices.
- (iv) Provide support and review on the bidding documents, bills of quantities, technical specifications and other contract documents. Provide assistance to the procurement and bidding process including bid review and bid evaluation.
- (v) Conduct site inspections to review construction progress, provide technical support to construction planning and construction methods, and verify the completion and compliance with the contract documents including the design drawings.
- (vi) Review and inspect the quality of the construction items and safety measures in the construction sites; carry out quality assurance and/or quality control and construction safety plans.
- (vii) Provide technical support for the commissioning and equipment testing, acceptance and pre-operation, and provide support for the facility O&M.
- (viii) Provide technical support in the post-closure management and maintenance within 1 year after the completion of closure of the existing landfill.
- (ix) Provide technical support in the pollution control, disinfection operations, and cleaning of transfer vehicles and compression equipment in the transfer station.
- (x) Prepare and submit the specialist report on the solid waste management component, and provide technical input to other project required reports.
- (xi) Provide input for the training and capacity development, and coordinate with the team leader and other team specialists to carry out a training program. The training shall include but not be limited to (a) daily operation and management of the landfill site, including the operating area partitioning, temporary cover, unit control, reactor control, disinfection procedure, dust control etc., environmental safeguards and

security; operation of the leachate treatment system; and use of pesticides; (b) daily operation of the transfer station; and (c) best practice in closure and rehabilitation of a landfill.

**90. Asset management specialists (international for 2 person-months, national for 5 person-months).** The asset management specialists should hold a Masters degree in related infrastructure operation and management (O&M). He/she should be an expert with a minimum of 12 years of experience for the international specialists and 8 years of experience for the national specialist in the operation and maintenance of infrastructure assets (e.g. water supply, wastewater, drainage, heating, gas etc.). He and/or she should be familiar with infrastructure asset operation and management status in the PRC. He/she should also have substantial experiences working in three relevant projects in the last 8 years. Specific tasks will include the following:

- (i) Review of existing institutional arrangements, existing financial plan and existing asset recording systems;
- (ii) Identification of key performance indicators and baseline;
- (iii) Recommendations for upgrading and integration of the asset management systems;
- (iv) Help in preparation of Asset Records;
- (v) Help in preparation of O&M plans;
- (vi) Help in preparation of infrastructure plans;
- (vii) Design and conduct of relevant training

**91. PPP specialist (national, 3 person-months).** The national PPP specialist should hold a Master's degree in related infrastructure management. He and/or she should be an expert with a minimum of 10 years of experience for the national specialist in the field of infrastructure management. He and/or she should be familiar with the practice and requirements of PPP of the PRC. He and/or she should also have substantial experiences working in three relevant projects in the last 5 years. Specific tasks will include the following:

- (i) Review existing PPP contracts for water supply, heating, and other infrastructure financed by ADB if any in Qitai County, Fukang City and Hutubi County from the legal, regulatory and institutional perspectives;
- (ii) Review performances of private utility service suppliers;
- (iii) Identify the challenges and problems that the public and private sectors are facing under the current arrangement;
- (iv) Assess the demand-supply gaps;
- (v) Make recommendations to existing PPP contracts;
- (vi) Conduct capacity training on: (i) basic principles of private sector participation in public utility operation, (ii) risk sharing scheme between private and public sectors, and pros/cons of various commercial and financial structures, (iii) further PPP opportunities for management of an industrial zone (e.g. full-fledged PPP).

**92. PPMS specialist (national, 4 person-months).** The national PPMS specialist shall have a minimum of 8 years of experience in PPMS monitoring for ADB urban development and municipal service projects. The specialist will be responsible for PPMS monitoring services meeting ADB PPMS policy and procedure requirements and provide assistance to the executing agency and implementing agencies to complete project performance monitoring requirements per PRC government requirements. The specific tasks may include:



- (i) Based on the PPMS system developed during the project preparation and in consultation with the executing agency and implementation agencies, develop a detailed PPMS framework and implementation plan, including the overall monitoring system, refinement of indicators, targets and goals, sources for monitoring data, reporting system etc.
- (ii) Update indicators and design a PPMS sheet according to the project design and monitoring framework. The selected indicators should provide a practical and meaningful measure of key Project impacts, outcomes, outputs and achievements. Specified targets and goals should be measurable and achievable.
- (iii) Ensure collection, analysis and reporting of sex-disaggregated data wherever relevant.
- (iv) Coordinate with the executing agency and implementing agencies to conduct baseline value survey at the beginning of the project implementation, and prepare the initial PPMS report.
- (v) Based on the designed PPMS, conduct periodic PPMS monitoring and data collection, prepare and submit PPMS reports in accordance with ADB requirements semiannually. The monitoring reports should include: (i) summary of monitoring data for major indicators; (ii) major existing and potential problems; (iii) recommended mitigation or prevention measures, which shall be incorporated in the updated PPMS implementation plan; (iv) assessment of previous follow-up actions; and (v) conclusions and recommendations.
- (vi) Provide input for contract management and procurement to progress reports, project midterm and completion reports, and other project required reports.
- (vii) Provide input for the training and capacity development; coordinate with the team leader and other team specialists to carry out a training program for PPMS development and implementation, and provide support to the capacity development activities.
- (viii) Provide assistance and support to the executing agency and/or implementing agencies to complete the project performance monitoring tasks in compliance of PRC auditing and monitoring policies and requirements.

#### **d. Indicative inputs**

93. The indicative inputs are summarized in the Table 10 below.

**Table 10: Consulting Service Inputs for CS1**

<b>Experts' inputs</b>	<b>International</b>	<b>National</b>
<b>Project Implementation and Institutional Strengthening Support</b>		
Project manager and project management expert	8	
Deputy project manager and construction management expert		30
Procurement and contract management expert		8
Road specialist		8
Water and wastewater specialist		4
Ecology expert (afforestation)		3
Financial management specialist		6
Environmental specialist		9
Social, gender, and ethnic minority development specialist		8
Solid waste management specialist		6
Asset management specialist	2	5
PPP specialist		3
PPMS specialist		4
Resettlement Specialist		9
<b>Subtotal</b>	<b>10</b>	<b>103</b>

PPMS = project performance monitoring system, PPP = public-private partnership.

**e. Indicative Costs**

94. The indicative costs are summarized in the table below.

**Table 11: Consulting Service Budget for CS1**

Item	Amount (\$000)
<b>CS-1 Project Implementation Management Support</b>	
1. Consultants	
a. Remuneration and per diem (including fees, international/local travel)	
i. International consultants (10 person-months)	200.00
ii. National consultants (103 person-months)	669.50
b. Reports and communications	5.00
2. Equipment (office equipment and supplies)	10.00
3. Local Transport	15.00
4. Miscellaneous administration and support costs	15.00
5. Contingency	85.50
<b>Total</b>	<b>1,000.00</b>

**f. Services and Facilities Provided to the Consultants**

95. The executing agency and implementing agencies will make the following available to the consultants:

- (i) Suitable office accommodation, with secretarial and clerical support;
- (ii) Completely provisioned, serviced and clear offices with access to telephone (domestic calls only), a broadband LAN and wireless internet connection, a facsimile and an A4 and A3 copy, printing and scanning capable machine.
- (iii) Suitably qualified counterpart staff proficient in the English & Chinese languages with skills to provide coordination for and support to the consultants for the duration of project implementation.
- (iv) Local transportation as necessary, including a driver, for transport to, from and, at the various project sites.
- (v) All necessary assistance to apply for visas, residential and work permits and other related requirements to enable the efficient implementation of the consulting services. The costs of all such government approvals will be reimbursed to the consultants at cost.
- (vi) Authorization to access free of charge all available data, documents, reports, drawings and maps

**2. Package CS2 – Initial Project Implementation Support**

96. One individual consultant of estimated 5 person-months of national consultant — project procurement and management expert and one individual consultant of estimated 5 person-months of national safeguard (Resettlement) specialist will be engaged through individual consultant selection (ICS) for initial project implementation support.

**a. Scope of Work and Qualification Requirements**

97. **Project procurement and management expert (national, 5 person-months).** The national procurement and contract management specialist shall have a minimum of 10 years of experience in procurement and contract management in urban infrastructure development and municipal service projects. The procurement and contract management specialist will be

responsible for providing technical and management support for bidding document review, procurement assistance, and contract bid review and evaluation, and other procurement related tasks. The specific tasks may include:

- (i) Provide assistance in preparing and processing ADB project implementation including project management, contract management, social and environmental safeguards, financial management, and other project management tasks related to ADB project processing requirements.
- (ii) Assist the executing agency and/or implementation agencies to carry out procurement on civil work, equipment purchase and installation, consulting services, and other contracts in accordance with the PRC and ADB policies and procedure requirements.
- (iii) Provide technical support in review of design, bills of quantities, bidding documents, technical specification, and other procurement documents. Provide bidding and procurement process assistance; coordinate with bidding company and other involved agencies. Provide assistance in bid review and bid evaluation, bid evaluation report preparation, and other bidding related tasks.
- (iv) Provide assistance in procurement processing including review of the bidding documents, bidding evaluation reports and contracts, and other related documents to bidding procedures.
- (v) Provide assistance in recruiting consulting services for the project implementation and institutional strengthening support (package CS1), and for the planning capacity development (CS2) through QCBS method in accordance with ADB guidelines and procedural requirements.
- (vi) Assist in collecting necessary information for reporting requirement of ADB including semiannual implementation progress reports, and PAM update for the inception mission.
- (vii) Provide training and capacity development on ADB project implementation policies, procedures, safeguard etc.

98. **Resettlement expert (national, 5 person-months).** The national resettlement specialist shall have a minimum of 10 years of experience in urban infrastructure development and municipal service projects. The resettlement specialist will provide early support for resettlement plan updating and implementation in compliance of ADB safeguard policies and procedures, and coordinate the internal and external monitoring and other safeguard related tasks. The specialist must have good English proficiency to communicate with ADB and to fulfill all English reporting requirements. The specific tasks may include:

- (i) Based on the final engineering design, detailed measurement survey (DMS), and latest development on the project sites, update the resettlement plans that were prepared based on the feasibility study stage. The new changes in land acquisition, resettlement, compensation standards and other new factors that could have impact to the land acquisition and resettlement need to be considered.
- (ii) Develop a framework for implementing and monitoring the resettlement plans' implementation.
- (iii) Provide practical advice for PMOs and/or PIUs on the implementation of relevant plans within both ADB and domestic policy frameworks.
- (iv) Assist the executing agency and/or implementing agencies to develop a plan to carry out the resettlement plans, provide assistance in implementing the resettlement plans, conduct monitoring and coordinate with the external monitoring

agency to ensure the implementation is carried out in accordance with the government and ADB policies and procedures.

- (v) Provide assistance in selection of a resettlement external monitoring agency and coordinate with the external agency on all monitoring activities as ADB requires.
- (vi) Provide training on ADB Involuntary resettlement policies and procedures, the implementation of resettlement plan, resettlement plan monitoring, and other ADB requirements.
- (vii) Assist PIUs to set up grievance redress mechanisms in accordance with the resettlement plans.

#### **b. Indicative Input**

99. The indicative inputs are shown in Table 12.

**Table 12: Consulting Service Inputs for CS2**

<b>Experts' inputs</b>		<b>International</b>	<b>National</b>
<b>CS2-1. Initial Project Implementation Support</b>			
Project procurement and management expert			5
	<b>Subtotal</b>		<b>5</b>
<b>CS2-2. Initial Project Implementation Support</b>			
Resettlement expert			5
	<b>Subtotal</b>		<b>5</b>
	<b>Total</b>		<b>10</b>

Source: Asian Development Bank.

#### **c. Indicative costs**

100. The indicative costs are shown in Table 13.

**Table 13: Consulting Service Budget for CS2**

<b>Item</b>	<b>Amount (\$000)</b>
<b>CS 2.1 and CS 2.2 Initial Project Implementation Support</b>	
1. Consultants	
a. Remuneration and per diem (including fees, international/local travel)	
i. National consultants (10 person-months)	75
2. Reports	10
3. Miscellaneous administration and support costs	5
4. Contingency	10
<b>Total</b>	<b>100</b>

Source: Asian Development Bank.

#### **d. Services and Facilities Provided to the Consultants**

101. The executing agency and implementing agencies will make the following available to the consultants:

- (i) Suitable office accommodation, with secretarial and clerical support;
- (ii) Completely provisioned, serviced and clear offices with access to telephone (domestic calls only), a broadband LAN and wireless internet connection, a facsimile and an A4 and A3 copy, printing and scanning capable machine;
- (iii) Suitably qualified counterpart staff proficient in the English & Chinese languages with skills to provide coordination for and support to the consultants for the duration of project implementation;

- (iv) Local transportation as necessary, including a driver, for transport to, from and, at the various project sites;
- (v) All necessary assistance to apply for visas, residential and work permits and other related requirements to enable the efficient implementation of the consulting services. The costs of all such government approvals will be reimbursed to the consultant at cost.
- (vi) Authorization to access free of charge all available data, documents, reports, drawings and maps

### **3. Package CS3 – Planning Capacity Development**

102. A consulting firm will be engaged to conduct the planning capacity development for the planning authorities in Changji Prefecture and the 3 project counties/city with 6 person-months of international and 28 person-months of national consultants. The firm will be engaged through a QCBS method with a standard quality: cost ratio of 90:10 with full technical proposal procedure. The assignment will be undertaken as below:

#### **a. Scope of Work**

103. The tasks include:

- (i) Support to Qitai County, Fukang City and Hutubi County to consider recommendations from the National New-Type Urbanization Plan (NNUP) during updates to the Qitai County Master Plan 2012–2030, Fukang City Master Plan 2012–2030 and the Hutubi County Master Plan 2012–2030. The support will mainly consist of the following tasks:
  - (a) Conduct research and recommend strategies related to NNUP for consideration in the master plan updates. (These strategies could relate to adjustment of urban construction boundaries to reflect realistic population projections, opportunities for increasing urban densities, review and recommendations for improving household registration systems etc.)
  - (b) Conduct 6 interactive workshops (1 day each) with local government officials, leaders, and design institutes responsible for preparing the master plan updates, to discuss and advocate for the inclusion of NNUP recommendations in the master plan updates.
  - (c) Prepare a stakeholder consultation strategy to ensure appropriate community participation and outreach activities during the master plan updates.
  - (d) Review draft versions of the master plan updates and provide in-depth comments for inclusion of NNUP recommendations in the master plan updates.
- (ii) Development and delivery of training related to the NNUP for leaders and local government officials. The support will mainly consist of the following tasks:
  - (a) Develop training modules on 4 to 6 topics related to NNUP and related to the master plan updates (examples of topics include: compact urban development; regeneration of urban villages; household registration reform etc.). The training modules will provide approximately 8 hours of materials for each topic and will include interactive games as part of the training course.
  - (b) Conduct 3 workshops (2 days each) to deliver training on NNUP to local government officials and leaders.

- (c) Compile the training materials into a guidebook for local government officials and leaders.
- (iii) Organizing 3 study tours within the PRC to showcase examples of NNUP implementation. These study tours will be for leaders and local government officials from Changji, Qitai County, Fukang City, and Hutubi County. The purpose will be to highlight key aspects of NNUP that are being implemented within the PRC.

#### **b. Qualification Requirements and Detailed Tasks**

104. **Urban Planning and Development Specialists (Team Leader – international, 3.0 person-months; Deputy Team Leader – national, 9.0 person-months).** The specialists will have at least a graduate degree in urban planning, regional planning, or a related field, with a minimum of 12 years of work experience in preparing or implementing master plans, regional plans, detailed area plans, strategic plans, urban policies, or similar assignments. Preference will be given to experience in the PRC and demonstration of expertise and experience in several of the topics promoted by the NNUP (such as people-centric urbanization, compact urban development, regeneration of urban villages etc.).

105. As team leader and/or deputy team leader: prepare detailed work plans; manage and supervise the inputs and outputs of all experts, including quality of deliverables; coordinate all activities; and maintain regular communication with the PIUs, PMOs and ADB on project implementation.

106. Provide support to Qitai County, Fukang City and Hutubi County to consider recommendations from the NNUP during updates to the Qitai County Master Plan 2012–2030, Fukang City Master Plan 2012–2030, and Master Plan for Ganhezi Town Complex of Fukang Industrial Park (2011–2030) and the Hutubi County Master Plan 2012–2030. Develop training modules on four (4) to six (6) topics related to NNUP and related to the master plan updates (examples of topics include: compact urban development; regeneration of urban villages; household registration reform etc.).

- (i) Conduct research and review policies promoted by the National New-Type Urbanization Plan (NNUP) and the Changji Prefecture Promotion of New-Type Urbanization Action Plan 2014–2020 (CPPNTUAP).
- (ii) Review the Qitai County Master Plan 2012–2030, Fukang City Master Plan 2012–2030, Master Plan for Ganhezi Town Complex of Fukang Industrial Park (2011–2030) and the Hutubi County Master Plan 2012–2030 to identify opportunities to implement NNUP and CPPNTUAP in updates to these master plans.
- (iii) Conduct meetings with local government officials, leaders, and relevant design institutes to discuss opportunities to implement NNUP and CPPNTUAP in master plan updates. Select four (4) to six (6) topics that are of interest and relevant to the master plan updates.
- (iv) For each of the selected topics, conduct research and prepare training materials including: rationale for supporting the type of urban development and policies promoted under each topic; case studies highlighting international and national best practices; interactive games or exercises that encourage participative discussions about opportunities to implement the type of urban development promoted under each selected topic in Fukang City (including Ganhezi Town), Hutubi County and Qitai County. The training modules will provide approximately eight (8) hours of training materials for each selected topic.

- (v) Prepare a memorandum that provides technical guidance and recommendations on the changes needed in the Fukang City Master Plan 2012–2030, Master Plan for Ganhezi Town Complex of Fukang Industrial Park (2011–2030), Hutubi County Master Plan 2012–2030 and Qitai County Master Plan 2012–2030 to support implementation on NNUP and CPPNTUAP in each city/county.
- (vi) Prepare a stakeholder consultation strategy to ensure appropriate community participation and outreach activities during the master plan updates.
- (vii) Conduct three (3) workshops (2 days each) to deliver training on NNUP and CPPNTUAP to local government officials, leaders and relevant design institutes. Engage participants in interactive games/exercises to discuss opportunities and challenges related to implementing the NNUP/ CPPNTUAP policies in Fukang City (including Ganhezi Town), and Hutubi and Qitai Counties. Also discuss a roadmap for undertaking the master plan updates including the stakeholder consultation strategy.
- (viii) Review draft versions of the master plan updates (that will be prepared by the local government/relevant design institutes), including demographic analysis and projections, and provide in-depth comments related to the inclusion of NNUP and CPPNTUAP recommendations in the master plan updates.

107. **Urban Design Specialists (International, 3.0 person-months; National, 9.0 person-months).** The specialists will have a university degree in architecture, urban design, landscape architecture or a related field, with a minimum of 10 years of work experience in detailed area plans or urban design studies, with demonstrated experience in master planning in the PRC.

108. The specialists will provide support to Qitai County, Fukang City (including Ganhezi Town) and Hutubi County to consider recommendations from the National Plan for New-Type Urbanization during updates to the Qitai County Master Plan 2012–2030, Fukang City Master Plan 2012–2030, and Master Plan for Ganhezi Town Complex of Fukang Industrial Park (2011–2030) and the Hutubi County Master Plan 2012–2030. In particular:

- (i) Review the Qitai County Master Plan 2012–2030, Fukang City Master Plan 2012–2030, and Master Plan for Ganhezi Town Complex of Fukang Industrial Park (2011–2030) and the Hutubi County Master Plan 2012–2030 to identify opportunities for increasing urban densities within the existing urban construction boundaries in accordance with the NNUP, and select potential streetscape enhancements that reflect an integrated approach to road design.
- (ii) Conduct site visits and meetings with local government officials, leaders, and relevant design institutes to discuss opportunities for increasing urban densities, as well as promoting integrated street design in Qitai County, Fukang City, Ganhezi Town and Hutubi County. In discussion with the local government officials, select one location each in Qitai County, Fukang City, Ganhezi Town and Hutubi County as demonstration sites to prepare a small area plan. The purpose of the small area plan will be to showcase how urban densities can be increased in existing urban area through “infill” development, and/or to showcase how urban streets can be integrated with adjacent land uses to improve the public realm and contribute to multiple functions including supporting non-motorized travel and improved public safety.
- (iii) Prepare a small area plan:
  - Designate a study area boundary.
  - Through site visits, data collection, and interviews with key stakeholders including local government officials, land developers, and residents, assess

existing conditions including existing land uses, existing urban densities including floor area ratios and site coverages, vacancy conditions, demand for vacant land, urban design conditions, vehicular and public transportation access and environmental conditions in and adjacent to the study area.

- Conduct a SWOT analysis to understand the strengths, weaknesses, opportunities and threats related to promoting increased urban densities in the study area and/or integrating transportation systems with adjacent land uses.
- Prepare conceptual design alternatives for increasing urban densities (reflecting the density of 100 m<sup>2</sup> per person as recommended by NNUP), promoting urban “infill” development in the study area, and/or strengthening the connectivity between a road and adjacent land uses through concepts such as transit-oriented design.
- Conduct stakeholder engagement (potentially in a design charrette format) to discuss the SWOT analysis, seek input on the conceptual design alternatives, and refine the design concepts into one preferred alternative that reflects local preferences towards improving urban conditions in the study area.
- Prepare a concept design plan and implementation strategy for the study area including a master plan, sketches/design simulations to represent the design intentions, preliminary costs to undertake necessary public investments to increase urban densities, recommendations about development controls [floor area ratio (F.A.R.) and site coverages], and an implementation process with consideration on minimizing social impacts due to the proposed changes.
- Present the concept design plan and implementation strategy to the local government officials and key stakeholders.

#### 109. **Training Specialist (National, 4.0 person-months)**

- (i) The training specialist will have demonstrated experience in developing training programs related to urban planning and a university degree in a related field. The specialist will support the Team Leader in training focused tasks, in particular;
- (ii) Prepare a guidebook that provides guidance on implementing each of the selected NNUP topics in the context of the project city and/or counties. The guidebook will provide sufficient level of information on each topic including rationale, case studies, opportunities and challenges related to implementing the type of urban development promoted under each topic in the subject city and/or county, and information on other sources that support the implementation of NNUP. The guidebook will be provided to the Xinjiang PMO in digital format and in print form (total 25 copies) for distribution to senior leaders and local officials in the Development and Reform Commissions, Housing and Urban-Rural Construction Bureaus, and Planning Bureaus in the project city and/or counties;
- (iii) Develop and provide training for NNUP Trainers (a team of eight trainers in total from Changji, Fukang City, and Hutubi and Qitai counties) who will become familiar with NNUP and the training materials (including the guidebooks) and can lead training in each project city and/or county;
- (iv) Organize 3 study tours within the PRC to showcase examples of NNUP implementation. These study tours will be for leaders and local government officials from Changji, Qitai County, Fukang City, and Hutubi County. The purpose will be to highlight key aspects of NNUP that are being implemented within the PRC; and



- (v) facilitate the inclusion of ethnic minorities in training activities, and to ensure for culturally relevant training program and curriculum that are delivered in ethnic minority languages.

110. **Other Specialist (National – 6.0 person-months).** In discussions with the ADB and local government, the team leader will identify if any special expertise is required to support the urban planning capacity building program and will develop a TOR for selecting the specialist(s). The allocation for this specialist is kept as provisional sum in the cost estimate.

