



Report and Recommendation of the President to the Board of Directors

Project Number: 43024
June 2011

Proposed Loan
People's Republic of China: Xinjiang Altay Urban
Infrastructure and Environment Improvement Project

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 1 June 2011)

Currency Unit	–	yuan (CNY)
CNY1.00	=	\$0.15
\$1.00	=	CNY6.48

ABBREVIATIONS

3Rs	–	reduction, reuse, and recycling
ADB	–	Asian Development Bank
APG	–	Altay Prefecture Government
CAREC	–	Central Asia Regional Economic Cooperation
EIA	–	environmental impact assessment
EIRR	–	economic internal rate of return
LIBOR	–	London interbank offered rate
O&M	–	operation and maintenance
PAM	–	project administration manual
PIU	–	project implementation unit
PMO	–	project management office
PRC	–	People's Republic of China
XUAR	–	Xinjiang Uygur Autonomous Region
XUARG	–	Xinjiang Uygur Autonomous Region Government

WEIGHTS AND MEASURES

ha	–	hectare
km	–	kilometer
m ²	–	square meter
m ³ /day	–	cubic meter per day

NOTE

In this report, "\$" refers to US dollars.

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PROJECT AT A GLANCE

1. Project Name: Xinjiang Altay Urban Infrastructure and Environment Improvement Project		2. Project Number: 43024	
3. Country: People's Republic of China		4. Department/Division: East Asia Department/Urban and Social Sectors Division	
5. Sector Classification:			
		Sectors	Primary
		Multisector	
			Energy efficiency and conservation
			Urban transport
			Waste management
			Water supply and sanitation
6. Thematic Classification:			
		Themes	Primary
		Economic growth	√
		Social development	Promoting economic efficiency and enabling business environment
		Environmental sustainability	Human development
			Urban environmental improvement
6a. Climate Change Impact		6b. Gender Mainstreaming	
Adaptation		Effective gender mainstreaming (EGM)	
Mitigation		Gender equity theme (GEN)	
		No gender elements (NGE)	
		Some gender benefits (SGB)	
7. Targeting Classification:		8. Location Impact:	
General Intervention	Targeted Intervention		
	Geographic dimensions of inclusive growth	Millennium development goals	Income poverty at household level
√			
		Urban	
		High	
9. Project Risk Categorization: Complex			
10. Safeguards Categorization:			
		Environment	A
		Involuntary resettlement	A
		Indigenous peoples	B
11. ADB Financing:			
	Sovereign/Nonsovereign	Modality	Source
	Sovereign	Project loan	Ordinary capital resources
	Total		100.0
			100.0
12. Cofinancing:			
No cofinancing available.			
13. Counterpart Financing:			
	Source	Amount (\$ Million)	
	Government	68.5	
	Total	68.5	
14. Aid Effectiveness:			
	Parallel project implementation unit	No	
	Program-based approach	No	

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to the People's Republic of China (PRC) for the Xinjiang Altay Urban Infrastructure and Environment Improvement Project.¹

2. The project will improve urban infrastructure facilities and the environment in five border counties (Buerjin, Fuhai, Habahe, Jimunai, and Qinghe) of Altay Prefecture (Altay) in the Xinjiang Uygur Autonomous Region (XUAR), which will help upgrade urban living conditions and rehabilitate the environment. Improving urban infrastructure will contribute to long-term poverty reduction and improve the quality of life, particularly the health status of about 100,000 urban residents, in five project counties.²

II. THE PROJECT

A. Rationale

3. The development of XUAR is a top priority for the PRC. XUAR is one of the poorest and most remote regions in the northwest with a large ethnic minority population of 46% Uygur and 15% other minority ethnic groups.³ Around 97% of the population lives in an oasis belt covering only 8% of the region's total land area. Water availability is a critical concern to the fragile ecology of XUAR, which is predominantly a desert territory characterized by strong winds, low rainfall, and a high evaporation rate. Recognizing the need for greater national support, the Government of the PRC inaugurated a counterpart or twinning scheme whereby assistance from other provinces and/or municipalities will be used to strengthen capacity in XUAR and improve local living standards. In May 2010, the government outlined a number of policies and measures to aid XUAR's development. Nineteen nominated provinces and/or municipalities will provide financial contributions from 2011 to 2020 to achieve noticeable impacts. Under this scheme, Heilongjiang and Jilin provinces in the northeast PRC will jointly support project counties in Altay.

4. Altay is the northernmost area in XUAR. It comprises one city (Altay City) and six counties (Buerjin, Fuhai, Fuyun, Habahe, Jimunai, and Qinghe); and shares a border totaling 1,175 kilometers (km) with Kazakhstan, Mongolia, and the Russian Federation. Altay's total population of 658,000 comprises 51.4% Kazakh, 41.6% Han, and 7% other ethnic groups. While 44% of the population is urban, about 16% of the urban population lives below the official poverty line, with Jimunai and Qinghe designated as national poverty counties. The XUAR and Altay Prefecture governments have accorded high priority to infrastructure improvement, which will also benefit neighboring countries through the Central Asia Regional Economic Cooperation (CAREC)⁴ program. The Asian Development Bank (ADB) supports the promotion of regional trade through this program and is working with other development partners to advance cross-border cooperation. Along with other areas in XUAR, Altay City and Kanas Scenic Zone in

¹ The design and monitoring framework is in Appendix 1.

