

Facility Administration Manual

Project Number: 45007
Loan and Grant Numbers: LXXXX; GXXXX
November 2013

Mongolia: Ulaanbaatar Urban Services and Ger Areas Development Investment Program

The facility administration manual is an active document, progressively updated and revised as necessary, particularly following any changes in project costs, scope, or implementation arrangements. This document, however, may not reflect the latest project changes.

Asian Development Bank

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Facility Administration Manual Purpose and Process

The facility administration manual (FAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with Government and Asian Development Bank (ADB) policies and procedures. The FAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the FAM.

The Government of Mongolia and the Municipality of Ulaanbaatar are wholly responsible for the implementation of ADB financed projects, as agreed jointly between the borrower and ADB, and in accordance with Government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by Government of Mongolia and the Municipality of Ulaanbaatar 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 FAM and ensure consistency with the Framework Financing Agreement. Such agreement shall be reflected in the minutes of the Loan Negotiations. In the event of any discrepancy or contradiction between the FAM and the Financing Agreement, the provisions of the Financing Agreement shall prevail.

After ADB Board approval of the project's report and recommendation of the President (RRP) changes in implementation arrangements are subject to agreement and approval pursuant to relevant Government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval they will be subsequently incorporated in the FAM.

Abbreviations

ADB	=	Asian Development Bank
ADF	=	Asian Development Fund
CQS	=	consultant qualification selection
DEIA	=	detailed environmental impact assessment
DMF	=	design and monitoring framework
EARF	=	environmental assessment and review framework
EIA	=	environmental impact assessment
EMP	=	environmental management plan
ESMS	=	environmental and social management system
FFA	=	framework financing agreement
FAM	=	facility administration manual
GACAP	=	governance and anticorruption action plan
GDP	=	gross domestic product
GEIA	=	general environmental impact assessment
GRM	=	grievance redress mechanism
ICB	=	international competitive bidding
IEE	=	initial environmental examination
LAR	=	land acquisition and resettlement
MEGD	=	Ministry of Environment and Green Development
MFF	=	multitranche financing facility
MUB	=	Municipality of Ulaanbaatar
NCB	=	national competitive bidding
NGOs	=	nongovernment organizations
PAI	=	project administration instructions
PIU	=	project implementation unit
PMO	=	program management office
PSC	=	program steering committee
QCBS	=	quality- and cost-based selection
RPIC	=	Resettlement Planning Implementation Committee
RRP	=	report and recommendation of the President to the Board
SAP	=	social action plan
SBD	=	standard bidding documents
SME	=	small and medium enterprise
SOE	=	statement of expenditure
SPRSS	=	summary poverty reduction and social strategy
SRA	=	Subcenter Redevelopment Authority
USUG	=	Ulaanbaatar Water Supply and Sewerage Authority

Weights and Measures

km	=	kilometer
m	=	meter
m ²	=	square meter
mm	=	millimeter
MW	=	megawatt

NOTE

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

I. INVESTMENT PROGRAM DESCRIPTION

A. Rationale

1. In 2012 Ulaanbaatar had a population of 1.3 million. Since the 1990s, it has had limited formal extension of its core, which largely comprises apartment blocks with comprehensive utility services, including dedicated heating, water, and sanitation. However, successive waves of in-migration with ger tents have reshaped the city's geography, with (i) little upgrading or extension of basic urban services; and (ii) government policy, since 2003, to give each citizen about 700 square meters of land.¹ A vast low-density peri-urban area, named ger areas, now extends around the city core, characterized by unplanned settlement of low- and medium-income households with land ownership,² unserviced plots, unpaved roads, and poor facilities. The ger area population is estimated at 800,000, representing 60% of Ulaanbaatar or 30% of the country population. Despite their size, ger areas have until recently been considered temporary settlements. However, their official integration in the 2013 city master plan provides the necessary provision to plan the redevelopment of a formal peri-urban area.
2. Living conditions in ger areas are difficult. Poor sanitation—households almost exclusively rely on open pit latrines—and poor waste collection have created highly unsanitary living conditions. Air pollution is among the most severe in the world, particularly during winter because of inadequate household heating systems³ and unpaved roads. Access to water, supplied by kiosks operated by the Ulaanbaatar Water Supply and Sewerage Authority (USUG), is limited.⁴ In 2011, most of the 40,000 people migrating to Ulaanbaatar settled in ger areas; by 2022 the population is estimated to grow by 400,000 from in-migration and natural growth. Under current situation, the forecasted population increases is a serious threat to the city environment and the health of the population if the situation is not improved.
3. Lack of long-term planning, infrastructure investment, and land use regulation in ger areas have resulted in haphazard development, limited availability of space for public facilities, poor access to socioeconomic services, reduced livelihood opportunities, and insecure neighborhoods. The lack of basic urban infrastructure is preventing rational and dynamic urban development, increasing the costs of doing business and of accessing services. The city core where jobs and services are concentrated now has unprecedented congestion. The service gap between the city core and ger areas means ger residents are poorly integrated in the urban economy; it is one of the most urgent and difficult development challenges. While various government and development partner initiatives have significantly improved living conditions in ger areas, approaches have generally focused on specific sectors, failing to design a sustainable vision and provide integrated solutions for the problems of peri-urban development.
4. **Subcenter upgrading.** High construction cost,⁵ lack of urban planning, and inadequate infrastructure constrain the upgrading of ger areas. These areas are predominately residential with pockets of activity nodes, called subcenters, providing commercial and administrative

¹ Large-scale in-migration, started in 1991 during the economic transition, has been exacerbated by recent severe winters (*dzud*). During 2000–2010, the population of ger areas increased by about 400,000.