### c. Indicative Input

111. The indicative inputs are shown in Table 14.

**Table 14: Indicative Input for CS3**

Position	International (person-months)	National (person-months)	Total
Team Leader / Deputy Team Leader (Urban Planning & Development Specialist)	3	9	12
Urban Design Specialist	3	9	12
Training Specialist	0	4	4
Other (as needed)	0	(6)	(6)
Total	6	22	28

### d. Indicative Costs

112. The indicative costs are shown in Table 15.

**Table 15: Indicative costs for CS3**

Item	Amount (US\$)
1 Consultants' remuneration	
• International (6 person-months)	108,000
• National (28 person-months)	110,000
2 Per diem, international and local transportation costs	25,000
3 Workshop and report printing costs	12,000
4 Study Tours	60,000
5 Provisional sum <sup>a</sup>	30,000
6 Contingency	5,000
<b>Total</b>	<b>350,000</b>

Note (a): Provisional sum is for the "other specialist (national, 6 person-months) once the need for the specialist is identified during the implementation.

### e. Services and facilities provided to the consultants

113. The executing agency and implementing agencies will make the following available to the consultants:

- (i) Suitable office accommodation, with secretarial and clerical support;
- (ii) Completely provisioned, serviced and clear offices with access to telephone (domestic calls only), a broadband LAN and wireless internet connection, a facsimile and an A4 and A3 copy, printing and scanning capable machine;
- (iii) Suitably qualified counterpart staff proficient in the English & Chinese languages with skills to provide coordination for and support to the consultants for the duration of project implementation;

- (iv) Local transportation as necessary, including a driver, for transport to, from and, at the various project sites;
- (v) All necessary assistance to apply for visas, residential and work permits and other related requirements to enable the efficient implementation of the consulting services. The costs of all such government approvals will be reimbursed to the consultants at cost.
- (vi) Authorization to access free of charge all available data, documents, reports, drawings and maps

#### **4. Package CS4 – TVET Course Development Support**

114. A consulting firm will be engaged to conduct the planning capacity development for the planning authorities in Changji Prefecture and the 3 project counties and/or cities with 4 person-months of international and 26 person-months of national consultants. The firm will be engaged through a CQS method. The consulting firm will support the implementation of the nonstructural TVET components including the development of competency-based training (CBT) packages for priority short courses according to international best practices, in-service teacher training, institutional quality assurance system, and school corporate culture program. The firm will be responsible for planning, organizing and managing the various activities under each component and in coordinating with the PIUs in the three project areas and with the Changji and Xinjiang PMOs. The following positions will be needed under the firm:

**a. CBT Specialists (Team Leader: international, 4 person-months; Deputy Team Leader: national, 6 person-months)**

115. The CBT specialists will have at least a graduate degree in areas relevant to the scope of work of the firm such as engineering, education, management, etc. and at least 10 years of experience in the various aspects of TVET. The specialists must be proficient in Functional Analysis Approach in developing full CBT packages including the development of competency standards, curriculum, learning materials, assessment tools, and teaching guide. They will be responsible for developing in-house capacity in the three TVET institutions on the application of Functional Analysis Approach to CBT course development according to international best practices so that they will be able to continue developing new CBT courses on their own. The specialists must also have a good working knowledge and understanding of teacher training, quality assurance, and school culture development. The specialists will undertake the following tasks:

**As Team Leader/ Deputy Team Leader:**

- (i) Coordinate the preparation of work plans by the team for the different components and manage and monitor their implementation;
- (ii) Ensure coordination among the different TVET components and with the project PIUs and PMOs including reporting procedures;
- (iii) Coordinate the preparation of monthly, quarterly, and annual progress reports; and
- (iv) Participate in the planning and review missions by ADB teams.

**As CBT Specialists:**

During the first deployment:

- (v) Assist the Changji PMO, in coordination with the management of the TVET institutions of Fukang City, and Hutubi and Qitai Counties, in organizing the Industry Coordination Committees (ICCs) for the selected occupations;
- (vi) Prepare a Facilitator's Training Manual for the development of CBT package

- including competency standards, assessment tools, curriculum, learning materials, and teaching guide;
- (vii) Train a team of 6 highly qualified staff (2 from each school nominated by their management) to become CBT Facilitators selecting 1 occupation as model and using demonstration, coaching, and mentoring approaches in the actual development of full CBT package;
- (viii) Assist the school management and the CBT Facilitators in organizing their respective Standards Development Committees (SDCs) for each occupation;
- (ix) Provide orientation to the SDC members on the development of competency standards and assessment tools according to international best practices;
- (x) Assist/Coach the trained CBT Facilitators in facilitating the actual development of competency standards and assessment tools of each occupation by the SDCs;
- (xi) Assist the CBT Facilitators in organizing workshops to validate the draft competency standards and assessment tools;
- (xii) Revise and submit drafts to respective ICCs for approval;
- (xiii) Together with the CBT Facilitators, train SDC members how to conduct competency assessment using assessment tools;
- (xiv) facilitate the inclusion of ethnic minorities in training activities, and to ensure for culturally relevant training program and curriculum that are delivered in ethnic minority languages;
- (xv) Other related tasks as required.

During the second deployment:

- (xvi) Assist the school management and the CBT Facilitators in organizing their respective Curriculum Development Committees (SDCs) for each occupation;
- (xvii) Provide orientation to the CDC members on the development of curriculum, learning materials, and teaching guide according to international best practices;
- (xviii) Assist/Coach the trained CBT Facilitators in facilitating the actual development of curriculum, learning materials, and teaching guide of each occupation by the CDCs;
- (xix) Assist the CBT Facilitators in organizing workshops to validate the draft curriculum, learning materials, and teaching guide;
- (xx) Revise and submit drafts to respective ICCs for approval;
- (xxi) Assist school management and CBT Facilitators in piloting the new courses and revise based on results of the pilot run, as needed;
- (xxii) Other related tasks as required.

#### **b. In-service Teacher Training Specialist (National, 4 person-months)**

116. The in-service teacher training specialist will have at least a graduate degree in education, management, etc., and at least 10 years of experience in the various aspects of TVET. The specialist must also have a good working knowledge and understanding of teacher training, including the program design and coordination for pedagogy and technical skills training of school-based, industry or high education institution based. The specialist will undertake the following tasks:

- (i) Critically review the teachers training documents in XUAR and in CHAP;
- (ii) Collect and analyze data of Fukang City, and Hutubi and Qitai Counties Technical schools and assess training needs of the three schools, disaggregated by gender, by ethnic group, by income group, by course and/or program, by age group, if possible;
- (iii) Prepare teachers training needs analysis report;

- (iv) Based on the reviews and analyses above and in-depth consultation with relevant stakeholders, prepare teacher training plan, include the modern pedagogy training (both school-based training and training at higher institution) and technical skills upgrading; the period, courses and the amount of training;
- (v) facilitate the inclusion of ethnic minorities in training activities, and to ensure for culturally relevant training program and curriculum that are delivered in ethnic minority languages;
- (vi) Recommend the school-based teachers training trainers in terms of modern pedagogy based on the training needs assessment and consultation with relevant stakeholders;
- (vii) Design the training evaluation form for school-based teachers training for future improvement;
- (viii) Recommend higher institution for sending the teachers to be trained based on the training needs assessment and consultation with relevant stakeholders;
- (ix) Design the training evaluation form for higher institution teachers training for future improvement;
- (x) Recommend industries and enterprises for sending the teachers to be trained in technical skills upgrading based on the training needs assessment and consultation with relevant stakeholders;
- (xi) Design the training evaluation form for technical skills upgrading for future improvement;
- (xii) Assess training operation and improvement of the above training activities based on the evaluation results;
- (xiii) Review the teacher training arrangements and activities that have been conducted in terms of modern pedagogy and technical skills, and make recommendations for future improvement in XUAR, especially in CHAP;
- (xiv) Other related tasks as required.

**c. Quality Assurance Specialist (National, 4 person-months)**

117. The quality assurance specialist will have at least a graduate degree in education, management etc., and at least 10 years of experience in the various aspects of TVET. The specialist must also have a good working knowledge and understanding of quality assurance in education as well as relevant policies by Ministry of Education. He or she will be responsible for developing quality assurance plans for both CHAP and three TVET institutions according to international and national best practices so that they will be able to continue conducting quality assurance process on their own. The specialist will undertake the following tasks:

- (i) Review the quality assurance policies and documents for TVET in Ministry of Education, XUAR and in CHAP (especially in Fukang City);
- (ii) Review the vocational institute teaching diagnosis and improvement action requirement by Ministry of Education and XUAR implementation;
- (iii) Collect and analyze information of Fukang City, and Hutubi and Qitai Counties technical schools, CHAP and XUAR education department and assess current quality assurance arrangements of the above organizations and schools;
- (iv) Design the general orientation/workshop on institution-level quality assurance for Fukang City, and Hutubi and Qitai Counties technical schools and Changji Education Bureau and other stakeholders based on the reviews and analyses above and in-depth consultation with relevant stakeholders;
- (v) Organize study tours to relevant provinces in the PRC (e.g. Chongqing, Guangdong) for Fukang City, and Hutubi and Qitai Counties Technical schools

leaders and Changji Education Bureau and other stakeholders led by the autonomous regional and Changji PMOs to learn from other models of TVET quality assurance and MOE required vocational institute teaching diagnosis and improvement action;

- (vi) Prepare quality assurance development plan for both CHAP and Fukang City, and Hutubi and Qitai Counties Technical schools;
- (vii) Conduct Annual workshop on implementation monitoring progress and submit report on this (3 years);
- (viii) Propose to strengthen local education bureau and/or TVET and employment service development activities and enhance quality assurance in XUAR, especially in CHAP; and
- (ix) Other related tasks as required.

**d. School Culture Development Specialist (National, 4 person-months)**

118. The school culture development specialist will have at least a graduate degree in education, management, etc., and at least 5 years of experience in the various aspects of TVET. The specialist must also have a good working knowledge and understanding of school culture development as well as relevant policies by Ministry of Education. He or she will be responsible for developing culture development plans for both CHAP and three TVET institutions according to international and national best practices so that they will be able to continue conducting culture development process on their own. The specialist will undertake the following tasks:

- (i) Review the school culture policies and documents for TVET in Ministry of Education, XUAR, and in CHAP (especially in Fukang City);
- (ii) Collect and analyze information on school culture of Fukang City, and Hutubi and Qitai counties technical schools, CHAP and XUAR education department and assess current school culture arrangements of the above organizations and schools;
- (iii) Design the general orientation/workshop on school culture for Fukang City, and Hutubi and Qitai Counties technical schools and Changji Education Bureau and other stakeholders based on the reviews and analyses above and in-depth consultation with relevant stakeholders;
- (iv) facilitate the inclusion of ethnic minorities in training activities, and to ensure for culturally relevant training program and curriculum that are delivered in ethnic minority languages;
- (v) Organize study tours to relevant provinces in the PRC (e.g. Chongqing, Jiangsu, Tianjin) for Fukang City, and Hutubi and Qitai Counties Technical schools leaders and Changji Education Bureau and other stakeholders led by the autonomous regional and Changji PMOs to learn from other models of TVET school culture;
- (vi) Prepare school culture development plan for CHAP and Fukang City, and Hutubi and Qitai Counties Technical schools;
- (vii) Conduct Annual workshop on implementation monitoring progress and submit report on this (3 years);
- (viii) Propose to strengthen local education bureau / TVET and employment service development activities and enhance school culture in XUAR, especially in CHAP; and
- (ix) Other related tasks as required.

**e. TVET Administrative Officer (National, 8 person-months)**

119. The TVET administrative officer will have at least a bachelor's degree in management or equivalent degrees in related fields and at least 5 year experience in providing administrative support to foreign-assisted projects and must be highly proficient in English language. The administrative officer will be responsible for the following tasks:

- (i) Familiarize with the tasks of members of the consulting team and their work plans and schedule of activities;
- (ii) Organize a systematic filing system for reports, studies and relevant publications, receipts, etc. for the TVET component in the Changji PMO;
- (iii) Establish contacts and communication channels with the persons and organizational units in the schools and related organizations in the project areas;
- (iv) Assist in making appointments for specialists including arrangements for transportation;
- (v) Assist in organizing training/workshops for the different TVET components in coordination with the respective specialists and school staffs concerned;
- (vi) Follow-up and collate end-of-activity reports and monthly progress reports of the different TVET components;
- (vii) Provide interpretation for non-Chinese speaking members of the consulting team and translation of documents, where necessary; and
- (viii) Other related tasks as required.

**f. Indicative Inputs**

120. The indicative inputs are shown in Table 16.

<b>Table 16: Indicative Inputs for CS4</b>			
<b>Position</b>	<b>International</b>	<b>National</b>	<b>Total</b>
CBT Specialist / Team Leader	4	-	4
CBT Specialist / Deputy Team Leader	-	6	6
In-service Teacher Training Specialist	-	4	4
Quality Assurance Specialist	-	4	4
School Culture Development Specialist	-	4	4
TVET Administrative Officer	-	8	8
<b>Total</b>	<b>4</b>	<b>26</b>	<b>30</b>

**g. Indicative Costs**

121. The indicative costs are shown in Table 17.

<b>Table 17: Indicative costs for CS4</b>		
<b>Reference</b>	<b>Item</b>	<b>Amount (\$)</b>
1	Consultants' remuneration, per diem, and international/local plane fare:	186,000.00
	• International (4 person-months)	72,000.00
	• National (18 person-months; 8 person-months)	114,000.00
2	Local land transportation	5,000.00
3	Contingency (4.5%)	9,000.00
	<b>Total</b>	<b>200,000.00</b>

## **h. Services and Facilities Provided to the Consultants**

122. The executing agency and implementing agencies will make the following available to the consultants:

- (i) Suitable office accommodation, with secretarial and clerical support;
- (ii) Completely provisioned, serviced and clear offices with access to telephone (domestic calls only), a broadband LAN and wireless internet connection, a facsimile and an A4 and A3 copy, printing and scanning capable machine.
- (iii) Suitably qualified counterpart staff proficient in the English & Chinese languages with skills to provide coordination for and support to the consultants for the duration of project implementation.
- (iv) Local transportation as necessary, including a driver, for transport to, from and, at the various project sites.
- (v) All necessary assistance to apply for visas, residential and work permits and other related requirements to enable the efficient implementation of the consulting services. The costs of all such government approvals will be reimbursed to the consultants at cost.
- (vi) Authorization to access free of charge all available data, documents, reports, drawings and maps

## **5. Package CS5 – 3R Pilot Program**

123. A consulting firm will be engaged to conduct the 3R (reduce, reuse, recycle) pilot program in Qitai Secondary Vocational and Technical School with 2 person-months of international and 12 person-months of national consultants. The firm will be engaged through CQS method. The consulting firm will be responsible for planning, organizing and managing the various activities in coordinating with the school and with the Qitai PMO, to minimize solid waste that is fed into the collection, transport, and disposal system. The following positions will be needed under the firm:

### **a. Qualification Requirements and Detailed Tasks**

124. **3R Solid waste management specialists (Team Leader/International specialist – 2.0 person-months; Deputy Team Leader/Domestic specialist – 4.0 person-months).** The specialists will have at least a graduate degree in environment, civil engineering, or a related field, with a minimum of respectively 12 and 8 years of work experience in solid waste management. Preference will be given to those with demonstration of expertise on 3R solid waste management, as well as relevant experience in the PRC and Xinjiang.

125. As team leader and/or deputy team leader: prepare detailed work plans to plan, manage, monitor and provide technical support for a 3R pilot program at Qitai Secondary Vocational and Technical School (QSVTS) to minimize solid waste amount that goes into the landfill; review and propose local regulations for Qitai County on municipal solid waste management; manage and supervise the inputs and outputs of all experts, including quality of deliverables; coordinate all activities; and maintain regular communication with QSVTS, PMO and ADB on project implementation.

126. The detailed scope of services for the 3R solid waste management specialists includes but is not limited to the following:

- (i) Investigation, analysis and review of existing solid waste management system and practices in QSVTS;
- (ii) Development of a 3R pilot program for QSVTS, provide recommendations on classification of solid waste disposal, specific solid waste management options (e.g., waste separation at source, backyard composting, materials recovery, etc.) and relevant guidelines, policies, and manuals to achieve waste minimization;
- (iii) Provide technical support on the technical aspects of the publicity and training;
- (iv) Monitoring and evaluation of the implementation of the 3R pilot program;
- (v) Recommendations of strategies to sustain, replicate and scale up the 3R solid waste management pilot program in the school and to other areas in the county seat at the completion of the program;
- (vi) Preparation of a 3R pilot program outcome report including evaluation of the effects of the implementation, lessons learned, study and analysis of the situation in Qitai County seat and selection of other communities for promotion of the pilot program with an implementation plan.

127. **Communication Specialist (3R implementation) (National, 4.0 person-months).** The communication specialist will have demonstrated experience in publicity and developing communication programs related to 3R solid waste management and a degree in a related field. The specialist will support the Team Leader in communication focused tasks. He/she will be responsible for the following activities: (i) develop 3R awareness and promotion campaigns to heighten awareness of staff, teachers and students on their roles and responsibilities in the proper execution of the 3R pilot program; (ii) enhance the sustainability of the pilot program through development of and coordination of a workable strategy for training and capacity building among the staff, teachers, and students at the school; (iii) provide overall coordination of all training and capacity building activities (including development, preparation, implementation and evaluation process) in the school, in close collaboration with other specialists, and (iv) prepare a detail publicity plan covering various forms of publicity (e.g. radio, slogans, banners and internet) and training programs for the 3R pilot program in QSVTS.

128. **Social Specialist (3R implementation) (National – 4.0 person-months).** The training specialist will have demonstrated experience in social organization and study, knowledge of the ethnic customs and local livelihoods, social stability and harmony requirements, and developing training programs related to 3R solid waste management and a degree in a related field. The specialist will support the Team Leader in training focused tasks, including:

- (i) Planning, development and implementation of strategies, action plans and supporting materials to enhance participation of the teachers, staff and students at the school in 3R solid waste management;
- (ii) Support to the team leader and deputy team leader with social study, analysis and follow-up on the promotion of the 3R program in QSVTS, and recommendation for promotion to other communities in Qitai County seat;
- (iii) Assessment and analysis of the effectiveness of the publicity.

#### **b. Indicative Input**

129. The indicative inputs are shown in Table 18.



**Table 18: Indicative Input for CS5**

<b>Position</b>	<b>International (person-months)</b>	<b>National (person-months)</b>	<b>Total</b>
Team Leader / Deputy Team Leader (3R Solid Waste Management Specialist)	2	4	6
Communication Specialist	0	4	4
Social Specialist	0	4	4
<b>Total</b>	<b>2</b>	<b>12</b>	<b>14</b>

**c. Indicative Costs**

130. The indicative costs are shown in Table 19.

**Table 19: Indicative costs for CS5**

<b>Item</b>	<b>Amount (US\$)</b>
1 Consultants' remuneration	
• International (2 person-months @ \$20,000 per month)	40,000
• National (12 person-months @ \$6,500 per month)	78,000
2 Per diem, international and local transportation costs	9,000
3 Workshop and printing costs	4,000
4 Local land transport	2,000
5 Miscellaneous administration and support costs	2,000
6 Contingency	4,000
<b>Total</b>	<b>137,000</b>

**d. Services and facilities provided to the consultants**

131. The executing agency and implementing agency will make the following available to the consultants:

- (i) Suitable office accommodation, with secretarial and clerical support;
- (ii) Completely provisioned, serviced and clear offices with access to telephone (domestic calls only), a broadband LAN and wireless internet connection, a facsimile and an A4 and A3 copy, printing and scanning capable machine;
- (iii) Suitably qualified counterpart staff proficient in the English & Chinese languages with skills to provide coordination for and support to the consultants for the duration of project implementation;
- (iv) Local transportation as necessary, including a driver, for transport to, from and, at the various project sites;
- (v) All necessary assistance to apply for visas, residential and work permits and other related requirements to enable the efficient implementation of the consulting services. The costs of all such government approvals will be reimbursed to the consultants at cost.
- (vi) Authorization to access free of charge all available data, documents, reports, drawings and maps

**6. External Monitoring**

132. An (i) external resettlement and social monitor, (ii) an environmental monitor and (iii) a socioeconomic and PPMS monitor will be engaged intermittently for the entire duration of project implementation. The packages will be financed through domestic counterpart funding. XPMO will prepare detailed TOR prior to project implementation.

133. The terms of reference for the external resettlement and social monitor is in Attachment 1 to the Section IV.

134. The estimated budget requirements are (i) \$200,000 for the external resettlement monitoring, (ii) \$200,000 for the external environmental monitoring and (iii) \$200,000 for the external socioeconomic and PPMS monitoring.

## **Terms of Reference—External Monitoring for Social and Resettlement Safeguards**

### **I. Introduction**

#### **A. Resettlement (Safeguards)**

135. One of the provisions in the Resettlement Plans (RPs) is the engagement of an external resettlement monitor to carry out monitoring and evaluation of social safeguard compliance of the Project during and after resettlement implementation.

#### **B. Social Development, Gender and Ethnic Minority Development Plans**

136. An ethnic minority development plan (EMDP) and social and gender action plan (SGAP) also have a provision in hiring an external monitor to carry out monitoring and evaluation of gender, social development and ethnic minorities development.

### **II. Objectives and Requirements of Monitoring and Evaluation**

#### **A. Resettlement (Safeguards)**

137. External monitoring and evaluation will be conducted to provide monitoring and evaluation of land acquisition and resettlement (LAR) activities of the Project.

138. The external monitor will (i) assess the effectiveness, impacts and sustainability of land acquisition, compensation, and resettlement measures, (ii) determine whether such activities have met the safeguard policy requirements of the Project, and (iii) extract and highlight lessons for future social safeguard policy formulation and project planning. All data and analysis will be disaggregated by gender and ethnicity, if applicable.

139. The external monitoring process will include the following activities:

- (i) review and verification of the internal monitoring reports and resettlement completion reports of the PMO;
- (ii) identification and selection of project impact indicators;
- (iii) impact assessment (e.g. restoration of incomes and living conditions) through quantitative and qualitative studies;
- (iv) gender-sensitive consultations with APs;
- (v) assessment of compliance with Government's laws and regulations, the ADB Safeguard Policy Statement's (SPS) Involuntary Resettlement (IR) policy requirements outlined in the RP;
- (vi) recommendations on the land acquisition process modification and adaptation measures;
- (vii) effectiveness of the GRM; and

(viii) Lessons learned.

140. External monitoring key indicators:

- Impacts of land acquisition on the affected households, especially the poor and other vulnerable households
- Economic status of the affected households, their employment status, income levels, and household assets. This assessment will be done against the pre-project baseline information.
- Changes in the status of affected vulnerable persons, in terms of food security, household demographics, livelihoods in relation to project impacts.
- Degree of support the APs received through consultations, assistance in restarting income activities and livelihood restoration
- Outstanding LAR or compensation issues – their current status and the time frame to complete/resolve them.
- Perceptions of the affected persons regarding the implementation of the land acquisition and compensation payment processes.
- Impacts on affected businesses (permanent and temporary)
- Participation and involvement of affected persons in the implementation of the RP.
- The level of consultations with APs by the PMO and relevant agencies.
- Effectiveness and fairness of valuation, compensation and compensation disbursement measures.
- Implementation and effectiveness of income restoration measures.
- Effectiveness and fairness of the GRM process.
- Level of satisfaction among the affected persons in the post-RP phase.
- Adequacy of resettlement funds, their timely availability, and results of financial audits.
- Performance of LAR implementing agencies (PMO, LRB, HD, etc).

141. Monitoring methodologies will be but not limited to the following: desk review and field visits; use of structured questionnaires; meetings with various departments and organizations, local officials, and affected households; focus group discussions; and key informant interviews. Separate meetings will be held with women and vulnerable households. Monitoring indicators and findings will be disaggregated by gender and ethnicity, if applicable.