² ADB provided project preparatory technical assistance. ADB. 2009. *Technical Assistance to the People's Republic of China for Preparing the Xinjiang Altay Urban Infrastructure and Environment Improvement Project*. Manila.

³ All data refers to Government of the PRC. 2009. *PRC Statistical Yearbook*. Beijing; and Xinjiang Uygur Autonomous Region Government, 2009. *XUAR Statistical Yearbook*. Urumqi (in Chinese, unless otherwise stated).

⁴ ADB initiated the CAREC program in 1997. Its goal is to improve living standards and to reduce poverty in CAREC countries through more efficient and effective regional economic cooperation. To date, the program has focused on financing infrastructure projects and improving the region's policy environment in priority areas of transport, energy, and trade policy and facilitation. ADB. 2006. *Technical Assistance to the People's Republic of China for Logistics Development and Capacity Building in Xinjiang Uygur Autonomous Region*. Manila.

Buerjin are involved in two ongoing ADB-loan-funded urban projects in the region.⁵

5. Altay suffers from a very harsh climate, with subzero temperatures between October and March, and annual precipitation of about 180 millimeters but high evaporation of about 2,000 millimeters. It has scenic mountains, lakes, rivers, desert, and meadows, making tourism one of its pillar industries. Currently, its top-ranked tourist destination is the Kanas Scenic Zone, followed by other developing tourist destinations such as the White Birch Scenic Area in Habahe, and Qinghe. Altay has four land ports with access to Kazakhstan and Mongolia. While tourism and cross-border trade have the potential to contribute to economic growth and job creation, particularly for the ethnic population residing in these border towns, it also relies on good accommodation, excellent delivery of municipal services, safe and available transport, and a pristine environment.

6. Across Altay, infrastructure facilities are inadequate to meet existing demand and hinder the expansion of local economies. Road surfaces are severely damaged by winter freezing and traffic, and the road network is incomplete. Utilities are either nonexistent or are old, fragile, and mostly insufficient, resulting in frequent service failures and environmental pollution. Water supply capacity is restricted by inadequate infrastructure and water quality is compromised by high seasonal turbidity. Most of the county areas lack sewers, and wastewater treatment capacity is marginal. Refuse collection and disposal are poorly managed, and most landfills resemble unregulated dumping grounds. Decentralized heating plants have low-efficiency, coal-fired boilers while hot water distribution has limited coverage, thus creating serious pollution problems in urban areas. All of these threaten human health, pollute the environment, and constrain necessary improvements in living standards. Therefore, comprehensive urban infrastructure improvements are needed urgently.⁶

7. In view of the experiences and lessons obtained from the previous urban projects in the PRC, the project design features multisector integrated approaches. The project will thus provide essential road, water supply, wastewater and solid waste management, and centralized heating infrastructure to five county seat towns in Altay and the Takeshiken Land Port. The holistic approach to better infrastructure will (i) improve living conditions and the urban environment, (ii) support tourism to enhance inclusive growth, and (iii) help raise the efficiency at land ports. This will assist Altay's growing cross-border trade and tourism, create favorable conditions for trade-related investment and employment, and expedite the development of the processing and service industries, all critical for poverty alleviation.

8. **Low-impact urban development with low carbon footprint.** The project will support the government's strategy in the 12th Five-Year Plan to build environment-friendly and resource-efficient towns. A parallel technical assistance initiated by ADB—the Resource-Efficient Towns Development in the Xinjiang Altay Area⁷—has highlighted initiatives to limit impacts of urban activity on the environment. This technical assistance developed a plan⁸ to promote reduction, reuse, and recycling (3Rs) approaches to municipal service delivery and the application of renewable energy use, which have been incorporated in the project design and implementation. In particular, the promotion of the 3Rs will recommend service delivery improvements such as solid waste recycling, water demand management, wastewater effluents

⁵ ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Xinjiang Municipal Infrastructure and Environmental Improvement Project*. Manila; and ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Xinjiang Urban Transport and Environmental Improvement Project*. Manila.

⁶ Sector Assessment (Summary): Multisector (accessible from the list of linked documents in Appendix 2).

⁷ Funded under ADB. 2009. *Technical Assistance for Project Preparation Support for Livable Cities in Asia*. Manila. (TA 7450-REG).

⁸ A Demonstration Plan for Application of Renewable Energy and Reduction, Reuse, and Recycling of Resources (accessible from the list of linked documents in Appendix 2).

and sludge reuse, and the introduction of renewable energy. It also provides for a public information and training campaign to build awareness and ensure the effective application of the 3Rs principle. Wastewater treatment schemes will also provide effluents and sludge suitable for irrigation and fertilization of windbreak forest in arid lands, thus avoiding the need to abstract raw river water or discharge polluting effluents to the rivers, which addresses water scarcity by saving the raw water and also conforms to ADB's Water Policy.⁹ Well-managed potable water supply, wastewater reuse, solid waste recycling, and reduced pollution through improvements in the centralized heating system are vital in keeping the environment and economy sustainable.