## **B. Social Development, Gender and Ethnic Minority Development Plans**

142. The objectives of the external monitoring of the ethnic minority safeguards and social dimensions of the project include: (i) ensuring that the EMDP and SGAP are being properly implemented and the overall objectives of the EMDP are being met; (ii) collecting relevant data and information (sex – and ethnicity-disaggregated) to identify progress against the monitoring indicators/targets specify in the EMDP and SGAP; (iii) collecting qualitative data to describe impacts of EMDP and SGAP measures; (iv) ensuring that appropriate participatory approaches have been adopted and that appropriate involvement of vulnerable groups, including the poor, minority men and women in planning and implementation has undertaken; and (v) identifying issues or complaints and ensuring that the grievance mechanism is effective

143. The external monitoring will include the following activities:

- (i) review and verification of the internal monitoring reports and project completion reports of the PMO from EMDP and SGAP perspectives;
- (ii) review and update of project impact social indicators;

- (iii) collection and update of sex-and ethnicity-disaggregated data to support EMDP and SGAP implementation and monitoring;
- (iv) analysis of EMDP and SGAP progress against the indicators and targets as per the plans;
- (v) conduct a sex-disaggregated assessment of general impacts of the projects and measures including in the EMDP and SGAP through quantitative and qualitative studies;
- (vi) gender-sensitive consultations with project beneficiaries, especially the poor, women and ethnic minorities;
- (vii) assessment of compliance with Government's laws and regulations, the ADB Safeguard Policy Statement's (SPS) Indigenous Peoples (IPs) policy requirements outlined in the EMDP;
- (viii) recommendations on update of the EMDP and SGAP activities and measures;
- (ix) effectiveness of the GRM;
- (x) lessons learned.

144. Qualitative and quantitative research methodologies will be used for external monitoring purposes. Consultations and key informant interviews with relevant government agencies and bureaus have to be conducted. The primary data collection should be supplemented with the secondary data analysis and desk review of project relevant documents and reports.

### **C. Consulting Services**

145. The Xinjiang PMO will recruit a team of qualified and experienced external monitoring experts (e.g. consulting firm, institute) through competitive selection. The external monitoring experts should have the following qualifications and experience:

- (i) University degree in a relevant field (social science, engineering, land management).
- (ii) Experiences in working in urban development projects and with vulnerable households
- (iii) Demonstrated knowledge and experience in applying safeguard best practices of involuntary resettlement. 5 years or more of experience in the formulation and implementation of RP.
- (iv) Good writing skills in English and experience in report writing.

### **D. Frequency of Monitoring and Reporting Requirements**

146. The external monitor will carry out semi-annual monitoring for four years (2017-2020). Post evaluation will be carried out on the 4<sup>th</sup> year (2020 or within twelve months after completion of resettlement activities).

147. A monitoring report will include:

- (i) A summary of field and document review findings
- (ii) Field observations and a summary of AP and stakeholders' views and suggestions and recommendations
- (iii) Major issues and problems identified during field visits (existing and potential)
- (iv) Recommendations on mitigation or prevention measures
- (v) Comments on internal monitoring – their relevance, adequacy, and timeliness
- (vi) An assessment of previous external monitoring follow-up actions.
- (vii) Conclusion, which summarizes the above.

148. All monitoring reports will be written in English and Chinese languages. The PMO will ensure that information on the progress and status on all aspects of land acquisition and resettlement activities will be provided to the external monitor for verification.

149. The External Monitor will submit all the monitoring reports simultaneously to the PMO and ADB.

150. The external monitor will present its key findings and recommendations to the PMO at least 2 days prior to the end of each monitoring period. The external monitor will submit monitoring reports (in English and Chinese languages) simultaneously to the PMO and ADB within 15 working days after completion of each monitoring activity. The external monitor is also required to revise the external resettlement and social monitoring reports based on comments received from the PMO and ADB and submit the revised reports simultaneously to the PMO and ADB within 7 working days.

151. Photos, minutes of meetings, attendance sheets, held with various stakeholders will be attached in the reports. Documents obtained during monitoring will also be attached as necessary.

**E. Monitoring Schedule**

- Semiannually during project implementation
- Annually for two years after the land acquisition and resettlement is completed.
- Post-evaluation report
- Detailed monitoring schedule will be determined in the contract.

### **Procurement Guidelines and Resources**

Procurement Guidelines (in Chinese)

<http://www.adb.org/Documents/Guidelines/Procurement/default.asp>

<http://www.adb.org/Documents/Translations/Chinese/Guidelines-Procurement-CN.pdf>

Guidelines on Use of Consultants by ADB and Its Borrowers

<http://www.adb.org/Documents/Guidelines/Consulting/default.asp>

Consulting Services Recruitment Notice:

<http://csr.adb.org>

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>

Procurement Documents:

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

Guide on Bid Evaluation

[www.adb.org/Procurement/guide-bid-apr06.pdf](http://www.adb.org/Procurement/guide-bid-apr06.pdf)

Procurement Plans

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

Electronic Procurement

<http://www.mdbegp.org/www/eGPInteractiveus/tabid/69/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

### Environment

152. **Environmental safeguards categorization due diligence.** The project is classified as category B for environment. An initial environmental examination (IEE) including environmental management plan (EMP) was prepared in compliance with ADB's *Safeguard Policy Statement* (SPS, 2009) and disclosed on the ADB website in March 2017.<sup>29</sup> The IEE incorporates findings of the domestic feasibility studies, domestic environmental impact assessments (DEIAs), and the climate risk and vulnerability assessment (CRVA) and Technical Reports conducted in the framework of the PPTA. The domestic safeguards documents were prepared in compliance with the PRC Law on Environmental Impact Assessment (2003), the Technical Guidelines for Environmental Impact Assessment (HJ/T2-93) and other relevant PRC regulations and guidelines. The Changji Environmental Protection Bureau has approved all domestic EIAs. The project IEE and EMP (not the DEIAs) form the basis of the official loan agreement between ADB and the executing agency. The executing agency, through the PMO, has final responsibility for implementation and compliance with the IEE and EMP.

153. **Anticipated impacts and mitigation measures during construction.** The IEE identifies potential impacts during construction. Construction will cause no loss of valuable ecology or physical cultural resources. Construction dust, noise, erosion, and local disruption to traffic and communities will be temporary and can be appropriately managed. Avoidance of impact through design and site management and mitigation measures through construction management have been identified for each impact and these are listed in the project EMP for the attention of contractors and PMO. In all cases, where the EMP requirements are strictly followed, construction impacts will be kept at acceptable levels.

154. **Anticipated impacts and mitigation measures during operation.** In operation, the traffic volumes projected for project roads will not result in air pollution exceeding standards, but for some identified locations predicted future or noise levels will exceed both PRC and EHS standards. Mitigation measures are identified in the IEE, and required by the EMP, for exceedances under and over 3 decibels. The sustainable use of water for irrigation of shelterbelts and windbreaks (Fukang City) has been checked against water availability. Safeguards against soil and groundwater contamination at the Qitai County landfill include partitioning to limit leachate production and a leachate treatment plant. The isolation of the landfill location will help minimize other operational impacts of noise, dust, and odor on the community. The proper closure and rehabilitation of the current landfill site in Qitai County will be an integral part of this development.

155. The rapid environmental assessment for the project, carried out during project planning by ADB, assigned the project a medium climate risk categorization. A climate risk and vulnerability assessment (CRVA) was prepared as a response to this risk. A list of design and engineering strategies that address the vulnerabilities identified in the CRVA has been incorporated into component designs. Indicative quantifications in these recommendations are taken from the sub-regional projections for precipitation and temperatures.

156. **Environmental management plan (EMP) implementation arrangements.** The responsibilities for environmental management and supervision during the various stages of implementation of the project are defined in the EMP. The EMP will be implemented in all phases of the project—design, pre-construction, construction, and operation. The EMP complies with the

<sup>29</sup> ADB. 2009. *Safeguard Policy Statement*. Manila.

PRC's environmental laws and ADB's SPS (2009). The EMP contains (i) objectives; (ii) roles and responsibilities; (iii) mitigation measures; (iv) inspection, monitoring, and reporting arrangements; (v) training and institutional strengthening; (vi) grievance redress mechanism (GRM); and (vii) future public consultation. The EMP is included in this PAM as **Appendix 1** and will be updated at the end of the detailed design. The EMP will also be included as a separate annex in all bidding and contract documents. The contractors will be made aware (through the PMO and the tendering agency) of their obligations to implement the EMP and to budget EMP implementation costs in their proposals. XUARG (through the PMO) and the three implementing agencies will assume overall responsibility for implementing, supervising, monitoring, and reporting on the EMP. Their capacity to implement the EMP, as well as the capacity of the operation and maintenance unit to manage project facilities, will be strengthened through capacity building and training activities defined under project output 4 (capacity building) and the training plan in the EMP. The PMO and the implementing agencies will assign qualified staff to coordinate and monitor EMP implementation. Environment management and sector specialists contracted by the PMO as part of the loan implementation consultant team will support these.

**157. Project management office, environment specialist.** The Changji PMO will have the overall responsibility delegated by the EA for supervising the implementation of mitigation measures, coordinating the project level Grievance Redress Mechanism (GRM) and reporting to ADB. The CPMO will appoint an environment officer (PMO-EO) to supervise the effective implementation of the EMP and to coordinate the GRM. Terms of reference for the PMO-EO are at Annex A.

**158.** To ensure that the contractors comply with the EMP provisions, the PMO-EO with the help and technical support of the Loan Implementation Environment Consultant (LIEC), will prepare and provide the following specification clauses for incorporation into the bidding procedures: (i) a list of environmental management and monitoring requirements to be budgeted by the bidders in their proposals; (ii) environmental clauses for contractual terms and conditions; and (iii) in the EMP. In addition, the PMO-EO will assist in preparing the environmental sections for the project progress reports.

**159. Implementing agencies.** Each IA with civil works will assign one environmental supervisor from the implementing agency (IA-ES) to (i) review and approve contractors' site management plans; (ii) supervise the environmental performance of the component PIUs; (iii) participate in internal monitoring; (iv) act as a local entry point for the project grievance redress mechanism (GRM); and (v) submit quarterly inspection results to the contractors for information, and to the implementing agency and the PMO for verification and confirmation. Terms of reference for the IA-ES positions are at Annex C. The IAs will also hire construction supervision companies (CSCs), which will support the IAs in supervising construction works.

**160. Construction contractors** will be responsible for implementing the mitigation measures during construction under supervision of the implementing agencies and the County and/or City PMOs. 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 Management Plans and will assign a person responsible for environment, health and safety. The contractors, in collaboration with the IA-ESs, will undertake internal monitoring.

**161. Loan implementation environmental consultant (LIEC).** Under the loan implementation consultancy services, a loan implementation environmental specialist will be recruited to support the effective implementation of the EMP. Terms of reference for the LIEC are at Annex B. The LIEC will advise the contractors, CSCs, IAs, and PMOs on all aspects of



environmental management and monitoring for the project. The LIEC will (i) assist in updating the EMP and environmental monitoring program, as needed; (ii) supervise the implementation of the mitigation measures specified in the EMP; (iii) train the PMOs and IAs on how to prepare the annual EMP monitoring and progress reports to ADB during the early stages of training, and lead the preparation of these documents; (iv) provide training to the CSCs, IAs, and PMOs, on PRC's environmental laws, regulations, and policies, ADB's SPS (2009), EMP implementation, and GRM in accordance with the training plan; (v) identify any environment related implementation issues, and propose necessary corrective actions; and (vi) undertake site visits for EMP inspection as required.

162. **External monitor.** An External Monitor will be contracted by the PMO to review and evaluate the results of the contractors' and operators' internal monitoring and the results of the EMS monitoring against PRC standards. The External Monitor will report to the ADB separately from the PMO's Environmental Monitoring Reports.

163. Contractor environmental specifications will be included in all civil works contracts. The contractor environmental specifications (see Appendix 2 to EMP) are standard environmental clauses and sub-clauses that are applicable to all general infrastructure construction. The objective of these clauses is to reduce and manage all potential environmental impacts caused by the construction activities. These specifications will be included into the standard contractor specifications included in the contract between the implementing agency and the contractor.

164. **Grievance redress mechanism.** A project-specific GRM has been established to receive and manage any public environmental and/or social issues that may arise due to the project. The environment specialists in the PMO and implementing agency will coordinate the GRM. All project agencies and staff will be trained in the GRM and will take an active role in supporting the GRM when necessary.

## **Land Acquisition and Resettlement**

165. The involuntary resettlement categorization of the project is Category A. The project covers Hutubi County, Fukang City, and Qitai County; and a Resettlement Plan for each county and/or city was prepared based on the feasibility study report. An estimated 590 households (2,529 people) will be affected by land acquisition and house demolition, 21 house renters; and one enterprise with six (6) workers. The ethnic minority groups affected (Uygur, Hui, and Kazak) account for 62% (304 households with 1,557 people) of the total affected population. About 10,193 mu (680 hectares equivalent) of land, mostly (93%) collective cultivated land, will be permanently acquired. About 199 house owners and 21 house renters will be required to relocate. The cost estimate for resettlement for all the sub-components is CNY316.01 million (\$45.80 million equivalent).

166. The Government shall ensure that (i) the Resettlement Plans agreed between the Government and ADB are updated based on preliminary design and submitted to ADB for review and concurrence prior to land acquisition and house demolition activities and implemented in accordance with applicable Government laws and regulations and ADB's Safeguard Policy Statement; in case of any inconsistency between Government laws and ADB's policy, the latter shall prevail; (ii) all affected persons are given adequate opportunity to participate in resettlement planning, updating, and implementation; (iii) counterpart funds for land acquisition and resettlement activities are provided according to the budget and project schedule; (iv) any additional costs in excess of the resettlement plan budget estimates are met within the project schedule; (v) all PMOs shall designate adequate staff and resources to supervise and monitor

updating and implementation of the Resettlement Plans and submit semi-annual internal monitoring reports to ADB; (vii) a functional and effective grievance mechanism is established; and (viii) the Government engages an external monitor acceptable to ADB to monitor progress and evaluate results of implementation of the updated resettlement plans and submit semi-annual external monitoring reports simultaneously to the PMOs and ADB. The XUARG shall not award any Works contract which involves involuntary resettlement impacts until XUARG has prepared and submitted to ADB the updated resettlement plans based on the project's preliminary design, and obtained ADB's clearance of such resettlement plans.

167. The PMOs shall not hand over a specific section of a contract to the civil works contractor until: (i) payment of compensation has been fully disbursed to the affected people and rehabilitation measures are in place for that specific section as per the updated resettlement plan; (ii) affected people who were compensated for that specific section have vacated the site; and (iii) the specific section of the project is free from any encumbrances.

### **Ethnic Minority Development Plan**

168. The project is classified category B for ADB's indigenous peoples safeguard. In 2015, Changji had ethnic minority population of about 437,800 accounting for 27.4% of the total residents, among which are Hui (8.8%), Kazakh (10.7%), and Uygur (5.8%). Within the direct project areas, ethnic minorities comprise over 27% of the population. Although the urban communities are ethnically mixed, some aspects, such as cultural, religious, and linguistic differences, are maintained. Ethnic minorities will not be adversely affected, except for 1,557 persons who belong to ethnic minority groups affected by land acquisition. All households in the urban areas will benefit from the new and upgraded infrastructure services in roads, water and wastewater, heating, and solid waste management.

169. An ethnic minority development plan (EMDP) has been prepared to facilitate the inclusion of ethnic minority people in all project activities.<sup>30</sup> The EMDP also includes measures to ensure that their customs and beliefs will be respected throughout project construction and operation. 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 in an inclusive and culturally appropriate manner. 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 (10% skilled and unskilled jobs), including females; (ii) measures to facilitate the effective inclusion of ethnic minorities (25%) in project activities through the public participation and awareness, by removing potential cultural barriers to such participation; and (iii) measures to reduce the risk of unintentional offence being caused to ethnic minority communities during project construction and operation. Implementation and monitoring of the EMDP is included in the loan assurances.

170. 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 PIU will nominate at least one person responsible for overseeing the implementation of the EMDP and SGAP, and to coordinate the social monitoring. The ethnic and religious affairs office in each county/city will provide support

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<sup>30</sup> A summary of the Ethnic Minority Development Plan is accessible from the list of linked documents.

as necessary, as well as the community offices, the county/city centers for disease control, and the labor bureaus.

171. Prior to the commencement of any component, the CPMO and the 3 PMOs (in the 3 counties/city) 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 the PIUs. The ethnic and religious affairs offices 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 offense to ethnic minority beliefs or customs occurs during construction. The national social, gender and ethnic minority development specialist in the project implementation consulting services will support the EMDP and SGAP implementation and monitoring. The EMDP endorsed by the government has been disclosed to ethnic minority people targeted by the project and uploaded on the ADB website. Detailed monitoring and reporting arrangements are included in the Section IX.B and the project agreement.

172. Prohibited **investment activities**. Pursuant to ADB's Safeguard Policy Statement (2009), ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the Safeguard Policy Statement (2009).

## VIII. GENDER AND SOCIAL DIMENSIONS

173. A poverty and social assessment (PSA) was undertaken during the project preparation phase in accordance with ADB guidelines on gender and social dimensions. The PSA included a review of secondary data, a household survey, focus group discussions and key informant interviews. The PSA assisted in the design of the various subcomponents to ensure they are socially inclusive and implemented with a high degree of community participation, especially for the local people including women, ethnic minorities, poor and other vulnerable persons in the project areas.

174. The project will promote the sustainable social and environmental urban and rural development of Changji. The project will also have capacity building/trainings on TVET, urban planning (with understanding of human centered development) and project management; awareness activities on public traffic safety, solid waste management including 3R, ecological greening, HIV/AIDS, drugs and human trafficking prevention; and generate temporary and permanent positions for both skilled and unskilled jobs during construction and operation, particularly for women, ethnic minorities and poor people. Based on the PSA, a SGAP has been formulated and agreed by the CPMO and 3 PMOs (in 3 counties/city), and implementing agencies. These actions will be implemented, progress will be monitored, and achievement of results will be measured and reported semi-annually. The following sections provide some further guidance for the implementing agencies.

### A. Summary Poverty Reduction and Social Strategy

175. Changji had a total population of about 1.6 million with 492,137 households in 2015. The ethnic minorities comprise 27.4% of the total population. The major ethnic minority groups are Kazakh (10.7%), Hui (8.8%) and Uygur (5.8%). The project area has a total population of 573,819 and 184,242 households in 2015. In 2015, Changji had a poor population of 26,218, of which 15,863 are within the project city and counties.<sup>31</sup> The project will contribute to poverty reduction by (i) expanding access of urban, rural, and peri-urban residents, including the poor to municipal services, (ii) improving public health and living conditions of local population, and (iii) supporting direct and indirect employment opportunities with an enabling investment environment and enhanced access to market.

176. The project has a direct beneficiary population of 304,159 in the three project city and counties, i.e., an urban population of 134,675 (44.3%) and rural population of 169,484 (55.7%). The project has an indirect beneficiary population of 269,660, i.e. an urban population of 131,055 (48.6%) and a rural population of 138,605 (51.4%).

177. The project will generate 202 skilled and 910 unskilled jobs during construction and 64 skilled and 95 unskilled jobs during operations. The executing and implementing agencies provided assurance that the priority for employment will be vulnerable groups such as women, the poor and ethnic minorities.

178. Design features. The project design directly responds to issues raised by the poverty and social analysis. Key design features include (i) setting employment targets for women, ethnic minorities, and the poor during project construction and operation stage; (ii) strengthening public participation and consultation in decision-making related to project components during the project

<sup>31</sup> PRC, Xinjiang, and Changji (Fukang, Hutubi, and Qitai). 2015. Statistical annual reports; and website of the Ministry of Civil Affairs of China. 2015.

design stage and implementation, and public hearing on setting water tariff should the local government decide to set tariff for improved water supply services; (iii) targeting women, the poor and ethnic minorities through livelihood skills training under TVET schools; and (iv) public awareness and training on solid waste management, including 3R, distribution of garbage bins etc. The EMDP and SGAP outlined actions to ensure mitigation of adverse impacts and for beneficiaries to maximize benefits or positive impacts of the project. In addition, it ensures (i) protection of labor that will be employed on project works by providing training or awareness for the contractors/sub-contractors and employees on core labor standards (i.e. equal pay for equal work, no child labor, equal job opportunities etc.), and (ii) mitigation of communicable diseases including HIV/AIDS and STI, and human trafficking awareness and prevention; (iii) road safety awareness and prevention of road accidents in communities located near the project construction sites. The EMDP and SGAP outlined actions to ensure mitigation of adverse impacts and increase positive impacts of the project. Implementation and monitoring of the EMDP and SGAP is included in the loan assurances.

## **B. Social and Gender Action Plan**

179. The SGAP has been prepared for the project.<sup>32</sup> The SGAP includes specific targets for women in employment during construction and operation, and participation that have been agreed by the PMOs and government agencies (i.e. WF, PAO, EMRAO etc.). The following measures are included in the SGAP: (i) consultations and awareness raising on solid waste / sanitation, traffic and road safety, disease prevention and human trafficking prevention (at least 50% female); (ii) job opportunities during construction (25%) and operation stage (30%); (iii) participation in training on solid waste management including 3R in Qitai Secondary Vocational and Technical School (50%); (iv) participation in new short-term courses in Fukang Technician College (60%); open education and skills upgrading (35%); and (v) capacity building for PMOs/implementing agencies (30%). Activities and target indicators included in the SGAP will be monitored through the project performance management system and project progress reports on a semi-annual basis, and ADB supervision missions.

180. ADB categorizes the project as effective gender mainstreaming (EGM). The project will have significant benefits for women to reduce the energy, time, and effort spent by 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 social, gender, and ethnic minority development specialist (national, 8 person-months) will be provided under the capacity development component to ensure effective implementation of the SGAP and EMDP. A loan assurance for implementation of the SGAP has been included.

181. To address the risk of spread of HIV/AIDS/STI, the project requires (i) inclusion of clauses on HIV/AIDS/STI and other communicable disease awareness for the contractors/sub-contractors and employees into contract bidding documents; (ii) conduct of public health and HIV/STI prevention education to the civil works' contractors and labor force; (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 leaflets).

## **C. Other Social Aspects**

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<sup>32</sup> A SGAP has been prepared for this project and is presented in the PAM and assurances.

182. As per the loan assurances, construction workers hired from the local communities will be trained on sanitation knowledge campaigns, health and occupational safety measures while working at the construction sites, and capacity building will be undertaken to protect their legal labor rights during construction or operations.

183. **Labor issues.** Core labor standards will be complied with based on national laws. 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, and (v) not employ children or forced labor. Specific targets for employment have been included in the EMDP and SGAP. CPMO in conjunction with the 3 PMOs (in the 3 counties/city) is responsible for coordinating activities and ensure the implementation of the SGAP and EMDP. CPMO will monitor contractors' compliance with these project assurances in conjunction with the Human Resources and Social Security Bureau, and Civil Affairs Bureau. The CPMO shall assign or appoint 1 social / gender and ethnic minority development staff during project implementation to ensure timely and appropriate implementation of the SGAP and EMDP. The social development/gender and EM development specialist in the project consulting services will assist the coordinator in CPMO and social, gender and ethnic minority development staff (in the 3 PMOs).

184. Under the project management consulting services, social, gender, and ethnic minority development specialist (consultant) will be engaged to support CPMO and the 3 PMOs to implement the EMDP, SGAP and other social aspects. They will be monitored internally and reported to ADB via semi-annual progress reports.

### SOCIAL AND GENDER ACTION PLAN

Actions or Activities	Target and Indicators	Responsible Agencies	Time	Budget
<b>Output 1: Roads and road ancillary facilities (including utility pipes) constructed or rehabilitated</b>				
1. Improving design and identification of locations of bus stops, crosswalks, traffic signals, and other traffic facilities on roads, and setting up warning signs or isolation facilities on dangerous segments, including schools and hospitals. 2. Traffic safety awareness education program for local residents, communities, and schools near the construction sites. 3. Jobs provided during project construction and operations.	1. Consultation with community residents on identification of bus stops, traffic signs, etc. with 50% female participation; 25% ethnic minorities and 10% poor people. (baseline: 40% female and 10% ethnic minorities' participation) 2. Number and % of participants in traffic safety awareness and education program for residents near the construction sites, 50% female, 25% ethnic minorities and 10% poor people. (baseline: 0, 0%) 3. 810 new jobs provided during construction and 90 new jobs provided during operations, of which at least 25% are for women. (baseline: 0, 0, 20%)	CPMO, FPMO, HPMO, QPMO, implementing agencies, design institute, contractors, Traffic Policemen Bureau, Women's Federation, and PIC social/gender/ethnic minority development specialist	2017–2023	Project implementation and urban planning capacity building budget; government budget (training, publicity materials, staff)
<b>Output 2: Water supply and solid waste management facilities in Qitai improved</b>				
4. Ensure local residents participate in public hearings, should there be tariff that will be set for improved water facilities in Qitai. 5. Public awareness and education program on environment and sanitation including solid waste management, proper use of garbage bins, etc. to communities in Qitai. 6. Pilot capacity building and training on 3R management of domestic waste for teachers and staff, and students in Qitai Secondary Vocational and Technical School. 7. Jobs provided during project construction and operations.	4. Number and % of participants in public hearings with 50% female, 20% ethnic minorities, and 40% poor people in the affected villages and communities. (baseline: 0, 0%) 5. Number and % of participants (disaggregated by sex, ethnicity), with 50% female and 25% ethnic minorities participation in awareness raising campaign. (baseline: 40% female; 15% ethnic minorities' participation) 6. Number and % of students, teachers, and staff of Qitai Secondary Vocational and Technical School participants in 3R management pilot activities of domestic wastes, with 50% female and 25% ethnic minorities. (baseline: 0%) 7. 107 new jobs provided during project construction and 18 new jobs provided during operations, of which at least 25% are for women. (baseline: 0, 0, 0%)	QPMO, Qitai County Government, design institute, Water Supply Bureau and companies, Health Bureau, EPB, Women's Federation, PAO, Qitai Secondary Vocational and Technical School, PIC (solid waste management, and social/gender/ethnic minority development specialists)	2017–2023	Government budget; project implementation budget for 3Rs
<b>Output 3: Ecological protection shelterbelts in Fukang created</b>				
8. Conduct awareness activity on ecological greening and related topics for residents including women, ethnic minorities, and poor people in Fukang City.	8. The proportion of women participants in community awareness on ecological greening are 50% women; 25% ethnic minorities. (baseline: 0)	FPMO, Fukang City Government, Fukang City Forestry Bureau, EPB, Women's Federation, PAO, PIC social/gender/ethnic minority development specialist	2017–2023	Project implementation budget
<b>Output 4: Capacity of technical and vocational education and training enhanced</b>				
9. Ensure inclusion of female teachers and students, including ethnic minorities during the consultation stage on the modules and training courses and improvement of facilities for TVET. 10. Train at least 80 teachers in pedagogy and technical skills (in-service training) and	9. Number and % of people consulted, at least 50% women, 25% ethnic minorities. (baseline: 0) 10a. 6,000 students and trainees trained and completed short CBT courses in 3 project schools, with at least 60% female participation including 35% in open education and skills upgrading courses; 25% ethnic minorities. (baseline: 0, 0%, 0%, 0%)	FPMO, HPMO, QPMO, Fukang Technician College, Hutubi County Technical School, Qitai Secondary Vocational and Technical School, design institute, PIC (TVET, social/gender/ethnic minority development specialists)	2017–2023	Project construction and operation funds

Actions or Activities	Target and Indicators	Responsible Agencies	Time	Budget
6,000 students in new short-term CBT courses in 3 project schools.	10b. Number of training courses conducted to students, and manuals and curriculum developed. (baseline: 0)			
<b>Output 5: Capacity of project management and urban planning enhanced</b>				
11. Enhance knowledge and capacities of the staff in urban planning, including understanding of human-centered development, and other capacity building included in institutional development training list. 12. Staff of PMOs and implementing agencies are trained to ensure effective implementation of the project, particularly on safeguards, gender monitoring of EMDP and SGAP. 13. Recruitment of PIC's national social/gender/ethnic minority development specialist. 14. PMOs assign at least one social/gender/ethnic minority development staff to be responsible for SGAP and EMDP implementation and reporting. 15. Sex-disaggregated data will be collected in the project performance management system to ensure monitoring of the SGAP, etc.	11. At least 30 urban planning officers in Fukang, Hutubi, and Qitai with improved skills and knowledge in urban planning and development with 30% women; 10% ethnic minorities participants. (baseline: 0, 0%, 0%) 12. At least 90% of PMOs and implementing agencies with new knowledge and skills in project management, including social safeguards and gender (30% women). (baseline: 0%) 13. Hired national social/gender/ethnic minority development specialist (8 person-months, intermittent) under PIC. 14. CPMO assigned 1 coordinator and 1 staff per PMO for the 3 PMOs in 3 counties to ensure implementation of EMDP and SGAP for safeguards and social/gender and ethnic minorities development. (baseline: 0) 15a. Gathered sex-disaggregated baseline data in the semiannual progress monitoring report. 15b. As part of semiannual social monitoring, collect qualitative data through FGDs (2 FGDs in each county with at least 8 participants in each) with women beneficiaries, including ethnic minorities on how the project has changed their life.	CPMO, FPMO, HPMO, QPMO, implementing agencies, project implementation consultants (urban planning specialists, social/gender/ethnic minority development specialist)	2017–2023	Budget included in the capacity development and loan consulting services
<b>For Outputs 1–4: Generating Job Opportunities (all components)</b>				
16. Generate 202 skilled and 910 unskilled jobs at the construction stage. 17. Generate 64 skilled and 95 unskilled jobs (i.e., maintenance, cleaners, tree planting and landscaping workers, etc.) at the operation stage. 18. Ensure timely advertisement of job vacancies; contractors give priority to women, ethnic minorities, and poor people for hiring in civil works.	16–17. At least 25% of which are first made available to women, 10% poor people, and 10% ethnic minorities for skilled and unskilled jobs during construction stage and 30% female in operation stage. (baseline: 20% women; 10% ethnic minorities) 18. Type of publicity/job advertisement done by contractors. (i.e., posters, bulletin boards/public boards notices in the villages/townships' offices) (baseline: 0)	PMOs, implementing agencies, construction bureau, contractors, Fukang Technician College  Assisting agencies: Labor and Social Security Bureau, PAO, Women's Federation; PIC social/gender/ethnic minority development specialist	2017–2023	Project construction and operation funds
<b>For Outputs 1–4: Measures to Reduce Potential Risks</b>				
19. Conduct publicity activities on HIV/AIDS/STI, sexual harassment, drugs, and human trafficking to contractors and workers. 20. Ensure implementation of core labor standards (i.e., equal pay for equal work, no child labor, etc.) and safety guidelines are stated in the contracts.	19. 100% of contractors and workers provided awareness training on HIV/AIDS/STI, drugs, and human trafficking prevention. (baseline: 0%) 20. Terms of construction implementation included in contract bidding documents. 21. Public health and HIV/AIDS/STI prevention awareness participants. (disaggregated by sex,	PMOs, implementing agencies, contractors  Assisting agencies: DCPC, Women Federation, Human Resource, Social Security and Labor Bureau	2017–2023	Project construction and operation funds  Government budget



Actions or Activities	Target and Indicators	Responsible Agencies	Time	Budget
21. Public health and HIV prevention awareness conducted to community residents.	ethnicity), 50% women, 25% ethnic minorities, and 10% poor people. (baseline: 0%, 0%, 0%)			

3R = reduce, reuse, recycle, CBT = competency-based training, CPMO = Changji project management office, DCPC = Disease Control and Prevention Center, EMDP = ethnic minority development plan, EPB = environmental protection bureau, FDG = focus group discussion, FPMO = Fukang project management office, HIV/AIDS = human immunodeficiency virus and acquired immune deficiency syndrome, HPMO = Hutubi project management office, PAO = poverty alleviation office, PIC = project implementation consultant, PMO = project management office, QPMO = Qitai project management office, SGAP = social and gender action plan, STI = sexually transmitted infection, TVET = technical and vocational education and training.

## IX. PERFORMANCE MONITORING, EVALUATION, REPORTING, AND COMMUNICATION

### A. Project Design and Monitoring Framework

<b>Impacts the Project is Aligned with</b> Changji's cities and counties' urbanization and business environment enhanced (Changji Urban System Plan, 2012–2030) <sup>a</sup> People's living conditions in small cities and towns improved (PRC National New-type Urbanization Plan, 2014–2020) <sup>b</sup>			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
<b>Outcome</b> Services provided by urban–rural infrastructure and environmental features improved	By 2023 (baseline 2015) a. Satisfaction rate of urban residents with roads, water supply, wastewater, and solid waste management increased to 80% (baseline: 60% for roads, 77% for water supply, 68% for wastewater, and 67% for solid waste management)	a. PPMS report	Changes to government priorities lead to inadequate provision of operation and maintenance of infrastructure components due to lack of capacity and budget.
<b>Outputs</b> 1. Roads and road ancillary facilities (including utility pipes) constructed or rehabilitated	By 2022 (baseline 2015) 1a. Road constructed or rehabilitated: 13.6 km in Fukang urban center, 3.4 km in Ganhezi Town of Fukang, 8.0 km in Hutubi, and 11.4 km in Qitai (all baselines: 0) 1b. Pipelines constructed in Fukang, Hutubi, and Qitai: (i) water supply: 41.0 km; (ii) wastewater: 25.1 km; (iii) heating: 30.8 km; and (iv) gas: 9.9 km (all baselines: 0) 1c. 810 new jobs provided during construction and 90 new jobs provided during operations, of which at least 25% are for women (baseline: 0, 0, 20%)	1a–b. PCC issued by Fukang, Hutubi, Qitai HURCBs  1c. Project progress and completion reports	Price escalation or labor cost inflation is higher than projected.
2. Water supply and solid waste management facilities in Qitai improved	2a. 68 km of water transmission pipelines constructed in Qitai (baseline: 0) 2b. 1.81 million m <sup>3</sup> of sanitary landfill and one new waste transfer station constructed for operation in Qitai (baseline: 0.79 million m <sup>3</sup> of landfill, 0 transfer station) 2c. Existing landfill with capacity of 0.79 million m <sup>3</sup> is closed (baseline: open) 2d. 32 pieces of solid waste handling equipment and transport vehicles commissioned for use (baseline: 0)	2a–d. PCC issued by Qitai HURCB, PPMS report	

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
	2e. 107 new jobs provided during construction and 18 new jobs provided during operations, of which at least 25% are for women (baseline: 0, 0, 0%)	2e. Project progress and completion reports	
3. Ecological protection shelterbelts in Fukang created	3a. 220 ha of green corridor with windbreak trees planted along S303 (baseline: 0) 3b. 89 ha of green corridor with windbreak trees planted along North Ring Road (baseline: 0) 3c. 377 ha of green corridor with windbreak trees planted in South Area (baseline: 0)	3a–c. PCC issued by Fukang HURCB	
4. Capacity of TVET enhanced	4a. Completion of practice training building with floor area of 9,787 square meters and set of training equipment provided (baseline: not completed or provided) 4b. At least 80 teachers with improved pedagogy and technical knowledge and skills (baseline: 0) 4c. 6,000 students and trainees trained and completed short CBT courses in 3 project schools, with at least 60% female participation (baseline: 0, 0%)	4a–c. Project progress and completion reports	
5. Capacity of project management and urban planning enhanced	5a. At least 30 urban planning officers in Fukang, Hutubi, and Qitai with improved skills and knowledge in urban planning and development, with 30% women participants (baseline: 0, 0%) 5b. At least 90% staff of PMOs and implementing agencies with new knowledge and skills in project management, including social safeguards and gender (30% women) (baseline: 0%, 0%)	5a–b. Project progress and completion reports	

#### Key Activities with Milestones

##### 1. Roads and road ancillary facilities (including utility pipes) constructed or rehabilitated

- 1.1. Design roads and road ancillary facilities (including utility pipes) during 2017–2018
- 1.2. Acquire land and procure works and equipment during 2017–2019
- 1.3. Implement works during 2018–2021

##### 2. Water supply and solid waste management facilities in Qitai improved

- 2.1. Design water transmission pipes by 2017
- 2.2. Acquire land and procure works and goods for water transmission pipelines by 2017

**Key Activities with Milestones**

- 2.3. Design solid waste management facilities during 2017–2018
- 2.4. Implement water transmission pipes works during 2017–2018
- 2.5. Acquire land and procure works and goods for solid waste management facilities during 2017–2019
- 2.6. Implement solid waste management facility works during 2018–2021
- 2.7. Implement 3R pilot activities during 2019–2020

**3. Ecological protection shelterbelts in Fukang created**

- 3.1. Design ecological protection shelterbelts by 2017
- 3.2. Acquire land and procure works during 2017–2018
- 3.3. Create ecological protection shelterbelts by 2017–2019

**4. Capacity of technical and vocational education and training enhanced**

- 4.1. Design works for Fukang Technician College by 2017
- 4.2. Procure works and goods for Fukang Technician College by 2018
- 4.3. Construct training facilities and install equipment during 2018–2019
- 4.4. Implement CBT courses, upgrade teachers' qualifications, and institutionalize quality assurance system and school culture program by 2019–2020

**5. Capacity of project management and urban planning enhanced**

- 5.1. Complete necessary organizational arrangements by 2017
- 5.2. Recruit and mobilize initial implementation support consultants by 2017
- 5.3. Recruit and mobilize project management support consultants and urban planning capacity development consultants by 2018
- 5.4. Implement various capacity development training during 2018–2021
- 5.5. Implement project implementation support during 2018–2023
- 5.6. Implement EMDP, EMP, resettlement plans, and SGAP during 2018–2023

**Inputs**

ADB: \$150,000,000 (loan)  
 Government: \$105,420,000

**Assumptions for Partner Financing**

Not Applicable

3R = reduce, reuse, recycle; ADB = Asian Development Bank; CBT = competency-based training; EMP = environmental management plan; EMDP = ethnic minority development plan; ha = hectare; HURCB = housing and urban–rural construction bureau; km = kilometer; m<sup>3</sup> = cubic meter; PCC = project completion certificate; PCR = project completion report; PMO = project management office; PPMS = project performance management system; PRC = People's Republic of China; SGAP = social and gender action plan; TVET = technical and vocational education and training.

<sup>a</sup> Changji Hui Autonomous Prefecture Government. 2012. *Changji Urban-System Plan, 2012–2030*. Changji.

<sup>b</sup> Government of the People's Republic of China, State Council. 2014. *National New-type Urbanization Plan, 2014–2020*. Beijing.

Source: Asian Development Bank.

## B. Monitoring

### 1. Project Performance Monitoring

185. At the beginning of the project implementation stage, the Changji PMO will develop a project performance management system (PPMS) to monitor the progress of the project in achieving the planned outcome and outputs. The project implementation management consultant will assist in developing the PPMS in accordance with ADB's policy requirements, including baseline setting, operational data collection, data analysis, and reporting.

186. The PPMS will adopt indicators relating to the following aspects of the project: (i) physical progress of subproject implementation, and (ii) financial progress. The PMO will assign staff, or contract consultants, to collect baseline and progress data at the requisite time intervals to be used in the PPMS. The PMO will be responsible for analyzing and consolidating reported data, and reporting outcomes to ADB through semiannual progress reports.

### 2. Compliance Monitoring

187. During project implementation, ADB and the PMO will closely monitor the compliance of all the covenants under the project and will take necessary remedial actions for any noncompliance. The compliance status will be reported in the quarterly progress reports by the PMO and will be reviewed during project review missions.

### 3. Legal Covenants

188. XUARG shall ensure that in the event of (i) any change in ownership or control of the project facilities; or (ii) any sale, transfer, or assignment of the shares of project implementation units (PIUs) is anticipated, XUARG will consult with ADB at least 6 months prior to the implementation of such change. XUARG shall cause PIUs to further ensure that such changes are carried out in a lawful and transparent manner.

### 4. Financial Covenants

189. **Counterpart funding.** The XUARG shall provide the details of the sources of the counterpart funding as well as provide corresponding commitment letters. The total cost includes physical and price contingencies, and interest during construction.

190. **Financial management.** The XUARG shall establish and maintain sound financial management systems in accordance with ADB's guidelines on the financial management and analysis of projects, including the establishment of separate project accounts and the maintenance of minimum balances to ensure smooth cash flow and the timely settlement of project construction liabilities and future debt servicing.<sup>33</sup>

### 5. Governance and anticorruption

191. ADB's Anticorruption Policy (1998, as amended to date) were explained to and discussed with the XUARG and implementing agencies. Specific policy requirements and supplementary measures are described in the project administration manual.

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<sup>33</sup> ADB. 2005. *Financial Management and Analysis of Projects*. Manila.

## 6. Safeguards monitoring

### a) Environment

192. Environment safeguards monitoring obligations are defined in the EMP and include (i) project readiness monitoring, to be conducted by the PMO-EO and loan implementation environmental consultants (LIEC); (ii) internal monitoring, to be conducted by the PIUs, construction supervision companies (CSCs) and contractors; (iii) external environment monitoring, to be conducted by the Changji environmental monitoring station (EMS), contracted by the implementing agencies; (iv) EMP compliance monitoring during project implementation and the first year of project operation (or up to the date as further to be agreed with the ADB mission), to be conducted by the PMO-EO and LIEC; (v) regular monitoring by operation and maintenance units during operation of the project facilities under their responsibility; and (vi) monitoring and evaluation of the internal and EMS monitoring results by an External Monitor. Monitoring and reporting arrangements defined for this project are described below.

193. **Assessment of project readiness.** Before construction, the LIEC and PMO-EO will assess project readiness in terms of environmental management based on a set of indicators defined in the EMP and report it to the ADB and PMO. 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.

194. **Internal monitoring and supervision and reporting by construction supervision companies.** During construction, the PIUs, CSCs and contractors will be responsible for conducting internal environmental monitoring in accordance with the monitoring plan. Supervision results will be reported through the CSC reports to the implementing agencies. Quarterly reports by the IAs to the PMO will include a separate section on EMP implementation progress and environmental performance.

195. **External monitoring by Changji environmental monitoring station.** The IAs will contract the Changji EMS to conduct environmental monitoring in accordance with the monitoring program. The environmental monitoring system (EMS) will provide a detailed cost estimate prior to implementation. Monitoring will be conducted during construction and operation period, until a project completion report (PCR) is issued. Semiannual monitoring reports will be prepared by the EMS and submitted to PMO and the IAs.

196. **Environmental management plan implementation compliance monitoring and progress reporting.** The LIEC and PMO-EO will review project progress and compliance with the EMP based on field visits and the review of the progress reports from the IAs and environmental monitoring conducted by the EMS. The LIEC and PMO-EO will report EMP implementation progress and compliance along with information on project implementation, environmental performance of the contractors, and environmental compliance through quarterly project progress reports and annual environmental monitoring reports (EMP Table A.8). The LIEC will support the PMO-EO in developing the annual environmental monitoring reports (EMR). The reports will identify any environment related implementation issues and necessary corrective actions, and reflect these in a corrective action plan. 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. An External Monitor will be contracted by the PMO to review and evaluate the results of the contractors' and operators' internal monitoring and the results of the EMS monitoring against PRC standards. The External Monitor will report to the ADB separately from the PMO's Environmental Monitoring Reports.

197. **Project acceptance.** Upon completion, environmental acceptance monitoring shall be (i) prepared by a licensed environmental monitoring institute in accordance with the PRC's *Guidelines on Project Completion Environmental Audit* (2001) for all components that required an environmental impact assessments (EIA) or tabular EIA, (ii) reviewed for approval by the environmental authorities, and (iii) reported to ADB through the semiannual progress reports. Subproject completion reports shall be finalized within 3 months after each subproject completion, or no later than 1 year with permission of the local environment protection bureaus.

#### **b) Land Acquisition and Resettlement**

198. Xinjiang PMO, with support from the project implementation consultant, will monitor resettlement plans updating and implementation and submit quarterly monitoring reports to ADB, and submit the resettlement plan completion report to ADB. Xinjiang PMO will engage an external monitoring agency to carry out monitoring and evaluation of social safeguard compliance of the Project during and after resettlement implementation, and submit the external monitoring report semi-annually.

#### **c) Ethnic Minority Development Plan**

199. Internal monitoring of the ethnic minority development plan (EMDP) will be conducted semi-annually. Monitoring and reporting methodologies are specified in the EMDP. Each implementing agency will carry out internal supervision and monitoring to ensure compliance with the provisions of the EMDP. The external monitor will also review the implementation progress of EMDP and report on compliance semi-annually. The CPMO will prepare and submit an EMDP completion report to ADB.

### **7. Social and Gender Action Plan Monitoring**

200. The PPMS will include monitoring of the social and gender action plan (SGAP). Clear targets and indicators have been established and some indicators, such as those on employment, are also captured in the design and monitoring framework (DMF). The social / gender and EM development specialists will assist the CPMO and IAs set up effective monitoring systems, and work with the focal points in the PMO/CPMO and IAs to ensure implementation of the SGAP. The SGAP will be monitored semiannually and reported via the quarterly project progress reports and during ADB review missions.<sup>34</sup>

## **C. Evaluation**

201. In addition to regular monitoring, ADB and XUARG will jointly review project performance at least once a year. The review will assess implementation performance and achievement of project outcomes and outputs, assess financial progress, identify issues and constraints affecting implementation, and work out a time-bound action plan for resolution. ADB and XUARG will undertake a midterm review to assess implementation status and take appropriate measures—including modification of scope and implementation arrangements, and reallocation of loan proceeds, as appropriate—to achieve the project impact and outcome.

## **D. Reporting**

202. The XPMO will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved

<sup>34</sup> The social and resettlement consultant engaged will focus on the progress of the gender action plan and social development action with the Project's progress report.

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. To ensure that projects will continue to be both viable and sustainable, project accounts and the executing agency audited financial statement together with the associated auditor's report should be adequately reviewed.

203. **Environmental safeguards reporting.** Environmental monitoring and inspection activities and findings shall be documented for purposes of reporting, recording, and evaluating the environmental performance of the project. The documentation shall also be used as basis in correcting and enhancing further environmental mitigation and monitoring. Annual EMRs will be reviewed and cleared by ADB and disclosed on the ADB website. Environment safeguards reporting requirements are defined below.

- (i) **Monthly internal progress reports by the contractors** during construction, submitted to the implementing agencies. These monthly reports will include (a) physical construction progress; (b) mitigation measures implemented; (c) grievances received, resolved, closed and/or directed to other mechanisms; (d) emergencies responded to; (e) internal monitoring conducted by PIUs, CSCs and contractors; and (f) corrective actions taken.
- (ii) **Quarterly progress reports by implementing agencies.** The quarterly reports by the implementing agencies to the PMO will include a separate section on EMP implementation progress and performance.
- (iii) **Semi-annual environmental impact monitoring reports** by the Changji environmental monitoring station to report on the results of external environmental monitoring, as specified in the EMP. The reports will include the analysis results and assessment of compliance/non-compliance with PRC and international standards.
- (iv) **Annual environment monitoring reports.** The PMO will submit to the executing agency and ADB the EMRs to comply with the loan environmental agreement and PRC Law on EIA. The annual EMRs will report on the progress and results of environmental monitoring and compliance of EMP implementation, and also briefly (i) assess the effectiveness of instituted measures; (ii) point out violation(s), if any; (iii) assess and/or recommend corrective actions; and (iv) cite any coordination made for corrective actions and, if applicable, certifications for having instituted them effectively. It shall also feature possible innovative mitigation measures applied by the contractor, operator, or affected residents themselves and other lessons learned in EMP implementation. These will be useful in adjusting the EMP to adapt to real ground situations. Proposed adjustments and/or enhancement of the EMP must have prior ADB approval.