9. Enhanced long-term operational efficiency and sustainability. The project is consistent with ADB's strategic priorities in support of urban infrastructure development. Based on the lessons learned on the importance of securing operation sustainability, the project will provide an institutional capacity building program for implementing agencies and for future operation and maintenance (O&M) units. Owing to the small scale and remote location, an individual component may not have either the skilled personnel or the capacity to engage them full-time. Therefore, the project will set up regional technical support groups for municipal engineering management. Under the scheme, the project counties will develop and share their technical capacities.

B. Impact and Outcome

10. The impact will be better living standards and conditions in the project counties. The outcome will be integrated and more efficient municipal services in the project counties of Altay.

C. Outputs

11. The project will implement 26 components based on seven main outputs. These are (i) construction and/or upgrading of 59.1 km of roads of varying widths and capacities, including lighting, signage, and traffic controls; (ii) water supply including better quality raw water abstraction, four new water supply plants with a total capacity of 16,890 cubic meters per day, and laying of water pipes with a total length of 153.3 km; (iii) wastewater treatment and disposal consisting of six new wastewater treatment plants with a total capacity of 31,200 cubic meters per day and 78 km of collector and trunk sewers; (iv) solid waste management comprising five new sanitary landfills with a total capacity of 238 tons per day, 11 km of access roads, 10-kilovolt power line, transfer stations, multiple waste collection points, and provision of transport and auxiliary equipment, and environmental improvement of five existing landfills; (v) centralized heating supply including two new or upgraded central-heating, coal-fired boiler stations, 15 heating exchange stations, and heating pipes with a length of 17.8 km; (vi) construction of infrastructure in White Birch Forest Scenic Area; and (vii) capacity building that will include intensive project management and implementation training for the Altay project management office (PMO) and county PMOs, and additional capacity assistance for other agencies concerned.¹⁰ A detailed description of the outputs and components is in the project administration manual (PAM).¹¹

D. Investment and Financing Plans

12. The project is estimated to cost \$168.52 million (Table 1).

⁹ ADB. 2003. *Water for All: The Water Policy of the Asian Development Bank*. Manila (adopted in 2001).

¹⁰ Including project implementing units, O&M agencies, county environmental protection bureaus, and agencies involved with social and resettlement issues.

¹¹ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Table 1: Project Investment Plan (\$ million)

Item	Amount^a
A. Base Cost^b	
1. Roads construction and upgrading	61.05
2. Water supply	22.72
3. Wastewater management	19.87
4. Heat supply	14.49
5. Solid waste management	19.87
6. New infrastructure construction in the White Birch Forest Scenic Area	3.89
7. Capacity building	1.50
Subtotal (A)	143.38
B. Contingencies^c	17.73
C. Financing Charges During Implementation^d	7.41
Total (A+B+C)	168.52

^a Includes taxes and duties of \$9.57 million to be financed by the government and the Asian Development Bank (ADB) loan. The ADB loan will cover taxes, duties, transportation, and insurance costs on items financed by ADB. ADB agreed to finance taxes and duties under this project, after due consideration and upon finding that the amount of taxes and duties does not constitute an excessive share of project costs.

^b In 2010 prices.

^c Physical contingencies computed at 5%. Price contingencies computed at an average of 0.4% on foreign exchange costs and an average of 3.96% on local currency; includes provision for potential exchange rate fluctuation under the assumption of the purchasing power parity exchange rate.

^d Includes interest and commitment charges. Interest during construction for the ADB loan has been computed at the 5-year forward London interbank offered rate plus a spread of 0.3%. Commitment charges for the ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

Note: Numbers may not sum precisely because of rounding.

Source: ADB estimates.

13. The government has requested a loan of \$100 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 6 years, an interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.15% per year, interest and other charges during construction to be capitalized in the loan, and such other terms and conditions as set forth in the draft loan and project agreements. The loan will cover civil works, equipment, project management consulting services, and capacity building. The government will finance the remaining \$68.52 million of project cost, including contingencies. The government has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility based on these terms and conditions, and (ii) an undertaking that these choices were its own independent decision and not made in reliance on any communication or advice from ADB. The financing plan is in Table 2 and is further detailed in the PAM.

14. **Relending arrangements.** The borrower of the loan is the PRC. The loan proceeds will be entirely made available to the Xinjiang Uygur Autonomous Region Government (XUARG), upon terms and conditions satisfactory to ADB. XUARG, through the Altay Prefecture Government (APG), will make the loan proceeds available to the project county governments in the amounts indicated in the loan agreement. The relending terms and conditions of the loan proceeds will be the same as those of the ADB loan. Each county government will bear the foreign exchange and interest rate variation risks in proportion to the loan amount it receives. The indicative flow of funds and relending arrangements are in the PAM.