204. **Project implementation.** XUARG will provide ADB with (i) quarterly 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 indicators' performance targets, (b) key implementation issues and solutions, (c) updated procurement plan, and (d) updated implementation plan for next 12 months; and (iii) a project completion report within 6 months of physical completion of the project. To ensure projects continue to be both viable and sustainable, project accounts and the executing agency audited financial statements, together with the associated auditor's report, should be adequately reviewed.

205. Within 6 months after project completion, the PMO will prepare, in coordination with the implementing agencies and XUARG, and submit to ADB a PCR evaluating the performance of the PMO and implementing agencies; and summarizing the loan funds utilization, project implementation, attainment of project impact, outcome, and outputs, implementation experience, project performance,



actual costs incurred, benefits, and other information requested by ADB, and assessing the accomplishment of the purposes of the loan.

## E. Stakeholder Communication Strategy

206. Relevant project information, including implementation progress, will be disclosed in the ADB website and at the PMO. This will include the DMF, resettlement plans, environmental impact assessment, and the EMP. It will also include continuing engagement and consultation with the affected persons during resettlement plan updating and implementation. Stakeholder workshops will be held throughout project implementation to encourage key stakeholders, particularly residents in project areas, to participate in achieving the project benefits and to make sure all stakeholders, including women, the poor, and other vulnerable groups benefit from the project.

207. **Resettlement.** The affected households, residents, village and community leaders, and local government and bureaus actively participated in the meaningful consultations, risk assessment, and disclosure activities during resettlement planning and will continue during resettlement updating and implementation. A grievance redress mechanism has been established and disclosed to the affected people. During monitoring, the affected people will take part in the process by providing timely feedback, comments and suggestions. All internal and external monitoring reports will be disclosed.

208. **Environment.** Meaningful consultation to safeguard the environment and local residents will continue throughout construction and operation phases. The PMO and the implementing agencies will be responsible for organizing the public consultations with the support of the LIEC. Civil works contractors will be required to frequently communicate and consult with the communities in the project area of influence, especially those near the project areas. Consultation will focus on 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 subcomponents are completed.

**Table 20: Environment Consultation and Communication Plan**

Organizer	Format	Frequency	Subject	Attendees
<b>Construction Phase</b>				
PMO, IAs, LIEC	Public consultation and site visits	Once each year during construction	Adjusting of mitigation measures, if necessary; construction impact; comments and suggestions	Residents in project areas
PMO, IAs, LIEC	Public opinion survey	Once at MTR stage	Public satisfaction with EMP implementation	Residents in project areas
<b>Operation Phase (until PCR)</b>				
PMO, LIEC	Public consultation and site visits	Once in the first year	Effectiveness of mitigation measures, impacts of operation, comments and suggestions	Residents in project areas
LIEC, PMO	Public satisfaction survey	Once at PCR stage	Public satisfaction with EMP implementation. Comments and suggestions	Residents in project areas

EMP = environmental management plan, EMP = environment management plan, EPB = environmental protection bureau, IA = implementing agency, LIEC = loan implementation environmental consultant, MTR = midterm review, PCR = project completion report, PMO = project management office, PRC = People's Republic of China.

209. **Ethnic minority, and social and gender action plan.** Consultations with communities have taken place and will continue at different points in the implementation of the EMDP and SGAP not only to inform people about the components or specific activities, 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 CPMO and implementing agencies will disclose the EMDP in the offices as well as the community offices and to ethnic minority beneficiaries in the Chinese, Uyghur, and Kazakh languages.

210. Public awareness and education program on solid waste recycling, sanitation, road safety etc. will be conducted as part of the project components and actions to enhance the involvement of women are included in the SGAP. Public hearings will be held for any proposed adjustments in water supply and solid waste tariff attended with adequate representation of poor, women, and ethnic minorities, should the local government decide to set tariff for improved water services in the future.

211. **Public disclosure.** Public disclosure of all project documents will be undertaken through CPMO and on the ADB website, including the project datasheet, design and monitoring framework, initial environmental examination, resettlement plan, EMDP, SGAP and the report and recommendations of the President. Disclosure of external resettlement, social, and environmental monitoring reports will be undertaken during project implementation.

## **X. ANTICORRUPTION POLICY**

212. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project.<sup>35</sup> 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.<sup>36</sup>

213. To support these efforts, relevant provisions are included in the loan agreement and the bidding documents for the project.

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<sup>35</sup> ADB. 2010. *Anticorruption and Integrity: Policies and Strategies*. Manila.

<sup>36</sup> ADB's Integrity Office, available at <http://www.adb.org/integrity/unit.asp>.

## **XI. ACCOUNTABILITY MECHANISM**

214. 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 an effort in good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.<sup>37</sup>

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<sup>37</sup> Accountability Mechanism, available at <http://www.adb.org/Accountability-Mechanism/default.asp>.

## **XII. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL**

215. All revisions and/or updates during course of implementation should be retained in this section to provide a chronological history of changes to implemented arrangements recorded in the PAM, including revision.

## ATTACHMENT 1: ENVIRONMENT MANAGEMENT PLAN (EMP)

### A. Introduction

1. This Environmental Management Plan (EMP) is developed for the Xinjiang Changji Integrated Urban–Rural Infrastructure Demonstration Project (the project) and defines all potential environmental impacts of the project components and the mitigation and protection measures with the objective of avoiding or reducing these impacts to acceptable levels and meeting applicable requirements. The EMP draws on the findings of the domestic FSR, domestic environmental impact assessments, the initial environmental examination (IEE), PPTA and ADB review mission discussions, and agreements with the relevant government agencies.

2. The EMP sets out (i) actions to implement mitigation measures; (ii) a monitoring and reporting program; (iii) institutional/organizational arrangements; (iv) capacity development and training; (v) an implementation schedule; and (vi) cost estimates. The final EMP forms part of the Project Administration Manual (PAM) and will be included as a separate annex in all bidding documents. The contractors will be made aware of their obligations to implement the EMP, to budget EMP implementation costs in their bids, and to develop site management plans which are fully responsive to the EMP.

### B. Institutional Arrangement

3. Xinjiang Uygur Autonomous Regional Government (XUARG) will be the project's Executing Agency (EA). The IAs will be Fukang City Government, Hutubi County Government, and Qitai County Government. The Project Management Office will be the Changji Hui Autonomous Prefecture Government (CPMO) under the Changji Prefecture Housing and Urban & Rural Construction Bureau, will be responsible for project implementation and coordination with ADB. There will be three county/city level PMOs: Fukang City Government (FPMO), Hutubi County Government (HPMO), and Qitai County Government (QPMO). These will also be the Implementing Agencies.

4. Each project component will have its own Project Implementation Unit (PIU) within the IA, to undertake design, construction and operation.

5. A provincial Project coordinating Group will be constituted. It will be chaired by the Xinjiang Department of Housing and Urban–Rural Development and comprise representatives of relevant departments. Its role will be to ensure smooth passage of project approvals and administration as well as coordinating policy response when required.

6. The main institutions with an executive role in the implementation of the overall project are in Table A1.2. Their roles and responsibilities for environmental management are also listed

**Table A1.1: Roles and Responsibilities of Project Agencies**

<b>Project implementation organizations</b>	<b>Roles and Responsibilities in the Project</b>	<b>Environmental Responsibilities</b>
Executing Agency – XUARG	Overall project guidance, coordination, supervision	Providing executive direction and for the implementation of environmental management
PCG – provincial Project Coordinating Group: Departments of Housing and Urban–Rural Development,	Policy guidance and interagency coordination	Coordinating role where the responsibilities of different agencies overlap or are required (e.g. in GRM resolutions)

Project implementation organizations	Roles and Responsibilities in the Project	Environmental Responsibilities
Planning and Construction, and Environment Protection		
CPMO under the Changji Prefecture Housing and Urban & Rural Construction Bureau	On behalf of the executing agency, responsible for overall project coordination and supervision including: preparation and implementation; coordinate training and capacity development activities; safeguards compliance; prepare and submit annual environmental and social safeguard monitoring progress reports; compliance with loan and project agreements	Overall supervision of the implementation of environmental impact mitigation measures, coordinating the project level Grievance Redress Mechanism (GRM) and environmental monitoring reporting to ADB
City/County PMOs: Fukang City Government (FPMO), Hutubi County Government (HPMO), and Qitai County Government (QPMO)	Responsible for day-to-day project coordination and supervision at the local level, including: component preparation and implementation; safeguards compliance; and progress reports	
Implementing Agencies: Fukang City Government (FPMO), Hutubi County Government (HPMO), and Qitai County Government (QPMO).	Implementing agencies will be the project implementing units for construction and the operations and maintenance units for the subprojects.	

### C. Environmental Responsibilities

7. **PMO.** The CPMO will have the overall responsibility delegated by the EA for supervising the implementation of environmental impact mitigation measures, coordinating the project level Grievance Redress Mechanism (GRM) and environmental monitoring reporting to ADB. The CPMO will appoint an environment officer (PMO-EO) to supervise the effective implementation of the EMP and to coordinate the GRM. Terms of reference for the PMO-EO are at Annex A.

8. To ensure that the contractors comply with the EMP provisions, the PMO-EO with the help and technical support of the Loan Implementation Environment Consultant (LIEC), will prepare and provide the following specification clauses for incorporation into the bidding procedures: (i) a list of environmental management and monitoring requirements to be budgeted by the bidders in their proposals; (ii) environmental clauses for contractual terms and conditions; and (iii) in the EMP. In addition, the PMO-EO will assist in preparing the environmental sections for the project progress reports.

9. **IAs.** Each IA with civil works will assign one environmental supervisor from the IA (IA-ES) to (i) review and approved contractors' site management plans; (ii) supervise the environmental performance of the component PIUs; (iii) participate in internal monitoring; (iv) act as a local entry point for the project grievance redress mechanism (GRM); (v) submit quarterly inspection results to the contractors for information, and to the IA and the PMO for verification and confirmation. Terms of reference for the IA-ES positions are at Annex C. The IAs will also hire construction supervision companies (CSCs), which will support the IAs in supervising construction works.

10. **Construction Contractors** will be responsible for implementing the mitigation measures

during construction under supervision of the IAs and the County/City PMOs. 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 Management Plans and will assign a person responsible for environment, health and safety. The contractors, in collaboration with the IA-ESs, will undertake internal monitoring.

11. **Loan Implementation Environmental Consultant (LIEC).** Under the loan implementation consultancy services, a loan implementation environmental specialist will be recruited to support the effective implementation of the EMP. Terms of reference for the LIEC are at Annex B. The LIEC will:

- i) assess the subprojects' environmental readiness prior to implementation based on the readiness indicators defined in the EMP (Table A1.4);
- ii) update the EMP including mitigation measures, monitoring program, institutional arrangements, and training plan as necessary, to reflect the final project scope and detailed design, submit to ADB for review and disclosure;
- iii) support the EA, PMOs, and IAs to ensure that the bidding documents and civil works contracts contain provisions requiring contractors to comply with the mitigation and monitoring measures in the EMP and that relevant sections of the project EMP are incorporated in the bidding and contract documents;
- iv) support the PMO-EO and IA-ESs in reviewing and approving contractors' Site Management Plans and conducting periodic environmental site inspections;
- v) Assist the EA and CPMO to establish a Grievance Redress Mechanism (GRM), and provide training for the County/City PMOs and GRM access points.
- vi) Monitor implementation of, and compliance with, EMP requirements. Undertake site visits as required, identify any environment-related implementation issues, propose necessary corrective actions, reflect these in a corrective action plan;
- vii) Conduct annual EMP compliance review;
- viii) support to the PMO-EO in the development of annual EMP monitoring reports to ADB;
- ix) provide training to PMOs, IAs and contractors on environmental laws, regulations and policies, SPS 2009, EMP implementation, and GRM in accordance with the training plan defined in the EMP.

12. An External Monitor will be contracted by the PMO to review and evaluate the results of the contractors' and operators' internal monitoring and the results of the EMS monitoring against PRC standards. The External Monitor will report to the ADB separately from the PMO's Environmental Monitoring Reports. Terms of reference for the PMO-EO are at Annex D. Overall environmental responsibilities of the agencies and positions are outlined in Table A1.2.

**Table A1.2: Environmental Responsibilities by Project Phase**

Phase	Responsible Agencies	Environmental Responsibilities
Detailed Design	Design institutes	Incorporation of environmental mitigation measures in detailed designs
	CPMO, IAs, LIEC	Update EMP based on detailed design, if necessary;
	ADB	Approve updated EMP, if necessary



Tendering	County/City PMOs, IAs	Ensure that mitigation measures and the EMP clauses are incorporated in tendering documents, civil works contracts and contractors' site EMPs
	LIEC, ADB	Review tendering documents; confirm project's readiness, including information disclosure at construction sites
Construction	Contractors	Develop Site Management Plans; appoint one environmental specialist each to coordinate site EMP implementation; ensure health and safety
	CPMO and County/City PMOs	Coordinate GRM; supervise EMP implementation; prepare environmental progress sections (with support of LIEC)
	IAs and PIUs (CSCs)	Assign one environmental supervisor (ES); conduct environmental inspections; prepare quarterly environmental inspection reports; act as local GRM entry point
	LIEC	Advise on the mitigation measures; provide comprehensive technical support to PMO and IAs for environmental management; conduct training; conduct annual EMP compliance review; support to the PMO-EO in the development of annual EMP monitoring reports to ADB.
	ADB	Disclose updated EMP as appropriate; Conduct review missions; review and approve environmental progress sections of the project progress reports, including disclosure. Review EMP implementation reports.
	EMSs	Conduct periodic inspections of all construction projects relative to compliance with PRC regulations and standards (as required by the Monitoring Plan)
	External Monitor	Review and evaluate internal and EMS monitoring.
Operation	CPMO	Monitor compliance with EMP, instruct IAs on environmental management requirements; prepare annual environmental progress report for first year of operation
	IAs (O & M Units)	Implementation of mitigation measures as defined in EMP
	ADB	Review, approve and post annual EMP implementation reports on ADB project website

*ADB = Asia Development Bank; DI = Design Institute(s); LIEC = Loan Implementation Environmental Consultant; CPMO = Changji Project Management Office; EA = Executive Agency; IA = Implementing Agency; EMP = Environmental Management Plan; EPB = Environment Protection Bureau; PIU = Project Implementation Unit; O & M Units = Operations and maintenance Unit.*

## **D. Impacts and mitigation measures**

13. Anticipated environmental impacts from elderly care infrastructure construction and operation activities, as well as the measures to mitigate these impacts to acceptable levels, are listed in A1.3.

**Table A1.3: Anticipated Impacts, Issues and Mitigation Measures**

Item/Media	Activity	Impacts, risks and issues	Mitigation Measures	Measures implemented by	Implementation of measures checked by	Budget source and estimate (CNY)		
						Fukang	Hubuti	Qitai
A. Pre-construction								
1. Detailed Design Stage	Ensure appropriate levels of expertise for EMP implementation	Establish implementation support positions	<ul style="list-style-type: none"><li>- Contract a Loan Implementation Environmental Consultant (LIEC));</li><li>- Contract Environmental Monitoring Station for external monitoring of construction and operations.</li><li>- Contract External Monitor</li></ul>	CPMO, IAs	EA, ADB	PMO and AIs in-kind support. LIEC included in loan funds  EMS costs in Monitoring Plan Table A1.6		
		Establish environmental staff positions at different levels of supervision	<ul style="list-style-type: none"><li>- Appoint PMO Environment Specialist (PMO-ES)</li><li>- Appoint IA Environment Specialists (IA-ES) in the IAs</li></ul>	CPMO, IAs	EA, ADB	PMO and AIs in-kind support.		
	Closure of existing landfill (Qitai)	Potential pollution and contamination source for the future	<ul style="list-style-type: none"><li>- Prepare and implement detailed plans to close and rehabilitate the existing landfill at Lama Huliang in compliance with the Standard for Pollution Control of Landfill for Domestic Waste (GB16889-2008) and the residual leachate be treated to comply with the same standard.</li></ul>	Qitai IA	PMO	-	-	Included in design costs
	Design finalization	Inclusion of all environmental requirements	Finalize detailed designs for all infrastructure. Including, for solid waste management: <ul style="list-style-type: none"><li>- the design of transfer station to wholly contain the solid waste without leakage and in a secure, fenced area which will be emptied on a regular schedule.</li><li>- fencing around the landfill to prevent waste from spreading during windy or rainy weather</li><li>- transfer station maximum capacities, collection schedules and haulage routes to landfill</li></ul> Including for Roads components: <ul style="list-style-type: none"><li>- dense landscape planting and earthen or fabricated noise barriers along roadside for urban areas within 80-100m of curb of Urumqi Road and within 60 m of Bajiahu Road (Qitai)</li><li>- dense landscape planting and earthen or fabricated noise barriers for urban areas within 60-65 m of curb of Tianshi and</li></ul>	IAs, LDI	PMO	Included in LDI contract	Included in LDI contract	Included in LDI contract

Item/Media	Activity	Impacts, risks and issues	Mitigation Measures	Measures implemented by	Implementation of measures checked by	Budget source and estimate (CNY)		
						Fukang	Hubuti	Qitai
			<p>Tianshan Roads (Fukang)</p> <ul style="list-style-type: none"> <li>- constructed noise barriers and double glazing for roadside adjacent to hospital on Honglingjin Road (Ganhezi).</li> </ul> <p>Including for TVET component:</p> <ul style="list-style-type: none"> <li>- development and implementation of a solid waste and hazardous substances plan which includes storage, handling and disposal protocols.</li> <li>- Inclusion of environmental management in curricula.</li> </ul>					
		Inclusion of all requirements for adaptation to climate change in the CRVA into designs.	<p>Finalize detailed designs for all infrastructure.</p> <ul style="list-style-type: none"> <li>- Include all agreed climate change adaptation design measures in final design, including:</li> <li>- Road bridges and culvert design for 1:100 year flood plus 6%</li> <li>- Road surface drainage for a 1:5 year storm event</li> <li>- Siting of pipelines to avoid high velocity runoff</li> <li>- Leachate holding tank at landfill for 90-120 days</li> <li>- Use of drought tolerant species as core areas (30%) of windbreaks and shelterbelts</li> </ul>	IA, LDI	PMO	Included in LDI contract	Included in LDI contract	Included in LDI contract
		Confirm seasonal water availability for irrigation of urban roadside landscaping	<ul style="list-style-type: none"> <li>- For urban road landscaping in Hubuti, Ganhezi and Qitai, undertake seasonal water balances to ensure that there is sustainable water supply from local sources for irrigation and that other water users are not disadvantaged.</li> </ul>	IA, LDI	PMO	Included in LDI contract	Included in LDI contract	Included in LDI contract
		Water safety planning	<ul style="list-style-type: none"> <li>- For the sources, supply and distribution of water from No.3 WTP in Qitai, prepare a Water Safety Plan in compliance with WHO guidelines to ensure water quality at all stages of conveyancing and distribution.</li> </ul>	IA, LDI	PMO, LIEC	-	-	60,000
		Protection of watersheds	<ul style="list-style-type: none"> <li>- Protection measures for the watershed of Biliu and Zhonggegen reservoirs will be formally delineated for water source protection zones and the zones enforced. These comprise: (i) a Prohibited Zone (Grade I Zone), closest to the water source; and (ii) a Protection Zone (Grade II Zone), adjoining the Prohibited Zone.</li> </ul>	CHAPG WRB	PMO and LIEC	-	-	Ongoing government role

Item/Media	Activity	Impacts, risks and issues	Mitigation Measures	Measures implemented by	Implementation of measures checked by	Budget source and estimate (CNY)		
						Fukang	Hubuti	Qitai
	Detailed building design incorporating appropriate standards and safeguard measures	Design of TVET to comply with relevant applicable health, safety and environmental codes and standards, including energy-efficient building codes and specifications.	<ul style="list-style-type: none"> <li>- Design buildings in compliance with relevant design standards and codes for energy-efficient, safe and green public buildings, including but not limited to: GB 50011-2010 (Building Seismic Design Code); GB 50016-2006 (Code of Design on Building Fire Protection and Prevention); GB 50189-2005 (Energy Conservation Design for Public Buildings)</li> </ul>	Dis	IAS, LIEC	Included in design costs	Included in design costs	Included in design costs
	Acquisition of land and assets for project construction	Resettlement Plans (RP)	<ul style="list-style-type: none"> <li>- Update RPs for each project output to required ADB and PRC standards.</li> <li>- Establish a resettlement office comprising local government officials to manage the resettlement process.</li> <li>- Conduct community consultation programs and ensure information is disseminated about entitlement based on the Land Administration Law.</li> <li>- Ensure that all relocation and resettlement activities are completed before construction starts on any subproject.</li> </ul>	PMO, IAS	External Resettlement Monitor	Included in the RP (financed by XUARG)		
2. Construction preparation stage	Prepare final version of environmental management measures	Update EMP	<ul style="list-style-type: none"> <li>- Review/revise EMP to assess if the current mitigation measures need to be updated due to any changes in the final engineering design, or as a result of any preparatory work undertaken before loan agreement. For changes in project locations, sites, or other changes that may cause new or greater environmental impacts or involve additional affected people:</li> <li>- Where project components change in scale or location, the PMO will conduct additional environmental assessment and public consultation.</li> <li>- The revised environmental assessment reports will be submitted to the PMO, EPB and ADB for approval and disclosure.</li> </ul>	PMO-ES, IAS-ES, LIEC	PMO, ADB,	PMO in-kind support, included in loan cost		

Item/Media	Activity	Impacts, risks and issues	Mitigation Measures	Measures implemented by	Implementation of measures checked by	Budget source and estimate (CNY)		
						Fukang	Hubuti	Qitai
		Bidding documents and contractors	<ul style="list-style-type: none"> <li>- Translate EMP into Chinese and distribute to all parties</li> <li>- Contract a Tendering Agency to ensure that the provisions of this EMP are included in bidding documents;</li> <li>- Include an environmental section in the technical specifications for bidders which lists EMP requirements;</li> <li>- Ensure that construction contracts are responsive to EMP provisions and that mitigation and monitoring measures are adequately budgeted.</li> </ul>	DIS, IA-ES, LIEC	EA, PMO, ADB	Included in design costs	Included in design costs	Included in design costs
	Providing a formal, project-specific scheme for complaints to be received and addressed.	Grievance Redress Mechanism (GRM)	<ul style="list-style-type: none"> <li>- Establish GRM in the PMO and establish local access points;</li> <li>- Brief and provide training to GRM access points; Disclose GRM to affected people before construction begins through signage, web sites and notices in community centers.</li> </ul>	PMO-EO IA-ES LIEC	EA, ADB	EMP costs 10,000	EMP costs 10,000	EMP costs 10,000
						PMO: 15,000 (central coordination and record-keeping)		
	Planning for borrow and spoil disposal	Unauthorized and unmanaged use leading to land degradation	<ul style="list-style-type: none"> <li>- All borrow pits, quarries and spoil disposal sites to be used during construction will be identified and approved by the PMO-EO.</li> </ul>	IAS	PMO	Included in design costs	Included in design costs	Included in design costs
	Planning for construction waste management	Unauthorized and unmanaged disposal	<ul style="list-style-type: none"> <li>- Before construction commences, sites for demolition and areas where previous demolition has left building rubble on the surface will be checked for asbestos and lead.</li> <li>- Before construction commences, the anticipated amounts and nature of all wastes should be quantified and disposal sites with the capability of accepting the waste identified.</li> </ul>	IAS	PMO	Included in design costs	Included in design costs	Included in design costs
	Ensuring that staff of entities with environmental responsibilities are able to discharge them with	Training	<ul style="list-style-type: none"> <li>- Provide training to PMO, IAs and contractors on implementation and supervision of EMP, GRM, reporting, in compliance with training plan.</li> <li>- Provide training to facility operators on operational environmental management.</li> </ul>	LIEC and LIC specialists	EA, ADB	EMP Training costs 40,000 Table A1.8	EMP Training costs 40,000 Table A1.8	EMP Training costs 40,000 Table A1.8

Item/Media	Activity	Impacts, risks and issues	Mitigation Measures	Measures implemented by	Implementation of measures checked by	Budget source and estimate (CNY)		
						Fukang	Hubuti	Qitai
	understanding. Ensuring that each construction site has an overarching plan for environmental management.	Site Management Plans	<ul style="list-style-type: none"> <li>- Develop Site Management Plans (SMP), responding to (i) all relevant clauses and requirements of this EMP; and (ii) including Occupational and Community Safety Plans and Emergency Response Plans and work schedules.</li> <li>- Assign onsite environment engineer (OEE);</li> <li>- IAs and PMO review and approve each SMP</li> </ul>	Contractor, IA-ES	PMO-EO, LIEC	Included in construction costs	Included in construction costs	Included in construction costs
		Sensitive receptors	<ul style="list-style-type: none"> <li>- At each planned construction site, locate and identify nearby sensitive receptors, including all mosques, for noise and dust impacts, and include them in the Site Management Plan for the implementation of temporary mitigation measures. Confirm ambient noise levels at these locations.</li> <li>- This must include for Hubuti: Hufang and Zhuang villages; for Fukang: Guangyuan Road school, and residences along Tianshi, Tianshan Roads; for Ganhezi: Honglingjin Road hospital, and residences along Guangming and Changqing Roads.</li> </ul>	Contractor, IA-ES	PMO-EO, LIEC	Included in construction costs	Included in construction costs	Included in construction costs
<b>B. Construction</b>								
1 Soil loss and stability	Excavation, earthworks, and site preparation (all components)	Soil erosion and sedimentation	<ul style="list-style-type: none"> <li>- Prepare soil erosion control plan (showing how runoff will be controlled at site perimeter to control soil and water runoff, and how disturbed areas will be reclaimed) as part of the Site Management Plans;</li> <li>- Construct interception ditches and drains to prevent runoff entering construction sites, and to divert runoff from sites to existing drainage. Regularly clean and maintain ditches.</li> <li>- Limit construction and material handling during periods of rains and high winds.</li> <li>- Stabilize all cut slopes, embankments, and other erosion-prone working areas while works are going on.</li> <li>- All earthwork disturbance areas shall be stabilized within 30 days after earthworks have ceased at the sites.</li> <li>- Preserve existing vegetation where no construction activity is planned.;</li> </ul>	Contractor	IA-ES, CSCs LIEC	Included in construction costs	Included in construction costs	Included in construction costs

Item/Media	Activity	Impacts, risks and issues	Mitigation Measures	Measures implemented by	Implementation of measures checked by	Budget source and estimate (CNY)		
						Fukang	Hubuti	Qitai
			- Contour and re-vegetate disturbed surface					
	Use of borrow pits and quarries (all components)	Soil erosion and sedimentation	<ul style="list-style-type: none"> <li>- Use only official sites operated and managed by the local Construction Bureau</li> <li>- Avoid sites with known contamination and/or erosion problems</li> </ul>	Contractor and pit operator	IA-ES, PMO	Included in construction costs	Included in construction costs	Included in construction costs
	Use of spoil disposal sites (all components)	Soil erosion and sedimentation	<ul style="list-style-type: none"> <li>- Use only spoil disposal areas operated and managed by the local Construction Bureau</li> </ul>	Contractor and site operator	IA-ES, PMO	Included in construction costs	Included in construction costs	Included in construction costs
	Shelterbelt and windbreak establishment (Fukang shelterbelt component)	Soil instability and slope erosion	<ul style="list-style-type: none"> <li>- On sloping lands, all preparation for plantations must be conducted according to technical specifications of soil and water conservation for sloping land set in <i>Soil and Water Conservation Law of PRC</i> (2010).</li> <li>- Soil tillage on terraces must be carried out along contours, keeping any existing vegetation between contour terraces to prevent soil erosion.</li> </ul>	IAs, contractors	PMO	Included in construction contracts	-	-
2 Hazardous Materials	Use of fuels and lubricants on site; spill accidents; and production of construction wastes (all components)	Soil and water contamination	<p>Site planning, management and safeguards (in the SMP) to include:</p> <ul style="list-style-type: none"> <li>- Storage facilities for fuels, oil, and other hazardous materials within secured areas on impermeable surfaces, and provided with bunds and cleanup installations;</li> <li>- Fuel supplier is properly licensed and follows the proper protocol for transferring fuel, and complies with JT 3145-88 (Transportation, Loading and Unloading of Dangerous or Harmful Goods).</li> <li>- Vehicles and equipment are properly parked in designated areas to prevent contamination of soil and surface water.</li> <li>- Vehicle, machinery, and equipment maintenance and refueling are carried out so that spilled materials do not seep into the soil or into water bodies.</li> <li>- Fuel storage and refilling areas are located at least 300 m from stormwater drains, rivers and tributaries.</li> <li>- Oil traps for service areas, and parking areas.</li> </ul>	Contractors	CSC, IAs, PMO	<p>Included in construction contracts</p> <p>70,000</p>	<p>Included in construction contracts</p> <p>50,000</p>	<p>Included in construction contracts</p> <p>100,000</p>
3 Surface and Groundwater	Runoff from water used in construction processes, and	Pollution of surface and groundwater resources	<p>Site planning, management and safeguards (in the SMP) to include:</p> <ul style="list-style-type: none"> <li>- Interception of all construction wastewater and site runoff water</li> </ul>	Contractors	CSC, IAs, PMO	Included in construction contracts	Included in construction contracts	Included in construction contracts

Item/Media	Activity	Impacts, risks and issues	Mitigation Measures	Measures implemented by	Implementation of measures checked by	Budget source and estimate (CNY)		
						Fukang	Hubuti	Qitai
	rainwater runoff from site. (all components)		<ul style="list-style-type: none"> <li>- Sediment from construction wastewater and site runoff water to be separated in sedimentation traps before discharge of water</li> <li>- Sediment to be disposed at landfill</li> <li>- Site runoff water containing hazardous and harmful materials (see below) to be treated separately from site runoff.</li> </ul>			150,000	120,000	200,000
		Petrochemical pollution of surface and groundwater resources	Site planning, management and safeguards (in the SMP to include: <ul style="list-style-type: none"> <li>- Servicing, refueling and long-term parking of machinery on bunded hardstanding with drains;</li> <li>- Drains to be equipped with oil/water separators.</li> </ul>					
	Runoff from water used in domestic processes. (all components)	Pollution of surface and groundwater resources	<ul style="list-style-type: none"> <li>- Contractor to provide portable toilets at construction sites. Toilets to be emptied regularly and sewage transported to WWTP.</li> </ul>	Contractors	CSC, IAs, PMO	Included in construction contracts  40,000	Included in construction contracts  20,000	Included in construction contracts  60,000
4 Solid waste	Solid waste accumulation from demolition, concrete formwork, packing and surplus building materials (road components)	Safety hazard and site management inefficiencies from waste accumulation. Reduction of neighborhood amenity from inappropriate disposal	<ul style="list-style-type: none"> <li>- Install confined storage points of solid wastes away from sensitive receptors, regularly haul to an approved disposal site;</li> <li>- Use licensed contractors to remove wastes from the construction sites;</li> <li>- Prohibit burning of waste.</li> <li>- Provide appropriate waste storage containers for workers' municipal garbage and hazardous wastes.</li> <li>- If the pre-construction check has identified asbestos or lead, licensed contractors will be engaged to manage disposal.</li> </ul>	Contractor	IA-ES, CSCs, LIEC	Included in construction contracts  30,000	Included in construction contracts  20,000	Included in construction contracts  40,000
5 Noise	Use of construction machinery on site and haulage vehicles bringing or removing materials (all components)	Noise impacts from construction activities	<ul style="list-style-type: none"> <li>- Maintain equipment and machinery in good working order; undertake regular equipment maintenance, ensure compliance with PRC standard of GB12523-2011;</li> <li>- Operate between 0800H-2000H only and reach an agreement with IAs management and nearby residents regarding the timing of heavy machinery work, to avoid any unnecessary disturbances; nighttime works should only be conducted in exceptional cases, and a permit should be obtained for that purpose;</li> </ul>	Contractor	IA-ES, CSCs, LIEC	Included in construction contracts  120,000	Included in construction contracts  70,000	Included in construction contracts  60,000



Item/Media	Activity	Impacts, risks and issues	Mitigation Measures	Measures implemented by	Implementation of measures checked by	Budget source and estimate (CNY)		
						Fukang	Hubuti	Qitai
			<ul style="list-style-type: none"> <li>- Inform potentially affected people including nearby residents, through advanced meaningful consultations;</li> <li>- When work is planned near sensitive receptors, residents will be notified by the IA and/or contractors and any site-specific concerns or working arrangements addressed.</li> <li>- Prohibit noise-generating construction work between 2000 and 0600 hours.</li> <li>- Avoid minority religious activities or festival (i.e., no construction allowed within 500 meters of any mosques during Friday prayer times, or during Muslim festivals).</li> <li>- If construction noise needs to continue into the night, the contractor must first consult with the PMO, IA, and local communities and obtain their agreement.</li> <li>- Identify sensitive receptor sites within 100m of construction (schools, medical centers) and erect temporary noise barriers to reduce noise impact on them;</li> <li>- Locate sites for concrete-mixing and similar activities on the site at the point furthest from any sensitive receptors and equip with noise barriers to ensure noise at boundaries complies with GB12523-2011;</li> <li>- Disseminate information on procedure of handling complaints through the Grievance Redress Mechanism (GRM).</li> </ul>					
6 Ambient Air	Wind-blown fugitive dust from unstabilized surfaces; dust from unloading and spreading soils and gravels; dust raised by haulage truck wheels and blowing off truck loads. (all components)	Dust pollution generated during construction	<ul style="list-style-type: none"> <li>- Transport containers and vehicles carrying soil, sand or other fine materials to and from the sites must be covered.</li> <li>- Materials storage and stockpile sites are covered or sprayed with water.</li> <li>- Water is sprayed on bare earth surfaces at construction sites and access roads twice daily.</li> <li>- All roads and tracks used by vehicles of the contractors or any subcontractors or supplier are kept clean and clear of all dust, mud, or extraneous materials dropped by vehicles.;</li> <li>- Regularly consult nearby residents to identify</li> </ul>	Contractor	IA-ES, CSCs, LIEC	Included in construction contracts  100,000	Included in construction contracts  50,000	Included in construction contracts  120,000

Item/Media	Activity	Impacts, risks and issues	Mitigation Measures	Measures implemented by	Implementation of measures checked by	Budget source and estimate (CNY)		
						Fukang	Hubuti	Qitai
			concerns, and implement additional dust control measures as necessary.					
	Use of petrol and diesel engines on site. (all components)	Air emissions from construction vehicles and machinery	<ul style="list-style-type: none"> <li>- Maintain vehicles and construction machineries to National V emission standard (MEP 2016).</li> </ul>	Contractor	IA-ES, CSCs, LIEC	Included in construction contracts  35,000	Included in construction contracts  25,000	Included in construction contracts  40,000
7 Physical cultural resources	Earthworks, site leveling and trenching. (all components)	Damage to known or unknown above or below-ground cultural relics	<ul style="list-style-type: none"> <li>- Establish chance-find procedures for physical cultural resources;</li> <li>- If a new site is unearthed, work must be stopped immediately and the IA and local cultural relic bureau promptly notified, and construction will resume only after a thorough investigation and with the permission of appropriate authority.</li> </ul>	Contractor	IA-ES, CSCs, LIEC	Included in construction costs	Included in construction costs	Included in construction costs
8 Health and Safety	All construction worker activities, ranging from building works and domestic living. (all components)	Occupational Health and Safety	<ul style="list-style-type: none"> <li>- Construction site operations must comply with PRC State Administration of Worker Safety Laws and Regulations.</li> <li>- Provide safe supply of clean water and an adequate number of latrines and other sanitary arrangements at the site and work areas, and ensure that they are cleaned and maintained in a hygienic state;</li> <li>- Provide garbage receptacles at construction site;</li> <li>- Provide personal protection equipment (PPE) for workers in accordance with relevant health and safety regulations;</li> <li>- Develop an emergency response plan to take actions on accidents and emergencies; document and report occupational accidents, diseases, and incidents; organize fully equipped first-aid base at each construction site (part of Site Management Plan);</li> <li>- Establish Records Management System that will store and maintain easily retrievable records on occupational accidents, diseases, and incidents.</li> <li>- Train all construction workers in basic sanitation and hygiene issues, general health in basic sanitation and hygiene issues, general health and safety matters, and on the specific hazards of their work;</li> <li>- Posters drawing attention on site safety,</li> </ul>	Contractor	IA-ES, CSCs, LIEC	Included in construction contracts  50,000	Included in construction contracts  40,000	Included in construction contracts  70,000

Item/Media	Activity	Impacts, risks and issues	Mitigation Measures	Measures implemented by	Implementation of measures checked by	Budget source and estimate (CNY)		
						Fukang	Hubuti	Qitai
			rescue and industrial health regulations shall be made or obtained from the appropriate sources and will be displayed prominently in relevant areas of the site.					
	Community activities at or around the site – pedestrians, vehicle drivers and passengers, and people accessing site. (all components except Qitai landfill)	Community Health and Safety	<ul style="list-style-type: none"> <li>- At all times during construction, safe and convenient passage must be given for community vehicles, and pedestrians to and from side roads.</li> <li>- Place signs around the construction areas to facilitate traffic movement, provide directions to various components of the works, and provide safety advice and warnings.</li> <li>- At the end of each day, all sites and equipment will be made secure (through fencing and/or lock-down of equipment) to prevent public access.</li> <li>- Assign personnel to direct pedestrians around dangerous work areas;</li> <li>- Ensure that all sites are secure, discouraging access through appropriate fencing; place clear signs at construction sites in view of the people at risk (including workers and nearby communities), warning people of potential dangers such as moving vehicles, hazardous materials, excavations, and raising awareness on safety issues;</li> <li>- Erect safety barricades around all excavations;</li> <li>- Return machinery to its overnight storage area/position;</li> <li>- Return machinery to its overnight storage area/position;</li> <li>- Hold a public consultation meeting prior to commencing construction to discuss issues associated with ensuring the safety of nearby communities in vicinity of the construction site.</li> <li>- Plan and manage unavoidable utility services disruption and ensure public is adequately informed about interruptions.</li> </ul>	Contractor	IA-ES, CSCs, LIEC	Included in construction contracts  100,000	Included in construction contracts  40,000	Included in construction contracts  60,000
	Installation of natural gas pipes beneath roads (road components)	Community Health and Safety	<ul style="list-style-type: none"> <li>- The contractors will prepare the site, construct pipelines and close the site in compliance with the PRC Technical Code for Gas Pipe Design (GB 50028-2006) and Technical Code for Construction and</li> </ul>	Contractor and IA	PMO, LIEC	Included in construction costs	Included in construction costs	Included in construction costs

Item/Media	Activity	Impacts, risks and issues	Mitigation Measures	Measures implemented by	Implementation of measures checked by	Budget source and estimate (CNY)		
						Fukang	Hubuti	Qitai
–	Traffic disruption (road components)	Community Health and Safety	Acceptance Inspection (CJJ33-2005).					
			– Implement traffic control plan within and around project site and/or communities during construction, to be approved by local traffic management administration. The plan shall include provisions for diverting or scheduling construction traffic to avoid peak traffic hours, regulating traffic at road crossings with an emphasis on ensuring public safety through clear signage	Contractor and IA	PMO, LIEC	Included in construction costs	Included in construction costs	Included in construction costs
Unexpected environmental impacts	All site preparation and construction activities (all components)	Impacts and environmental risks not covered in IEE and EMP	– If unexpected environmental impacts occur during project construction phase, immediately inform the PMO; assess the impacts; and update the EMP	IA	PMO, LIEC	Included in construction costs	Included in construction costs	Included in construction costs
<b>C. Operation</b>								
<b>Road Components</b>								
1 Noise and air	Traffic impact increases above prediction	Noise and dust affecting nearby residents	– In the first 3 years of operation, monitor traffic volumes, air pollution and noise to ensure the continued effectiveness of designed protection measures for sensitive receptors. – Construct/extend noise barriers as required.	O & M Unit, Traffic Bureau	PMO, ADB	Operating costs and operational contingency	Operating costs and operational contingency	Operating costs and operational contingency
		Vehicle emissions	– Vehicle testing for compliance with emission standards	O & M Unit, Traffic Bureau	PMO, ADB	Operating costs and operational contingency	Operating costs and operational contingency	Operating costs and operational contingency
2 Water	Road surface drainage	Excessive pollutants in road drainage water	– In the first 3 years of operation, monitor quality of water from road drainage for contaminants – Install silt and oil traps as appropriate.	O & M Unit, Traffic Bureau	PMO, ADB	Operating costs and operational contingency	Operating costs and operational contingency	Operating costs and operational contingency
3 Community safety	Natural gas pipes under roads	Maintenance and safety of gas pipes	– Strictly follow (i) the Technical Manual on Urban Gas Facility Operation, Maintenance and Safety (CJJ51-2016), issued by Ministry of Housing and Urban–Rural Development, and (ii) emergency procedures for pipe failure or road failure in the National Regulation on Urban Gas Supply Management (2016 amended, issued by State Council), which includes procedures for emergency response.	Xinjiang Meicheng Gas Limited Company, Roads O & M Unit, Traffic Bureau	PMO, ADB	Operating costs and operational contingency	Operating costs and operational contingency	Operating costs and operational contingency
	Piped connections to centralized heating networks	Dismantling and disposal of small boilers	– The future demolition of superseded small heating boilers will be undertaken in compliance with the guideline for industrial solid waste storage and	CHAPG	PMO, ADB	Ongoing government role	Ongoing government role	Ongoing government role

Item/Media	Activity	Impacts, risks and issues	Mitigation Measures	Measures implemented by	Implementation of measures checked by	Budget source and estimate (CNY)		
						Fukang	Hubuti	Qitai
			disposal (GB18599-2011).					
Water Supply Pipeline Component								
1 Water	Supply of good quality water	Deterioration of watershed	– Protection measures for the watershed of Biliu and Zhonggegen reservoirs will be enforced for water source protection zones and the zones enforced. These comprise: (i) a Prohibited Zone (Grade I Zone), closest to the water source; and (ii) a Protection Zone (Grade II Zone), adjoining the Prohibited Zone.	CHAPG WRB	PMO and LIEC	-	-	Ongoing government role
		Connections to end-users	– Qitai County Water Supply and Drainage Management Department will complete the water distribution connections to end users in a timely manner.	CHAPG Qitai WSDMD	PMO and LIEC	-	-	Ongoing government role
Shelterbelt and Windbreak Components								
1 Ecology and land management	Plantation forest management	Success of plantations	– Shelterbelt forests will require intensive management during the establishment phase and silvicultural management later The project's capacity building and training will address proper fertilizer and pesticide use.	O&M Unit	IA, PMO	Management-included in operating costs.	-	-
Solid waste Component								
1 Water	Groundwater quality (landfill)	Contamination of groundwater by leachate	– To ensure that leachate is not penetrating into the groundwater, a monitoring program will be implemented (see details in the EMP). Continuous groundwater monitoring will be carried out during operation. – Leachate holding tanks will be designed for 2 weeks' storage of leachate in the event of plant malfunction. In the event of longer malfunctions, the collected leachate will be back-pumped onto the landfill to obtain leachate volume reduction and leachate fixing.	O&M Unit	IA, PMO	-	-	Included in monitoring costs (Table A1.7)  Included in design and operating costs
	Noise (landfill)	Disturbance of residents during garbage collection and transfer	– Scheduling working hours and transportation routes for garbage collection and disposal, avoiding urban traffic peak period and sensitive location; – Selecting low noise equipment and vehicles in the acquisition of machines and vehicles.	O&M Unit	IA, PMO	-	-	Included in design and operating costs
	Fugitive garbage (landfill)	Contamination of surrounding landscape by	– All haulage vehicles will be covered, and progressively enclosed as the fleet is modernized.	O&M Unit	IA, PMO	-	-	Included in design and operating

Item/Media	Activity	Impacts, risks and issues	Mitigation Measures	Measures implemented by	Implementation of measures checked by	Budget source and estimate (CNY)		
						Fukang	Hubuti	Qitai
		garbage	<ul style="list-style-type: none"> <li>- Retaining fences will be erected around the landfill site to prevent the waste from spreading during windy or rainy season.</li> </ul>					costs
	Landfill gas (CH <sub>4</sub> )	Health and safety of landfill workers and community	<ul style="list-style-type: none"> <li>- Collection of methane gas from decomposing garbage will be channeled through a specially constructed gas collection system comprising gas transmitting gabions, collecting pipes and gas flaring chimneys.</li> <li>- Regular monitoring of surface concentrations of CH<sub>4</sub> will ensure that below 2m height above landfill work surface, the concentration of methane should not exceed 0.1%.</li> </ul>	O&M Unit	IA, PMO	-	-	Included in design and operating costs
5 Occupational and Community health	Odors and pests (landfill)	Diseases and pests	<ul style="list-style-type: none"> <li>- To reduce the breeding of flies, mosquitoes, rats and other vermin, and to prevent odor and wind-borne dispersal of garbage,</li> <li>- Compaction and earth covering of the active tip face or landfill cell will be undertaken daily.</li> <li>- Periodic spraying with approved pesticide will further control the breeding of flies and mosquitoes and</li> <li>- Regular rat trapping programs will be undertaken.</li> </ul>	Landfill O&M Unit	IA, PMO	-	-	Included in operating costs
<b>Total Cost: 2,285,000</b>								

ADB = Asian Development Bank; DI = Design Institute(s); LIEC = Loan Implementation Environmental Consultant; PMO = Project Management Office; EA = Executive Agency; IA = Implementing Agency; EMP = Environmental Management Plan; EPB = Environment Protection Bureau; IA=Project Implementation Unit; WSDND = Water Supply and Distribution Management Department.

## E. Project Readiness Assessment

14. Before construction, the LIEC and PMO-EO will assess each IA's readiness in terms of environmental management based on a set of indicators (Table A1.4) and report it to ADB and the PMO. 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. The assessment will be repeated at regular intervals to account for new works contracts, and documented in the annual environment monitoring reports to ADB.

**Table A1.4: Project Readiness Assessment Indicators**

Indicator	Criteria	Assessment	
Environmental Supervision in place	LIEC is in place.	Yes	No
	Qualified EMSs contracted by the IAs	Yes	No
	Environment specialists assigned by PMO (PMO-EO) and IAs (IA-ES)	Yes	No
	External Monitor contracted	Yes	No
Compliance with loan covenants and assurances	The borrower complies with loan covenants related to project design and environmental management planning	Yes	No
Public involvement effectiveness	Meaningful consultation completed, construction activities publicized at construction sites	Yes	No
	GRM established with entry points publicized	Yes	No
Chinese version EMP distributed to all parties	EMP translated and distributed to PMO and all IAs	Yes	No
Preliminary works under retroactive funding	Audit undertaken of preliminary works (including Qitai transmission pipes, the road constructions and the greenbelts that are included in the retroactive financing) to ensure compliance with impact mitigation measures.	Yes	No
Contracts with environmental safeguards	Bidding documents and contracts incorporating the environmental activities and safeguards listed as loan assurances	Yes	No
Site construction planning (environmental)	Site Management Plan prepared for each work site by the contractors and cleared by the IAs	Yes	No
EMP financial support	EMP budget established, and required funds set aside for EMP implementation by each IA	Yes	No

EMS = Environment Monitoring Station, IA = Implementing Agency, LIEC = Loan Implementation Environment Consultant, PMO = Project Management Office.