Table 2: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank	100.00	59.0
Government	68.52	41.0
Total	168.52	100.0

Source: Asian Development Bank estimates.

E. Implementation Arrangements

15. A Xinjiang project leading group and Xinjiang PMO were formally established by XUARG in 2006 and have now been assigned the role of overseeing and managing the preparation and implementation of the project. All project components are located within the jurisdiction of the Altay Prefecture and APG will be the project executing agency. The Altay project leading group, established in 2007, will be responsible for providing policy guidance for the project within the prefecture. APG, through the Altay PMO, will undertake detailed project coordination, and will engage and supervise the technical engineering design institutes, project implementation consultants, and external social and environmental monitors involved in the project. The Altay PMO will also manage the procurement process. Both the Xinjiang and Altay PMOs have previous experience in implementing ADB-financed projects. Each project county's government will be the implementing agency for the project components carried out in its jurisdiction. Each implementing agency will designate its county urban construction bureau to be the project implementation unit (PIU). The implementation arrangements are summarized in Table 3 and described in detail in the PAM.

Table 3: Implementation Arrangements

Aspects		Arrangements
Implementation period		July 2011–December 2017
Estimated completion date		31 December 2017
Loan closing date		30 June 2018
Management		
(i) Oversight body	Xinjiang PLG and Xinjiang PMO	Xinjiang PLG is chaired by XUARG vice governor and includes: (i) XUARG deputy secretary-general; (ii) senior officials from XUARG Development and Reform Commission, XUARG Finance Bureau, and XUARG Housing and Urban-Rural Development Bureau; and (iii) APG vice governor. Xinjiang PMO includes staff from the agencies listed in (ii) above.
(ii) Executing agency	APG	Altay PLG is chaired by APG vice governor, and senior officials from Altay Development and Reform Commission, Altay Finance Bureau, Altay Construction Bureau, Altay Poverty Alleviation Office, Altay Traffic Bureau, Altay Water Resources Bureau, Altay Audit Bureau, Environmental Protection Bureau, Altay Land Resources Bureau, and Altay Resettlement Bureau. Altay PMO includes staff from the above-listed agencies.
(iii) Implementing agencies	County governments of Buerjin, Fuhai, Habahe, Jimunai, and Qinghe	Each county has set up a PMO to coordinate and resolve interdepartmental issues.
(iv) O&M units	A mixture of public institutions, state-owned enterprises, and private enterprises	Most of the O&M units nominated are the current service providers. This enables the best use of existing local O&M capacity.

Aspects		Arrangements	
Procurement	ICB	4 contracts	\$10.4 million
	NCB	74 contracts	\$111.5 million
	Shopping	1 contract	\$0.01 million
Consulting services	QCBS	111 person-months	\$1.50 million
Retroactive financing and/or advance contracting	Advance contracting and retroactive financing approved	Five civil works contracts and a consulting service contract will be procured through advance contracting. Up to \$20 million (20% of the ADB loan) incurred before loan effectiveness but not earlier than 12 months before the loan agreement is signed.	
Disbursement	The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2007, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank, APG = Altay Prefecture Government, ICB = international competitive bidding, NCB = national competitive bidding, O&M = operation and maintenance, PLG = project leading group, PMO = project management office, QCBS = quality- and cost-based selection, XUAR = Xinjiang Uygur Autonomous Region, XUARG = Xinjiang Uygur Autonomous Region Government.

Source: ADB.

16. The project includes funding for international and national consulting services to support the executing agency and implementing agencies in addition to building capacity of the O&M units.¹² The terms of reference for consulting services are in the PAM.

III. DUE DILIGENCE

17. The project will directly benefit about 100,000 people in Altay, of which about 16,000 or 16% live below the official poverty line. It will improve infrastructure facilities and the urban environment in five border counties of Altay through building road network facilities; new water supply, wastewater, and solid waste treatment facilities; central heating systems; and enhancing water resources management, solid waste recycling, and disposal management. Net environmental benefits will also be gained from the closure of polluting and inefficient landfills, wastewater treatment facilities, and heating centers. The reuse of wastewater in revegetating desert fringe areas will also prevent land degradation.

A. Technical

18. All project components are designed taking into account local circumstances, topography, and climate (predominantly flat arid terrain but with long, harsh winters), and in accordance with relevant PRC design guidelines and local regulations. The processes selected for water and wastewater treatment as presented in local feasibility study reports are relatively easy to operate and maintain, and appropriate for small towns where technical capacity is limited. The component designs also incorporate the 3Rs approaches and renewable energy use. Capacity building to ensure adequate skills for O&M will be financed under the loan.

B. Economic and Financial

19. Economic analysis¹³ (cost–benefit) was conducted for 15 of the 26 components and included the calculation of the economic internal rate of return (EIRR). The economic opportunity cost of capital was assumed to be 12%. The EIRR of all components analyzed ranged from 14.5% to 18.7%, and was thus above the economic opportunity cost of capital. For the 11 components for which the EIRR was not calculated, a least-cost (cost-effectiveness)

¹² To be provided through a firm using quality- and cost-based selection in accordance with ADB's Guidelines on the Use of Consultants (2010, as amended from time to time).

¹³ Economic Analysis (accessible from the list of linked documents in Appendix 2).

analysis was applied. Financial analysis¹⁴ of components was undertaken to determine the capacity of implementing agencies to recover project costs, including debt service obligations and O&M costs. The financial internal rate of return was calculated for revenue-generating components. Financial internal rates of return for the sectors are: 4.8% for solid waste, 14.3% for heating, 3.9% for wastewater, and 4.1% for water supply. These figures are all above the average weighted cost of capital, which ranges from 2.3% to 2.7% for separate sectors.

20. Tariffs for water, wastewater, and solid waste will need to be increased when the ADB-financed facilities come into operation. Tariffs will be increased gradually until full cost recovery is achieved, taking into account affordability factors.¹⁵ Subsidies will be provided to cover O&M where revenues are insufficient. The tariff subsidy for the poor (minimum living standards guarantee recipients) will be maintained. The project will provide capacity building on tariff setting and tariff reforms. The affordability of tariffs was calculated for all households and for the subset of low-income (poor) households. Combined tariffs for water, wastewater, and solid waste ranged from 0.5% to 1.9% of the income for average households across project counties, and between 0.6% and 2.3% for low-income households. For project counties with heating subcomponents, combined tariffs for water, wastewater, solid waste, and heating ranged from 1.2% to 3.6% of the income of average households and between 1.5% and 3.9% for low-income households. This is within the acceptable range of affordability, as measured against the international benchmark that such services should not exceed 5% of household income. Regarding the 10 nonrevenue-generating components, a sustainability analysis was undertaken of county governments' revenues and expenditures. They indicate that the project will not put undue strain on their ability to provide counterpart funds during implementation and meet debt servicing. Project counterpart requirements in the highest year (2012), when compared with revenues in 2009, range from 2.5% to 5.0% of the governments' revenue base. A financial management assessment concluded that the financial management capacity of implementing agencies is adequate for the implementation of the project.

C. Governance

21. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with XUARG, APG, and the project county governments. The procurement capacity assessment concluded that procurement capacity of the Altay PMO and the procedural arrangements in place are adequate to enable full compliance with ADB procurement guidelines. The specific policy requirements and supplementary measures are described in the PAM.

D. Poverty and Social

22. Living conditions in areas of the project county seats are poor, particularly during winter and spring, when garbage accumulates and well water becomes contaminated. The project will provide households with access to safe and reliable water supply, and better roads, heating, and physical living environment. Public awareness programs and implementation of the 3Rs principle will ensure the positive and long-term social benefits of the project. Unemployment is the main cause of poverty in the project counties, and job creation will have a significant impact on poverty reduction. Construction activities will directly create 1,465 temporary jobs, and indirectly 3,809 temporary jobs. The O&M will directly create an estimated 353 permanent jobs, and indirectly 565 jobs. Many temporary jobs will be unskilled, and contractors are required to employ local workers when possible. The Altay PMO has set employment targets for women and ethnic minorities. County community offices and the Labor Bureau will assist the contractors in realizing these targets. Implementing agencies will ensure that all PRC labor laws and core labor standards are respected. This will be closely monitored under the project performance

¹⁴ Financial Analysis (accessible from the list of linked documents in Appendix 2).

¹⁵ Project Agreement (accessible from the list of linked documents in Appendix 2).

monitoring system. Details on specific measures to ensure the poverty and social benefits are in the gender action plan, social action plan in the PAM, and ethnic minority development plan.¹⁶

23. At the macro level, current infrastructure in project county seats is inadequate to support economic expansion. Despite the existence of an educated urban population and its specific geographic and cultural conditions, Altay, due to infrastructure constraints, is yet to materialize its economic potential, particularly in the fields of tourism and cross-border trade. The project will aid Altay's growing tourism and cross-border trade by providing an enabling condition to expedite development of the related service industries, which are the engine for growth and poverty alleviation.

24. **Gender benefits.** The project is categorized as effective gender mainstreaming. More effective infrastructure will result in reduced time burdens, and greater mobility, access, and public health. Women strongly support the project across all county seats, as it will improve their quality of life, public health, and create jobs and income opportunities. Gender has been mainstreamed into the project design (features such as road lighting, nonmotorized transport, and pedestrian access are included); and a project gender action plan has been prepared that will (i) ensure women's consultation and participation in project activities; (ii) provide gender-sensitivity training to the county PMO and implementing agency staff; (iii) ensure that project decision-making bodies and participants in capacity building activities are gender-balanced; and (iv) include appropriate gender targets, indicators, and sex-disaggregated data.¹⁷