## F. Monitoring Requirements

15. Three types of project monitoring will be conducted under the EMP:

- (i) Internal monitoring to be conducted by the contractors and the Construction Supervision Companies (CSCs) in the construction phase and facility operators in the operations phase;
- (ii) External monitoring, to be conducted by an authorized company (environmental monitoring station (EMS)), contracted by the IAs;
- (iii) EMP compliance monitoring (whether EMP measures are being implemented), to be conducted by the LIEC on behalf of the PMO.

The internal monitoring and results of monitoring by the EMS will be reviewed and evaluated by an External Monitor contracted by the PMO.

16. The environmental monitoring plan at Table A1.5 covers the first two: internal and

external monitoring.

17. **Internal monitoring** includes the monitoring of dust and noise at all construction sites as well as the quality of discharged construction wastewater, and erosion control. It also includes daily inspection and internal compliance assessment with the approved Site Management Plans of contractors, including construction site health and safety. During operations, each of the facility operation and maintenance units will monitor the environmental performance of their facility using appropriate indicator parameters.

18. **External monitoring by EMS** during construction measures the effects of noise, dust and wastewater runoff from construction sites over the project's area of influence – i.e. outside the construction site boundary. For dust and noise, this extends from the construction site boundary to any nearby sensitive receptors. For site runoff water it extends to the nearest receiving waterbody (drain, pond, canal or river). During operation it will focus on potential impacts from the landfill site on the air and groundwater of the surrounding area and the delivery of drinking water from the Qitai No.3 WTP along project pipes.

19. Table A1.5 shows the environmental monitoring program for internal monitoring and external monitoring designed for this project, defining the scope, location, parameter, duration and frequency, and responsible bodies, for monitoring during the construction and operational stages. Monitoring costs are estimates based on the experience of the PPTA team and PMO from other projects elsewhere in the PRC. ADB will oversee project compliance on the basis of the annual environmental monitoring reports provided by the PMO, compliance reviews by the LIEC and site visits as required.

20. The results of the environmental monitoring will be compared with EMP requirements, site management plans, and relevant PRC standards as defined in Table A1.6. Non-compliance will be highlighted in the monitoring reports. Additionally, an External Monitor will be contracted by the PMO to review and evaluate the results of the contractors' and operators' internal monitoring and the results of the EMS monitoring against PRC standards. The External Monitor will report to the ADB separately from the PMO's Environmental Monitoring Reports.

**Table A1.5: Environmental Monitoring Program for Project Duration**

Item	Parameter	Monitoring Location	Monitoring Frequency and Duration	Who Implements	Who Supervises	Cost CNYx10 <sup>3</sup>
<b>Pre-construction</b>						
Ground-water quality	pH, COD, BOD, NH <sub>3</sub> -N, TN, TP, E.coli, total turbidity, sulfate, chloride, Hg, Pb, FI, Fe, Mn, Cu, Zn.	2 groundwater monitoring wells at 30m and 50 m north of leachate tank at Qitai landfill sites (both existing site and new site). The monitoring well shall be 30 m deep at least.	Once before detailed design is finalized for risk assessment of leakage and to establish baseline and inform remediation plan for existing landfill.	IA	PMO, EPB	50 (all Qitai)
Noise	L <sub>Aeq</sub>	At identified sensitive receptor locations for road components: Hufang and Zhuang villages (Hubuti); Guangyuan Road school, and residences along Tianshi, Tianshan Roads (Fukang); Honglingjin Road hospital, and residences along	Once before detailed design and site management plans are finalized, to establish noise baseline.	IA	PMO, EPB	10 (5 Fukang; 5 Hubuti)



Item	Parameter	Monitoring Location	Monitoring Frequency and Duration	Who Implements	Who Supervises	Cost CNYx10 <sup>3</sup>
		Guangming and Changqing Roads (Ganzezi).				
<b>Construction Stage</b>						
<b>Internal monitoring</b>						
Dust and noise	TSP, L <sub>Aeq</sub>	At each construction site boundary (except new Qitai landfill due to its isolation)	One 24-hr continuous sampling period each week, during construction activity	CSC and contractor	IA, PMO	Included in construction cost (allow 70: 30 Fukang 20 Hubuti and 20 Qitai)
Surface water quality	SS, petroleum products	Construction wastewater released from construction sites	Once day per week during construction activity	CSC and contractor	IA, PMO	Included in construction cost (allow 100: 30 Fukang 20 Hubuti and 50 Qitai)
<b>External monitoring</b>						
Dust and noise	TSP, L <sub>Aeq</sub>	At nearest sensitive receptor for each construction site; at construction site boundary (except new Qitai landfill due to its isolation)	1 day (24-hr continuous sampling) per month during construction activity	EMS	PMO	400 (70 Fukang 60 Hubuti 100 Qitai)
Surface water quality	SS, petroleum products	Selected points 200 m downstream of road construction and water supply pipe-laying.	2 times per week at each site during construction activity.	EMS	PMO	230 (70 Fukang 60 Hubuti 100 Qitai)
<b>Operational Stage</b>						
<b>Internal monitoring</b>						
Dust and Noise	Visual inspection for dust in household areas. L <sub>Aeq</sub> measure for noise	At nearest sensitive receivers along project roads.	1 day per month for first 3 years of operation.	Roads O&M Unit	PMO, EPB	80 (30 Fukang 20 Hubuti and 30 Qitai)
Surface water quality	SS, petroleum products	Representative surface drainage points for each project road	Once every six months for first 3 years of operation.	Roads O&M Unit	PMO, EPB	80 (30 Fukang 20 Hubuti and 30 Qitai)
Odor	NH <sub>3</sub> and H <sub>2</sub> S for odor.	At nearest sensitive receivers from new landfill site	1 day per month for first 3 years of operation.	Landfill O&M Unit	PMO, EPB	30 (all Qitai)
Landfill gas	CH <sub>4</sub> level (<0.1%)	At point 1 m above the ground on the working surface of the landfill and 100m downslope of landfill.	1 day per month for first 3 years of operation of new landfill.	Landfill O&M Unit	PMO, EPB	Included in O&M budget for landfill
Forest quality	Windbreak and shelterbelt	North Ring Road Windbreak, S303	Semi-annually for first 3 years of operation.	O&M Unit	PMO, EPB	Included in O&M budget

Item	Parameter	Monitoring Location	Monitoring Frequency and Duration	Who Implements	Who Supervises	Cost CNYx10 <sup>3</sup>
	plantings. % survival and replacement	Road Shelterbelt and South Mountainous ecological forest.				
Drinking water quality	pH, DO, COD, BOD <sub>5</sub> , N-NH <sub>3</sub> , TP, TN, Cu, Zn, F <sub>l</sub> , Se, Ar, Hg, Cd, Cr, Pb, SO <sub>3</sub> , faecal coliforms, SO <sub>4</sub> , Cl, Fe, Mn	At water outlet points at Qitai No.3 WTP	2 days per week. Ongoing monitoring.	WTP operators	PMO, EPB	Included in O&M budget
Ground-water	pH, COD, BOD, NH <sub>3</sub> -N, TN, TP, E.coli	Permanent groundwater monitoring wells.(i) one sunk at 30m downstream of leachate holding tank at new Qitai landfill. (ii) one 50 m downstream from the existing Qitai landfill.	Monthly	Landfill operator	PMO, EPB	Included in O&M budget
<b>External monitoring</b>						
Noise, dust and odor	TSP, L <sub>Aeq</sub> and NH <sub>3</sub> and H <sub>2</sub> S for odor.	At nearest sensitive receivers from new landfill site and existing landfill.	Quarterly until PCR stage	EMS	PMO, EPB	40 (all Qitai)
Ground water quality	pH, COD, BOD, NH <sub>3</sub> -N, TN, TP, E.coli, total turbidity, sulfate, chloride, Hg, Pb, F <sub>l</sub> , Fe, Mn, Cu, Zn.	Permanent groundwater monitoring wells.(i) one sunk at 30m downstream of leachate holding tank at new Qitai landfill. (ii) one 50 m downstream from the existing Qitai landfill.	Monthly for 12 consecutive months. Monitoring can cease when 100% compliance is achieved 3 consecutive times at each site	EMS	PMO, EPB	120 (all Qitai)
Landfill gas	CH <sub>4</sub> levels	At point nearest development (where there is human activity) downslope of existing, closed landfill.	Every 2 months for first 3 years after closure of existing landfill.	EMS	PMO, EPB	100 (all Qitai)
Closed landfill	Leachate collection and transfer to new landfill; landfill gas collection and safe venting; groundwater monitoring, and; site compression.	Existing landfill at Lama Huliang after closure and rehabilitation.	Yearly for 5 years after closure.	EMS	PMO, EPB	100 (all Qitai)
Drinking water quality	pH, DO, COD, BOD <sub>5</sub> , N-NH <sub>3</sub> , TP, TN, Cu, Zn, F <sub>l</sub> , Se, Ar, Hg, Cd, Cr, Pb, SO <sub>3</sub> , faecal coliforms, SO <sub>4</sub> , Cl, Fe, Mn	At water outlet point at Qitai No.3 WTP.	Quarterly until PCR stage	EMS	PMO, EPB	180 (all Qitai)
<b>Total estimated cost:</b>						<b>2,030</b>

Item	Parameter	Monitoring Location	Monitoring Frequency and Duration	Who Implements	Who Supervises	Cost CNYx10 <sup>3</sup>
EMS = Environmental Monitoring Station; EPB = Environment protection Bureau; O&M = Operation and Maintenance; PMO = Project Management Office; IA = Implementing Agency, WTP = water treatment plant						

**Table A1.6: Monitoring Indicators and Applicable PRC Standards and Operational Plans**

Phase	Indicator	Standard
Preconstruction	Groundwater quality (Qitai landfill)	Environmental Quality Standard for Groundwater (GB/T14848-93)
	Groundwater resource (Fukang)	No standard. Determines water balance for irrigation.
Construction	Dust and noise at construction site boundary	Emission Standard of Environmental Noise for Boundary of Construction Site (GB 12523-2011)
	Dust and noise at sensitive receptors	Ambient Air Quality Standard (GB 3095-1996) Environmental Quality of Noise Standard (GB3096-2008)
	Surface water quality	Surface Water Ambient Quality Standard (GB3838 — 2002)
Operation	Odor	Classification of Temporary Odor Intensity
	Noise at landfill	Emission Standard for Industrial Enterprises Noise at Boundary (GB 12348-2008)
	Drinking Water	National Drinking Water Quality Standard (GB 5749-2006)
	Windbreaks and shelterbelts	Survival rate of planted vegetation >75%

21. **Compliance monitoring.** EMP compliance monitoring is the systematic evaluation of the overall progress of the implementation of EMP measures (Table A1.3). Evaluation of the compliance with the EMP will be undertaken regularly by the PMO-EO and the LIEC. The PMO-EO and the LIEC will report EMP implementation progress and compliance along with information on project implementation, environmental performance of the contractors, and environmental compliance through quarterly project progress reports and annual environmental monitoring reports (Table A1.7).

## **G. Environmental Safeguards Reporting Requirements**

22. Environmental monitoring and inspection activities and findings shall be documented for purposes of reporting, recording, verifying, referring on and evaluating the environmental performance of the Project. The documentation shall also be used as basis in correcting and enhancing further environmental mitigation and monitoring. The environmental reporting plan for the project is at Table A1.7 and the environment safeguards reporting requirements are defined below.

- (i) **Monthly internal progress reports by the Contractors** during construction, submitted to the IAs. These monthly reports will include; (i) physical construction progress; (ii) mitigation measures implemented; (iii) grievances received, resolved, closed and/or directed to other mechanisms; (iv) emergencies responded to; (v) internal monitoring conducted by the contractors and CSCs, and (vi) corrective actions taken.
- (ii) **Quarterly progress reports by IAs.** The quarterly reports by the IAs to the PMO will include a separate section on EMP implementation progress and environmental performance, including monitoring reports by local EMS on the results of external environmental monitoring as specified in the EMP, and any GRM activity.
- (iii) **Environment monitoring reports (EMRs) by the PMO** to be submitted to the EA and ADB annually to comply with environmental agreement in the loan and PRC Law on EIA. The EMRs will not only report on the progress and results of

environmental monitoring and compliance of EMP implementation but will also briefly: (i) assess the effectiveness of measures; (ii) point out violation/s, if any; (iii) assess/recommend corrective actions; and (iv) cite any coordination made for corrective actions and, if applicable, certifications for having instituted them effectively. The reports will also include the performance (complaints, responses) of the project GRM. Environmental monitoring reports will be reviewed and cleared by ADB and disclosed on the ADB website. The LIEC will support the PMO-EO in developing the annual environmental monitoring reports.

- (iv) **EMP Compliance report by the LIEC.** The LIEC will conduct an annual EMP compliance review and report the results to the ADB. This will comprise of findings from regular EMP compliance monitoring and site visits. It will identify any environment-related implementation issues, propose necessary corrective actions, and reflect these in a corrective action plan.
- (v) **External Monitor Reports.** The review and evaluation of the findings of the internal monitoring by contractors and CSCs, facility operators, and EMS will be reported annually to the ADB in a separate External Monitor report.
- (vi) **Environmental acceptance reporting.** Following the PRC Regulation on Project Completion Environmental Audit (MEP, 2001), within three months after the completion of each project component, an environmental acceptance report for each shall be prepared by a licensed environmental monitoring institute, contracted by the IA. The report will be reviewed and approved by the relevant EPB and the approval reported to ADB.

**Table A1.7: Reporting Plan**

Reports	From	To	Frequency
<b>Pre-construction Phase</b>			
Project Readiness	LIEC, PMO	ADB	1st EMR
<b>Construction Phase</b>			
Construction Implementation	Contractor, CSC	IAs	Monthly
Project progress reports	IAs	PMO	Quarterly
Environment progress and monitoring reports (EMR)	PMO	ADB	Annually
External Monitor Report	External Monitor	ADB	Annually
Environmental acceptance	Licensed acceptance institute	EPB	Once; within 3 months of completion of physical works
<b>Operational Phase</b>			
Environment progress and monitoring reports (EMR)	PMO	ADB	Annually
External Monitor Report	External Monitor	ADB	Annually until PCR
EMP implementation completion	PMO, LIEC	ADB	At PCR stage
ADB = Asian Development Bank; EPB = Environment Protection Bureau; EMS = Environmental Monitoring Station; LIEC = Loan Implementation Environment consultant; PMO = Project Management Office			

## **H. Institutional strengthening and training**

23. The capacity of the IAs and the PMO's staff responsible for EMP implementation and supervision will be strengthened. All parties involved in implementing and supervising the EMP must have an understanding of the goals, methods, and practices of project environmental management. The project will address any lack of capacities and expertise in environmental management through (i) institutional strengthening, and (ii) training. Both will be funded as part of the project's capacity building output.

24. **Institutional strengthening.** The capacities of the PMO and IAs to coordinate environmental management will be strengthened through the following measures:

- The appointment of a staff member within the PMO (PMO-EO) in charge of EMP coordination, including GRM;
- The appointment of one national environmental consultant under the loan implementation consultancy (the LIEC) to guide PMO and IAs in implementing the EMP and ensure compliance with ADB's Safeguard Policy Statement (SPS 2009); and
- The assignment of an environment specialist by each IA (IA-ES) to conduct regular site inspections and coordinate periodic air and noise monitoring.

25. **Training.** The EA, PMO and IAs will receive training in EMP implementation, supervision, and reporting, and on the Grievance Redress Mechanism. Initially the training will be in formal workshops, then will continue with on the job training by the LIEC and other specialists hired under the consulting services. The formal training will cover EMP implementation, supervision, and reporting, and the Grievance Redress Mechanism (Table A1.8). Training will be facilitated by the LIEC with the support of other experts under the loan implementation consultant services, and funded as part of Project Output 6: Capacity Building.

**Table A1.8: Training Program**

Training	Attendees	Contents	Times	Total Days	No. trainees	Cost (CNY / person / day)	Total CNY
EMP implementation	PMO, IAs, contractors	EMP measures, roles and responsibilities, monitoring, supervision, reporting procedures.  Site management plans, including worker and community health and safety, and emergency planning.	Once prior to, and once after, the first year of project implementation	4	30	600	72,000
Grievance Redress Mechanism	PMO, IAs, contractors	Roles and responsibilities, Procedures	Once prior to, and once after, the first year of project implementation	2	20	600	24,000
Environmental protection and monitoring	PMO, IAs, EPB	Pollution control on construction sites (air, noise, waste water, solid waste)	Once (during project implementation)	2	30	600	36,000
Landfill operation safeguards	Landfill O&M supervisors	Daily operation of site, environmental safeguards and security. Operation of leachate treatment plant. Use and management of landfill gas. Use of pesticides.  Daily operation of transfer station	Once (before commissioning)	3	10	600	18,000
Landfill closure safeguards	Qitai IA/ Landfill O&M supervisors	Best practice in closure and rehabilitation of a landfill	Once before closure operations	1	10	600	6,000
Training in forest management	Staff of O & M agency for shelterbelt and landscaping.	Training in forest management including fertilizing and insect and pest control. Safe pesticide use as part of integrated pest	Prior to Project implementation	2	5	600	6,000

Training	Attendees	Contents	Times	Total Days	No. trainees	Cost (CNY / person / day)	Total CNY
		management.					
Total estimated cost:							162,000

## I. Grievance Redress Mechanism, Consultation

26. A Grievance Redress Mechanism (GRM) will be established, at least 2 months before project implementation commences, as part of the project EMP to receive and manage any public environmental issues which may arise due to the Project. The PMO will ensure that potentially affected communities are informed about the GRM at an early stage of the project. During the project preparation phase, the IAs and PMO personnel received training on the GRM from the PPTA team.

27. The PMO is the lead agency responsible for overall management, implementation, and reporting of the GRM. The PMO-EO coordinates the GRM and: (i) instructs the IAs and contractors on their responsibilities in the GRM; (ii) establishes a simple Complaints Register, to document and track grievances received (including forms to record complaints and how they have been resolved); and (iii) reports on progress of the GRM in the annual environmental monitoring and progress reports (EMR) to ADB.

28. Each IA will assign a member of staff, who is responsible for implementation of the GRM and other relevant aspects of the EMP. This will be the IA-ES. Tasks include keeping a record of complaints. At least two months before construction commences, these contacts will be publicized at each construction site and forwarded to local village committees to ensure that entry points to the GRM are well known.

29. Costs for setting up the GRM procedures and publicizing them at subproject sites will be borne by the IAs. The costs of the centralized coordinating and record-keeping will be borne by the PMO. Indicative costs are in Table A1.3 under GRM.

30. **GRM readiness procedures prior to start of construction.** To be successful and reduce the likelihood of public concerns, the following measures will be implemented before any construction:

- 1) On-site procedures: (i) all contractors and CSC staff will be briefed by the PMO-EO and IA-ES on the GRM. Contractors and workers will be instructed to be courteous to local residents and, in the event they are approached by the general public with an issue, to immediately halt their work and report the issue to the foreman; (ii) at least one sign will be erected at each construction site providing the public with updated project information (the purpose of the project activity, the duration of disturbance, the responsible entities on-site), the GRM process, and contact names and details for the GRM entry points.
- 2) Non-project agencies: Prior to project construction, the PMO-EO will notify all relevant agencies about the project and GRM, so that if these agencies receive complaints, they know to contact the PMO-EO and follow up as necessary. This will include, but not be limited to, the EPB, and local police.

31. The procedure and timeframe for the GRM is shown in Figure A1.1 and is as follows.

**Stage 1 (maximum 10 working days):** Affected persons can submit a written or oral complaint to the contractor, CSC or IA. Complaints received by any other institutions will be referred back to the IA for action. The IA will notify the PMO-EO of the

complaint within two days. The PMO-EO will enter the complaint in the Complaints Register.

Where the complaint has been lodged via the EPB Hotline, the EPB will advise the IA and contractor and monitor the corrective actions.

The contractor, in consultation with the IA, attempts to resolve the issue directly with the affected person. Within five working days of receiving the complaint, the agency will provide clear advice to the affected person on the proposed corrective action and by when it will be taken. The corrective action will be implemented not later than 10 working days from receipt of the complaint. The PMO-EO will enter the resolution in the Complaints Register.

If quick corrective action is not possible, or the IA is unsure how to proceed, or the complainant is not satisfied by the initial corrective action, then the complaint will be referred to the PMO-EO for Stage 2.

**Stage 2 (maximum 5 working days):** For complaints not resolved in Stage 1, Stage 2 is initiated. The PMO-EO, contractor, CSC and IA will meet with the affected person and together discuss the issue and identify possible solutions. At the meeting, a possible solution will be agreed upon. The contractor or IA, as appropriate, will implement the agreed solution and report the outcome to the PMO-EO.

**Stage 3 (maximum 10 working days):** If Stage 2 is unsuccessful (i.e. no solution can be identified or the affected person is not satisfied with the proposed solution) the PMO-EO will convene a multi-stakeholder meeting and involve the Project Coordinating Group to ensure that any needed inputs from other project agencies are coordinated. The workshop will identify a solution acceptable to all. The agreed solution will be implemented and a report on the outcome provided to the PMO and ADB.

No part of the project GRM affects the existing rights of affected persons to take their complaints to the courts. If Stage 3 is unsuccessful in addressing the issue, this course is still available to affected persons.

The above steps relate to the construction phase where most complaints will be directed in the first instance to the contractor, CSC or IA. During initial operations, complaints will be received by the operations and maintenance (O&M) units of the facilities.

PMO will inform ADB of all complaints and actions under the GRM and include all relevant documents in its progress reports to ADB.