E. Safeguards

25. The project is classified as category A in ADB's environmental categorization. The project environmental impact assessment (EIA) was posted on the ADB website on 9 November 2010 and circulated to ADB's Board of Directors on 12 November 2010. The EIA complies with ADB's Safeguard Policy Statement (2009). Extensive public consultation involving surveys, meetings with stakeholders, and focus group discussions was undertaken during the preparation of the EIA. The EIA concludes that the project has substantial environmental and socioeconomic benefits resulting from integrated improvements in urban transportation, water supply, sewage collection and treatment, urban solid waste treatment and management, and district heating facilities. The specific environmental concerns of the project during construction include soil erosion, dust generation, and closure and decommissioning of replaced facilities. During operation, concerns include secondary pollution from the wastewater treatment plant sludge, wastewater and landfill leachate, as well as cumulative impacts on downstream water users. Such concerns have been fully dealt with in the environmental management plan and the environmental monitoring plan. Comprehensive river basin analyses and water balances have confirmed that the impact on the region's sensitive surface water resources will be positive regarding water quality and acceptable regarding water quantities. The reuse of treated wastewater to irrigate windbreak forests will help combat land degradation and desertification. Savings in carbon dioxide emissions will accrue from the rationalization of urban road transport and road connectivity, the replacement of aging heating facilities, and the carbon sequestration provided by irrigated forest plantations. The Altay PMO will be responsible for setting up the environmental management system, consisting of inspection, monitoring, reporting, and initiating corrective actions or measures. Environmental monitoring and reporting will continue during operation, at the minimum on an annual basis. Each implementing agency will nominate dedicated, trained, and qualified environment specialists who will be responsible for implementing the environmental management plan. A detailed training program for capacity

¹⁶ Gender Action Plan, Project Administration Manual, and Ethnic Minority Development Plan (accessible from the list of linked documents in Appendix 2).

¹⁷ Gender Action Plan (accessible from the list of linked documents in Appendix 2).

building and a project-wide grievance redress mechanism have been developed and included in the project EIA.¹⁸

26. The project is classified as category A for the involuntary resettlement safeguard. The project will acquire about 51.47 hectares (ha) of collective land, of which 40.77 ha (79%) is classified as grassland. It will also acquire 68.7 ha of state-owned land. A total of 16,144 square meters of residential houses and 2,773 square meters of shops and enterprises will be demolished. Overall, permanent land acquisition and house demolition will affect 205 households and 657 persons in the project counties. Among these, 353 will be ethnic minority people, accounting for 54%. To attenuate land acquisition and resettlement impacts, resettlement plans have been developed for each county. County governments have endorsed the resettlement plans, and have disclosed them in the community and village offices and to affected persons¹⁹ in both the Chinese and Kazakh languages on 14 and 17 February 2011. Resettlement plans have also been posted on the ADB website. Compensation for lost assets and resettlement allowance will be paid to the affected persons before construction activities begin, and the livelihood rehabilitation arrangements made in accordance with the resettlement plans. Each county PMO and PIU will have at least two full-time resettlement staff, and each PIU will carry out internal supervision and monitoring to ensure compliance with resettlement plan provisions. An independent agency will be engaged to conduct the semiannual external monitoring and evaluation. The total cost estimate for land acquisition and resettlement is CNY56.9 million or \$8.4 million in 2010 prices, including contingencies.²⁰ ADB staff and external monitoring institution will supervise and monitor implementation of the resettlement plans to minimize grievances of the affected persons.

27. The project is classified as category B for the indigenous peoples safeguard. Ethnic minorities are the majority population in the project area. All households in urban areas will benefit from the new infrastructure. Not all ethnic minority people speak Chinese. A project ethnic minority development plan has been prepared that focuses on measures to aid the inclusion of ethnic minority men and women in all project activities and to protect them from any disadvantages that language barriers may create with respect to employment by project contractors. It also includes measures to ensure that their customs and beliefs will be respected throughout implementation. Ethnic minorities will not be adversely affected, except in the context of resettlement. Livelihood restoration measures associated with resettlement are incorporated in the resettlement plans. The project ethnic minority development plan endorsed by the government has been disclosed on 11 February 2011 in both the Chinese and Kazakh languages to ethnic minority people targeted by the project. The ethnic minority development plan has also been uploaded on the ADB website. Detailed monitoring and reporting arrangements are included in the PAM and the project agreement.²¹

F. Risks and Mitigating Measures

28. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan. The integrated benefits and impacts of the project are expected to outweigh the costs and risks.²²

¹⁸ Environmental Impact Assessment (accessible from the list of linked documents in Appendix 2).

¹⁹ ADB's Safeguard Policy Statement (2009) trigger for involuntary resettlement changed the terminology of "affected persons" to "displaced persons", which are defined as persons who are physically and/or economically displaced as a result of involuntary acquisition of land or involuntary restrictions on land use or on access to legally designated parks and protected areas. In the PRC, although the resettlement plans maintain the original terminology of "affected persons", the definition is equivalent to ADB's definition of "displaced persons".

²⁰ Resettlement Plan (accessible from the list of linked documents in Appendix 2).

²¹ Ethnic Minority Development Plan (accessible from the list of linked documents in Appendix 2).

²² Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Lack of project coordination and synchronization between agencies	Altay PMO project monitoring and support from project implementation consultant Continuation of each PMO's project management information system
Delays in land acquisition approvals and implementation	Prompt implementation of detailed measurement surveys Early availability of affected persons' compensation funding Strict operational compliance with resettlement plans
Delays in counterpart funding	Covenanted assurances from county governments for timely provision of counterpart funding, and direct coordination with the Altay PMO
Lack of sustainable operation and maintenance of physical components	Long-term capacity building for water, wastewater, solid waste management, and road maintenance agencies; funding assurance from county governments and capacity building support; and regular tariff reviews
Difficulties in complying with ADB procurement procedures	Early mobilization of external procurement specialists to provide training and ongoing technical support
Failure of the public to change behavior, thus reducing the positive impact of new infrastructure on the livability of physical environment	Conduct of community-based environment-friendly behavior campaign

ADB = Asian Development Bank, PMO = project management office.

Source: ADB.

IV. ASSURANCES

29. The government and APG have assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents.

30. The government and APG have agreed with ADB on certain covenants for the project, which are set forth in the loan agreement and project agreement.

V. RECOMMENDATION

31. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and, acting in the absence of the President, under the provisions of Article 35.1 of the Articles of Agreement of ADB, I recommend that the Board approve the loan of \$100,000,000 to the People's Republic of China for the Xinjiang Altay Urban Infrastructure and Environment Improvement Project from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 26 years, including a grace period of 6 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board.

Ursula Schaefer-Preuss
Vice President

2 June 2011

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Better living standards and conditions in the project counties	By 2020 (baseline year 2009) Per capita annual disposable income of urban households increased from CNY13,000 to CNY36,000 Incidences of waterborne and insect- and vermin-transmitted diseases in county seats decreased, from 2.5 to 1.5% in Buerjin, from 9.1 to 3.2% in Fuhai, from 2.5 to 1% in Habahe, from 2.3 to 1.6% in Jimunai, and from 3 to 1% in Qinghe Increased employment opportunities with targets for women (20%–50%) and ethnic minorities (40%–55%) in the GAP and EMDP	Statistical reports periodically published by the statistics bureaus of Xinjiang Uygur Autonomous Region and Altay Prefecture Public health department statistics Contractors' employment data (to be disaggregated by sex, income status, age, and ethnicity)	Assumptions The National Strategy for Development of the West remains a national priority. Government support continues for institutional strengthening and financial reform. Risk Development pressures outpace planned infrastructure development.
Outcome Integrated and more efficient municipal services in the project counties of Altay	By 2017 (baseline year 2009) Urban population provided with potable water supply increased to 90%, from 82% in Buerjin, 75% in Fuhai, 80% in Habahe, 65% in Jimunai, and 69% in Qinghe Urban population provided with wastewater collection and treatment increased from 51 to 85% in Buerjin, from 53 to 85% in Fuhai, from 60 to 85% in Habahe, from 45 to 80% in Jimunai, and from 47 to 85% in Qinghe Resource utilization of WWTP sludge from 0 to 30% Urban population provided with solid waste collection and treatment increased to 90%, from 65% in Buerjin, 59% in Jimunai, 63% in Fuhai, 63% in Habahe, and	Annual urban construction reports issued by the construction bureaus of project counties Annual urban construction reports issued by the construction bureaus of project counties Annual urban construction reports issued by the construction bureaus of project counties Annual urban construction reports issued by the construction bureaus of project counties	Assumptions Priorities for public infrastructure investment remain constant. Customers are willing to pay higher tariffs. Increased demand for municipal services to achieve full capacity utilization Risks Lack of project coordination and synchronization between agencies Infrastructure is poorly operated or maintained.