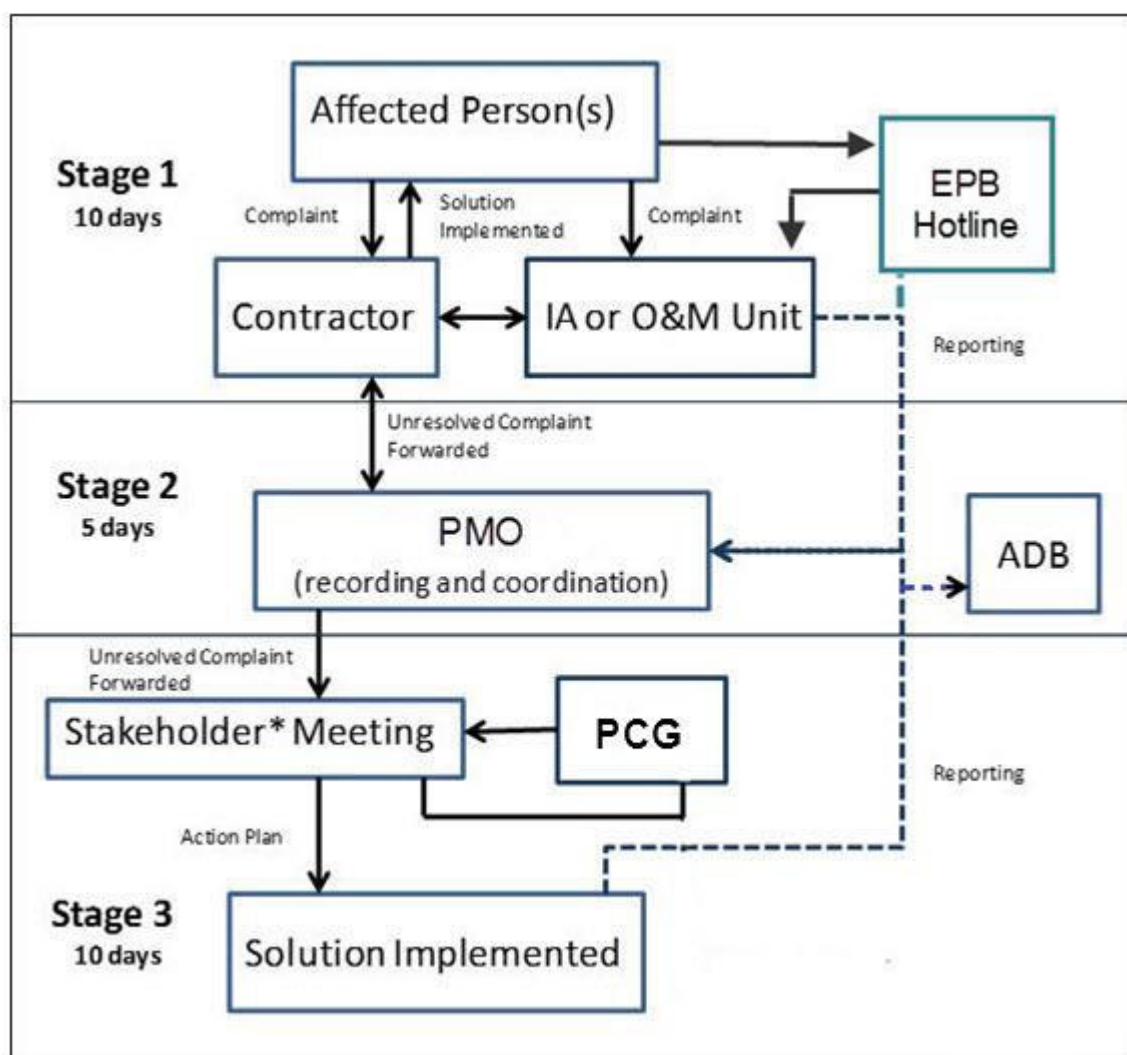
32. Any costs incurred to receive and document grievances will be paid by the PMO. The grievance procedures will remain valid throughout the duration of project construction and the first two years of project operation.

33. If the above steps are unsuccessful, people adversely affected by the project may submit complaints to ADB's Accountability Mechanism. All parties should employ their best efforts to solve problems that are reported through the GRM. Only when these are exhausted should the ADB's Accountability Mechanism be accessed.<sup>1</sup> 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.

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<sup>1</sup> See: [www.adb.org/accountability-mechanism](http://www.adb.org/accountability-mechanism)

**Figure A1.1: The Project Grievance Redress Mechanism**



\* Stakeholders involved will depend upon the nature of the complaint and will include as a minimum the affected person(s), PMO, IA, and EPB. Other stakeholder agencies relevant to particular concerns can be called upon to contribute through the PLG.

Note: AP = affected person, EPB = environmental protection bureau, O&M = operation and maintenance, PMO = project management office; IA = Implementing Agency, PLG = Project Coordination Group.

## **J. Cost Estimates**

34. This section provides an estimate of the cost of implementing the EMP. The costs are summarized in Table A1.9 below. The cost comprises three categories: mitigation and management measures (from Table A1.3); environmental monitoring (from Table A1.5); and, training (from Table A1.8). Refer to Tables A1.3, A1.5 and A1.8 for more details of each item. Costs are presented for the construction and operational phases of the project duration (until PCR stage). The costs do not include: (i) detailed design revisions and adjustments; (ii) facility operating costs (which include environmental safeguards); and (iii) the salaries of PMO environment staff. Costs for the mitigation measures are based on estimates in the domestic EIA and the experience of the PPTA team and PMO in other projects. Costs for the monitoring and training are also estimates based on the experience of the PPTA team in similar projects and discussed with the PMO.

35. The total estimated cost of implementing the EMP is CNY 3.9 million over the project duration (Table A1.9, overleaf). It is anticipated that about CNY 2.35 million (59.7%) will be paid through the construction contractors, CNY 1.4 million (35.8%) paid through the



IAs (mainly for external monitoring) and CNY 177,000 (4.5%) through the PMO.

36. During project implementation, the budget will be adjusted based on actual requirements. Contractors will bear the costs of all mitigation measures and internal monitoring during construction, which shall be budgeted in the bids. IAs will bear the costs related to setting up and running the GRM, mitigation measures during operation and external environmental monitoring during construction. Training costs will be part of the Project Implementation Support component of the project's capacity building output, through the PMO.

#### **K. Mechanism for feedback and adjustment**

37. Based on environmental monitoring and reporting systems in place, the PMO shall assess whether further mitigation measures are required as corrective action, or improvement in environmental management practices are required. The effectiveness of mitigation measures and monitoring and inspection plans will be evaluated by a feedback reporting system. If the PMO identifies a substantial deviation from the EMP, or if any changes are made to the project scope that may cause significant adverse environmental impacts or increase the number of affected people, then the PMO shall immediately consult ADB to identify EMP adjustment requirements.

**Table A1.9. Estimated cost (CNY) of implementing the EMP over Five Years.** See Tables A1.3, A1.5 and A1.8 for details of activities.

Item	Total cost 5 years	PMO	IA Fukang	IA Hubuti	IA Qitai	Contractors Fukang	Contractors Hubuti	Contractors Qitai
<b>MITIGATION (EMP Table A1.3)</b>								
<b>PRE-CONSTRUCTION</b>								
Water Safety Plan	60,000		60,000					
GRM	45,000	15,000	10,000	10,000	10,000			
<b>CONSTRUCTION</b>								
Domestic wastewater	120,000					40,000	20,000	60,000
Construction wastewater	470,000					150,000	120,000	200,000
Handling materials	220,000					70,000	50,000	100,000
Dust management	270,000					100,000	50,000	120,000
Vehicle emissions	100,000					35,000	25,000	40,000
Noise and vibration	250,000					120,000	70,000	60,000
Traffic management	300,000					200,000	50,000	50,000
Solid waste	90,000					30,000	20,000	40,000
Community safety	200,000					100,000	40,000	60,000
Site health and safety	160,000					50,000	40,000	70,000
<b>Sub-total</b>	<b>2,285,000</b>	<b>15,000</b>	<b>70,000</b>	<b>10,000</b>	<b>10,000</b>	<b>895,000</b>	<b>485,000</b>	<b>800,000</b>
<b>MONITORING (EMP Table A1.5)</b>								
<b>PRE-CONSTRUCTION</b>								
Groundwater testing at landfill	50,000				50,000			
Noise baseline at sensitive receptor locations	10,000		5,000	5,000				
<b>CONSTRUCTION</b>								
<b>Internal monitoring</b>								
Dust and noise	70,000					30,000	20,000	20,000
Water quality	100,000					30,000	20,000	50,000
<b>External monitoring</b>								
Dust and noise	400,000		200,000	100,000	100,000			
Surface water quality	230,000		70,000	60,000	100,000			
<b>OPERATION</b>								
<b>Internal monitoring</b>								
Noise (roads)	80,000		30,000	20,000	30,000			
Surface water quality (roads)	80,000		30,000	20,000	30,000			

Item	Total cost 5 years	PMO	IA Fukang	IA Hubuti	IA Qitai	Contractors Fukang	Contractors Hubuti	Contractors Qitai
Landfill gas (existing landfill)	30,000				30,000			
<b>External monitoring</b>								
Noise, dust and odor (landfill)	40,000				40,000			
Groundwater (landfill)	120,000				120,000			
Rehabilitation of existing landfill	100,000				100,000			
Drinking water quality (Qitai No.3 WTP)	180,000				180,000			
<b>Sub-total</b>	<b>1,490,000</b>	<b>0</b>	<b>335,000</b>	<b>205,000</b>	<b>780,000</b>	<b>60,000</b>	<b>40,000</b>	<b>70,000</b>
<b>TRAINING (EMP Table A1.8)</b>								
EMP implementation	72,000	72,000						
GRM	24,000	24,000						
Environmental monitoring	36,000	36,000						
WTP-safeguards	6,000	6,000						
Landfill - safeguards	18,000	18,000						
Wetland and forests env. management	6,000	6,000						
<b>Sub-total</b>	<b>162,000</b>	<b>162,000</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	
<b>GRAND TOTAL CNY</b>	<b>3,937,000</b>	<b>177,000</b>	<b>405,000</b>	<b>215,000</b>	<b>790,000</b>	<b>955,000</b>	<b>525,000</b>	<b>870,000</b>
<b>Total USD (USD1=CNY6.9)</b>	<b>570,580</b>	<b>25,652</b>	<b>58,696</b>	<b>31,160</b>	<b>114,492</b>	<b>138,406</b>	<b>76,087</b>	<b>126,087</b>
<b>Proportion of total (%)</b>	<b>100.00%</b>	<b>4.50%</b>	<b>11.68%</b>	<b>5.33%</b>	<b>18.80%</b>	<b>24.26%</b>	<b>13.34%</b>	<b>22.10%</b>

GRM = Grievance Redress Mechanism; WTP = water treatment plant.

## L. Public Consultation Plan

38. Two rounds of public consultation, including information dissemination, have been undertaken during the PPTA and are described in Chapter VII of the IEE. Plans for public involvement during the detailed design, construction and operation phases have also been developed during project preparation. 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 sub-components are completed.

39. Public participation plans are part of the project implementation and management plan. The IAs are responsible for public participation during project implementation and operation. Costs for public participation activities during construction are covered by project funding. The unit costs are estimated as CNY5,000 (\$770) for each public workshop, and CNY6,000 (\$920) for each press conference.

**Table A1.10: Public Consultation Plan**

Organizer	Format	Frequency	Subject	Attendees
<b>Pre-Construction Stage</b>				
PMO, IAs, PIUs, LIEC	Targeted public consultation & site visits	Before construction at each site	Agreement with affected persons and sensitive receivers on heavy machinery work. Consultation on safety of nearby communities.	Affected persons in impacts zone of construction activities
<b>Construction Stage</b>				
PMO, IAs, PIUs, LIEC	Public consultation & site visits	Once each year during construction	Adjusting of mitigation measures, if necessary; construction impact; comments and suggestions	Residents in project areas
PMO, LIEC	Public opinion	Once at MTR stage	Public satisfaction with EMP implementation	Residents in project areas
<b>Operational Stage</b>				
PMO, O&M Units, LIEC	Public consultation and site visits	Once in the first year	Effectiveness of mitigation measures, impacts of operation, comments and suggestions	Residents in project areas
LIEC, PMO	Public satisfaction survey	Once at PCR stage	Public satisfaction with EMP implementation. Comments and suggestions	Residents in project areas
EPB = Environmental Protection Bureau, PMO = Project management office, LIEC = Loan implementation environment consultant; MTR = midterm review; PCR = project completion review				

## **ANNEX A. DRAFT TERMS OF REFERENCE: PMO ENVIRONMENT OFFICER (PMO-EO)**

### **I. BACKGROUND**

1. Development projects which are assisted by the Asian Development Bank (ADB) routinely require the establishment of a Project Management Office (PMO). The PMO is responsible for project implementation. Compliance with the Loan and Project Agreements includes implementation of an Environment Management Plan (EMP), which is prepared as part of the project environment impact assessment. The EMP is the critical guiding document to manage, monitor, and report upon potential project environmental impacts. Implementation of the EMP is a full-time task. For this reason, the PMO assigns a full-time officer for this role. These terms of reference describe the requirements for this officer.

### **II. SCOPE AND DURATION OF WORK**

2. The officer will work on behalf of the PMO to implement the project EMP. The officer will report directly to the PMO. The position is for the entire project duration (five years).

### **III. QUALIFICATIONS**

3. The officer will have: (i) an undergraduate degree or higher in environmental management or related field; (ii) at least five years of experience in environmental management, monitoring, and/or impact assessment; (iii) ability to communicate and work effectively with local communities, contractors, and government agencies; and (iv) ability to analyze data and prepare technical reports. Desirable, but not essential, is a proficiency in spoken and written English.

### **IV. DETAILED TASKS**

4. The PMO Environment Officer will have a detailed understanding of the project EMP and supporting documents, including the domestic environmental reports, the project EIA, and project environmental assurances. The officer will have the following tasks.

- (i) Assess whether the EMP requires updating due to any changes in project design which may have occurred after the EMP was prepared.
- (ii) Distribute the Chinese language version of the EMP to all relevant agencies, including the implementing agencies, provincial and municipal agencies for environment protection. This should occur at least three months before construction begins.
- (iii) Conduct meetings with agencies as necessary to ensure they understand their specific responsibilities described in the EMP.
- (iv) Ensure that relevant mitigation, monitoring and reporting measures in the EMP are included in the bidding documents, contracts and relevant construction plans.
- (v) Confirm that the Implementing Agencies (IAs) responsible, through their contractors, for the internal environment monitoring described in the EMP understand their tasks and will implement the monitoring in a timely fashion.
- (vi) At least two months before construction begins, establish and implement the project Grievance Redress Mechanism (GRM) described in the EMP. This will include: (a) prepare a simple table and budget identifying the type, number and cost of materials needed to inform local communities about the GRM and starting dates and scope of construction; (b) design, prepare and distribute these materials, and plan and conduct the community meetings; (c) prepare a form to record any public complaints; (d) prepare

a summary table to record all complaints, including dates, issues, and how they were resolved; and (e) ensure that all relevant agencies, including contractors, understand their role in the GRM.

- (vii) Prior to construction, ensure that IAs and their contractors have informed their personnel, including all construction workers, of the EMP requirements. This will include all mitigation measures relating to impacts to air, water, noise, soil, sensitive sites, ecological values, cultural values, worker and community health and safety, respectful behavior when communicating with local communities, and responding to and reporting any complaints.
- (viii) During project construction, make regular site visits with LIEC to assess progress, meet with contractors and/or local communities, and assess compliance with the EMP.
- (ix) Ensure that all relevant agencies submit required progress reports and information, including environmental monitoring and reports of any issues or grievances.
- (x) Compile, review, and store environmental progress reports from the IAs, records of any grievances, and any other relevant issues. Maintain digital copies of all information. When necessary, enter data into summary tables in digital format (e.g. to transfer records of grievances from hard copy forms). Ensure that all information is stored in the PMO filing system, backed up, and can be easily retrieved.
- (xi) Prepare environment progress reports for ADB.
- (xii) Work closely with the PMO, IAs, loan implementation consultants, and other agencies and personnel as necessary to conduct these tasks.

## **V. REPORTING REQUIREMENTS**

Annual environment monitoring reports, using the template provided by ADB or a domestic format reviewed and approved by ADB.

## **VI. LOGISTICAL SUPPORT PROVIDED BY PMO TO THE ENVIRONMENT OFFICER**

- (i) Provision of hard and soft copies of the project EMP, domestic and project environmental reports, feasibility study reports, loan and project agreements, maps, and other supporting materials as necessary to ensure the officer can implement the tasks.
- (ii) Vehicle transport, office materials, and other logistical support as necessary for the officer to visit the project construction sites and local communities, arrange and conduct meetings, and prepare and distribute consultation materials.
- (iii) Overall coordination, including review of the draft annual monitoring reports and final responsibility for submission of the monitoring reports to ADB.

## **ANNEX B. DRAFT TERMS OF REFERENCE: LOAN IMPLEMENTATION ENVIRONMENTAL CONSULTANT (LIEC)**

### **I. BACKGROUND**

1. Implementation of the Project will be overseen and coordinated by a Project Management Office (PMO). The PMO will be assisted by a Loan Implementation Consultant team. The Loan Implementation Environmental Consultants (LIEC) will be a part of this team and will assist the PMO with implementation of the project Environmental Management Plan (EMP).

### **II. SCOPE AND DURATION OF WORK**

2. This position could be a firm or individuals (one national, 10 person-months) engaged by the PMO. It is not part of the PMO in-house environmental specialist or the implementing agencies. The specialists will report directly to the PMO. The positions are for the entire project duration (5 years). The LIEC should be recruited as soon as possible after loan effectiveness, as the first task is to confirm project environmental readiness (EMP Table A1.4).

### **III. QUALIFICATIONS**

3. The specialists will have: (i) a Masters degree or higher in environmental management or related field; (ii) at least five years of experience in environmental management, monitoring, and/or impact assessment; (iii) familiarity with ADB project management requirements and national environmental management procedures; (iv) ability to communicate and work effectively with local communities, contractors, and government agencies; (v) ability to analyze data and prepare technical reports; and (vi) proficiency in spoken and written English.

### **IV. TASKS**

#### **Before construction**

- (i) Ensure project environmental readiness, including: (a) checklist in Table A1.4 of the EMP is achieved; (b) all contractor contracts include, and will comply with, the EMP; and (c) relevant sections of the EMP are incorporated in construction plans and contracts.
- (ii) Assist the PMO to implement the GRM, including: (a) establish and publicize the GRM; and (b) collate and evaluate grievances received.
- (iii) Develop procedures to: (a) monitor EMP implementation progress; (b) collate and evaluate data collected in the EMP environmental monitoring program; and (c) prepare and submit the annual environmental monitoring reports to ADB (to continue until Project Completion Report).
- (iv) Undertake training of project agencies as required by the EMP training plan.
- (v) Provide hands-on support and on-the-job training to the PMO, IAs and contractors on the specific requirements of the EMP as required.

#### **During project implementation**

- (i) Undertake site visits to all IAs and project sites during subproject construction and operating phase.
- (ii) Assist in the ongoing public consultation process as described in the EMP Table A1.10.
- (iii) Conduct EMP compliance assessments, identify any environment-related implementation issues, and propose necessary responses in corrective action plans.
- (iv) Report to ADB yearly on results of EMP compliance reviews.
- (v) Assist in training of project agencies as required by the EMP training plan (EMP Table A1.8).
- (vi) Assist PMO to prepare annual environmental monitoring progress reports for submission to ADB.

## **ANNEX C: TERMS OF REFERENCE FOR IA ENVIRONMENTAL SUPERVISOR (IA-ES)**

### **I. BACKGROUND**

Development projects which are assisted by the Asian Development Bank (ADB) require compliance with the Loan and Project Agreements. This includes implementation of an Environment Management Plan (EMP), which is prepared as part of the project environment impact assessment. The EMP is the critical guiding document to manage, monitor, and report upon potential project environmental impacts. Implementation of the EMP by each IA and their contractors requires the full time assignment of an Environmental Supervisor within the construction management team of each IA. These terms of reference describe the requirements for this officer.

### **II. SCOPE AND DURATION OF WORK**

The IA-ES will work with the PMO Environment Officer, contractors and other relevant personal, to implement the EMP. The IA-ES will report to IA construction manager. Duration will be for the project implementation period up to Project Completion Report stage.

### **III. QUALIFICATIONS**

The IA-ES will have: (i) an undergraduate degree or higher in a relevant field; (ii) experience in environmental management, monitoring, and/or impact assessment; (iii) ability to communicate and work effectively with local communities, contractors, and government agencies; (iv) ability to analyze data and prepare technical reports; and (v) willingness and health to regularly visit the sub-project sites.

### **IV. DETAILED TASKS**

Working closely with the PMO Environment Officer, and contractors, each IA-ES will:

1. Develop a high level of familiarity with the EMP;
2. Assist the contractors to prepare Site Management Plans for each major work location, which incorporates all relevant EMP provisions;
3. Assist the PMO-EO in setting up and publicizing the GRM at the local level;
4. Coordinate the receipt of complaints and corrective responses at the local level for the GRM.
5. Undertake, coordinate and supervise internal monitoring as per EMP Table A1.5.
6. Receive and evaluate monthly reports of work performance from contractors
7. Prepare environmental monitoring reports for quarterly submission to the PMO.
8. Attend training as required.

### **V. REPORTING REQUIREMENTS**

Quarterly environmental reports to the PMO, using the template provided by ADB or a domestic format reviewed and approved by ADB.



## **ANNEX D: TERMS OF REFERENCE FOR EXTERNAL MONITOR**

### **I. BACKGROUND**

1. The government of the People's Republic of China (PRC) has requested the Asian Development Bank (ADB) to provide financial support for the proposed Xinjiang Changji Integrated Urban–Rural Infrastructure Demonstration Project (the project). The Project will support the priorities of the Changji Hui Autonomous Prefecture (CHAP) Government on integrated urban and rural development, as well as economically and socially inclusive urbanization. Outputs under the project will include: Improved urban services infrastructure (water transmission and distribution pipelines and a sanitary landfill and garbage transfer station for Qitai); constructed or rehabilitated urban–rural road infrastructure in Fukang, Hutubi, and Qitai; and establishment of windbreak and ecological forests in Fukang; construction of technical and vocational skills training facilities in Fukang; and development of project management capacity of government agencies and community groups.

2. Compliance with the Loan and Project Agreements includes implementation of an Environment Management Plan (EMP), which is prepared as part of the project environment impact assessment. Implementation of the Project will be overseen and coordinated by the Changji Project Management Office (PMO). The PMO will engage a licensed qualified external environmental monitoring entity. External monitoring support will provide assistance to the CHAP Government and PMO in monitoring and supporting project implementation in compliance with the environmental management plan (EMP) and ADB's safeguards policy.

### **II. SCOPE AND DURATION OF WORK**

3. An external environment monitor will be engaged intermittently for the entire duration of project implementation. The consultant firm/institute with estimated total input of 6 person-months of national consultants will be engaged by consultants' qualifications selection (CQS) method.

### **III. TEAM COMPOSITION, QUALIFICATIONS AND TASKS**

4. The External Environmental Monitor team will comprise (i) an Environment Management and Monitoring expert/team leader and (ii) an Environment Monitoring expert.

**Environment Management and Monitoring expert/team leader (national expert: 2 person-months)**

#### ***Qualifications:***

5. Qualifications for the position include a masters degree or equivalent in environmental engineering with more than 10 years' relevant experience including 8 years' environmental impact assessment (EIA) and management experience, or professional experience in 4 international financial organization loan projects; familiarity with PRC and ADB requirements for environmental management is a plus; ability to prepare comprehensive environmental impact monitoring and assessment reports; relevant experience in similar ADB projects in the PRC is preferred.

**Tasks:**

- i. Team coordination and planning of external monitoring;
- ii. Conduct routine inspection on EMP implementation;
- iii. Provide advice to the IAs to optimize technical design of the project works from environmental aspect; assure the environmental mitigation measures are well undertaken in construction and operation;
- iv. Review project progress and compliance with the EMP based on field visits, and review the environmental impact monitoring conducted by contractors, CSCs and facility operators, and the Changji EMS. The findings will be reported in the format acceptable to ADB.

**Environment Monitoring expert (national expert: 4 person-months in total)****Qualifications:**

6. Masters degree or equivalent in environmental engineering with more than 8 years' relevant experience including 5 years' EIA and management experience, or professional experience in 2 international financial organization loan projects; familiarity with PRC and ADB requirements for environmental management is desirable; ability to prepare comprehensive environmental impact monitoring and assessment reports; relevant experience in similar ADB projects in China is preferred.

**Tasks:**

- i. Conduct routine inspection on EMP implementation;
- ii. Provide advice to the IA to optimize technical design of the project works from environmental aspect; assure the environmental mitigation measures are well undertaken in construction and operation;
- iii. Review project progress and compliance with the EMP based on field visits, and review the environmental monitoring conducted by contractors, CSCs and facility operators, and the Changji EMS. The findings will be reported in the format acceptable to ADB.
- iv. Assist the team leader in carrying out external monitoring activities.

**IV. REPORTING REQUIREMENTS**

7. During the service period, the consultant company shall prepare reports in accordance with ADB overall project management requirements. These will comprise annual External Environmental Monitoring Reports covering the construction phase and the operations phase until the Project Completion Report stage.