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	<p>59% in Qinghe</p> <p>Buildings provided with centralized heating supply increased, from 520,000 to 750,000 m² in Habahe, from 270,000 to 610,000 m² in Jimunai, and from 420,000 to 750,000 m² in Qinghe</p>	Annual urban construction reports issued by the construction bureaus of project counties	
<p>Outputs</p> <p>1. Road components in Buerjin, Fuhai, Habahe, and Jimunai counties operational</p> <p>2. Water supply components in Buerjin, Habahe, Jimunai, and Qinghe counties operational</p> <p>3. Wastewater components in Buerjin, Fuhai, Habahe, Jimunai, and Qinghe counties operational</p> <p>4. Solid waste components in Buerjin, Fuhai, Habahe, Jimunai, and Qinghe counties operational</p> <p>5. Heating supply components in Fuhai, Habahe, Jimunai, and Qinghe counties operational</p> <p>6. New construction of infrastructure in White Birch Forest Scenic Area in place</p> <p>7. For all outputs Capacity to deliver municipal services enhanced</p>	<p>By 2017 47 new and upgraded roads totaling 59.1 km opened to traffic</p> <p>3 new WTPs with total capacities of 16,890 m³/day and water pipelines of 153.3 km operational</p> <p>6 new WWTPs with total capacities of 31,200 m³/day and wastewater pipelines of 78 km operational</p> <p>Stabilized WWTP sludge used as soil enhancers on windbreak forests in Buerjin County and Takeshiken Town</p> <p>5 new sanitary landfills with total capacity of 238 tons per day and garbage collection and transfer facilities operational</p> <p>2 new or upgraded central-heating, coal-fired boiler stations; 15 heating exchange stations; and heating pipelines of 17.8 km operational</p> <p>Roads, water supply, wastewater collection and treatment, and environmental sanitation for White Birch Forest Scenic Area operational</p> <p>By 2017 A 6-year (2011–2017) training plan for project management, O&M, financial management, and</p>	<p>Project completion certification issued by the construction bureaus of project counties</p> <p>Project completion certification issued by construction bureaus of project counties</p> <p>Project completion certification issued by construction bureaus of project counties</p> <p>Project completion certification issued by the construction bureaus of project counties</p> <p>Project completion certification issued by the construction bureaus of project counties</p> <p>Project completion certification issued by Habahe County Construction Bureau</p> <p>Monitoring reports on institutional development including number of staff trained, areas of training, and</p>	<p>Assumptions Relevant authorities continue to offer strong support to the county PMOs and implementing agencies on capacity development for project implementation and operation.</p> <p>Project implementation support and training enable efficient compliance with ADB requirements and procedures, including on procurement and disbursement.</p> <p>Risks Delays in land acquisition approvals and implementation</p> <p>Exceptional weather affects the annual effective construction period.</p> <p>Delays in counterpart funding</p> <p>Lack of sustainable operation and maintenance of physical components</p> <p>Failure of the public to change behavior, thus reducing the positive impact of new infrastructure on the livability of physical environment</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks	
	<p>institutional development with gender targets; sustainable O&M arrangements developed and functioning; organization structure and financial management system enhanced</p> <p>Community environment awareness promotion program for solid waste and water components with at least 50% of participants women and girls</p> <p>Road safety training for communities and schools in the project areas with at least 50% of participants women and girls</p>	<p>strengthened organizations and procedures</p> <p>Training program completion reports</p> <p>Training program completion reports</p>		
Activities with Milestones			Inputs	
<p>1. Roads upgrading and construction</p> <p>1.1 Design the facilities, acquire land, and procure the works by 2013</p> <p>1.2 Construction of road components by 2014</p> <p>2. Water supply facilities</p> <p>2.1 Design the facilities, acquire land, and procure the works by 2012</p> <p>2.2 Construction of water supply components by 2013</p> <p>3. Wastewater treatment facilities</p> <p>3.1 Design the facilities, acquire land, and procure the works by 2013</p> <p>3.2 Construction of wastewater components by 2014</p> <p>4. Solid waste treatment facilities</p> <p>4.1 Design the facilities, acquire land, and procure the works by 2013</p> <p>4.2 Construction of solid waste components by 2014</p> <p>5. Central heating facilities</p> <p>5.1 Design the facilities, acquire land, and procure the works by 2013</p> <p>5.2 Construction of heating components by 2014</p> <p>6. Infrastructure in White Birch Forest Scenic Area</p> <p>6.1 Design the facilities, acquire land, and procure the works by 2013</p> <p>6.2 Construction of the infrastructure by 2012</p> <p>7. Capacity development and institutional strengthening</p> <p>7.1 Recruit and mobilize implementation support consultants by 2011</p> <p>7.2 Develop 6-year training plan by 2012</p> <p>7.3 Training for capacity building by 2017</p> <p>7.4 Monitoring and reporting on the implementation of the resettlement plans, EMDP, SAP, GAP, and EMP by 2017</p> <p>7.5 Conduct project-specific surveys to measure results for the midterm review (2013) and project completion (2017)</p>			ADB: \$100 million	
			Item	Amount (\$ million)
			Investment cost	92.59
			Financing charges during implementation	7.41
			Government and Implementing Agencies \$68.52 million	
			Item	Amount (\$ million)
			Investment cost	50.79
			Contingencies	17.73

ADB = Asian Development Bank, EMDP = ethnic minority development plan, EMP = environmental management plan, GAP = gender action plan, km = kilometer, m² = square meter, m³/day = cubic meter per day, O&M = operation and maintenance, PMO = project management office, PPMS = project performance management system, SAP = social action plan, WTP = water treatment plant, WWTP = wastewater treatment plant.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=43024-01-3>

1. Loan Agreement
2. Project Agreement
3. Sector Assessment (Summary): Multisector
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Financial Analysis
8. Economic Analysis
9. Country Economic Indicators
10. Summary Poverty Reduction and Social Strategy
11. Gender Action Plan
12. Environmental Impact Assessment
13. Resettlement Plan
14. Ethnic Minority Development Plan
15. Risk Assessment and Risk Management Plan

Supplementary Documents

16. A Demonstration Plan for Application of Renewable Energy and Reduction, Reuse, and Recycling of Resources (3Rs)
17. Detailed Cost Estimates and Financing Plan
18. Institutional Analysis and Capacity Building Assessment