² Most ger residents have two types of land ownership: right of possession or right of use. Rights of possession are gradually converted into rights of ownership subject to an administrative procedure and a small fee.

³ Most households rely on unimproved individual coal stoves.

⁴ Water consumption in ger areas is low at about 10 liters per capita per day (half the recommended minimum by the World Health Organization in similar context). Residents pay 2–10 times more than non-ger area residents.

⁵ Partly due to cold climate conditions and outdated construction standards.

services. The influence area of a subcenter varies from 30,000 to 100,000 people. Despite the critical function of subcenters in overall spatial and local development, urban services have not been substantially improved. The lack of basic infrastructure limits economic growth and increases negative environmental impacts.

5. The program approach aims to initiate a redevelopment process in *ger* areas. Improving infrastructure within the *ger* area subcenters and connectivity with the city core center is critical for inclusiveness and important to facilitate the movement of people and goods, develop urban corridors, and create clusters of subcenters. Better urban planning combined with a network of infrastructure along priority roads will initiate a structural change of subcenter urban fabric. This will (i) improve residents' access to basic urban services, public space, and socioeconomic facilities; (ii) support local economic development; (iii) allow residents and businesses to take advantage of urban economies; and (iv) provide better housing options.⁶ The changes in land use and higher urban density will improve water, sanitation, and heating services delivery.

6. **Road map.** Based on government and Municipality of Ulaanbaatar (MUB) priorities to redevelop *ger* areas, the road map for the program will support the MUB in establishing a network of well-developed subcenters to provide jobs, housing, and economic opportunities with reduced soil and air pollution. It comprises sequenced investments, municipal reforms, and capacity building (policy, planning, and monitoring), with four strategic objectives: (i) expand roads and basic urban services (water, sewerage, and heating) within subcenters and improve connectivity to initiate land use transformation; (ii) increase economic and public services through investments in socioeconomic facilities to meet population needs, increase urban functions, and encourage job creation; (iii) increase service provider efficiency by improving water supply, sewerage, and heating service operations; and (iv) strengthen institutions and capacity by improving urban planning and subcenter development, community awareness, participation and empowerment, service provider operations and management, and program implementation capacity.

7. **Strategic context and sector policy.** In February 2013, Parliament approved the Adjustments to the Ulaanbaatar City Urban Development Master Plan 2020 and Development Directions 2030. The master plan produced two important outcomes: (i) integration of *ger* area development into the city master plan, and (ii) acknowledgement of the value and function of *ger* area subcenters as key elements of future city growth.⁷ The MUB is developing the Ger Area Development Program and established a Ger Area Development Agency, supervised by the vice mayor in charge of urban development and investment. On 30 May 2013, the city council resolution No.10/38 endorsed the program, subcenter locations under project 1, and coordination of the investment program with the city master plan. The MUB proposed a special purpose development vehicle (subcenter redevelopment authority) to facilitate, supervise, and coordinate the redevelopment process of the selected subcenters. In addition, the Ministry of Economic Development's Street Project is to improve road conditions in Ulaanbaatar and includes a *ger* area component. The National Development Strategy and the New Reconstruction Midterm Program (2008–2016) constitute the national framework for program implementation. The program is consistent with the Asian Development Bank (ADB) country partnership strategy, 2012–2016 for Mongolia;⁸ ADB's Strategy 2020⁹ priorities, including

⁶ Up to 60% of subcenter households may consider exchanging their land for fully serviced apartment units.

⁷ ADB has helped the MUB introduce a redevelopment strategy for *ger* areas through the project preparatory technical assistance [footnote 1] and ADB. 2010. *Technical Assistance to Mongolia for Ulaanbaatar Water and Sanitation Services and Planning Improvement*. Manila (TA 7591).

⁸ ADB. 2012. *Country Partnership Strategy: Mongolia, 2012–2016*. Manila.

environmental sustainability and private sector development; as well as the core themes of green, competitive, and inclusive cities of ADB's Urban Operational Plan.¹⁰

8. Policy dialogue and capacity development. To supplement the strong policy framework, policy dialogue and capacity development will focus (i) in communities, on community participation, awareness, and empowerment,¹¹ including design and implementation of the social and gender action plan; and establishment of community development councils (CDCs) and small- and medium-sized enterprise (SME) development councils (SDCs); (ii) in subcenters, on subcenter upgrading, including technical guidance for preparing and implementing local development plans, urban zoning regulation and construction standards, and a development framework with a transparent mechanism to regulate land redevelopment insuring current residents are integrated in the redevelopment plan; and (iii) in the city, on the master plan through ongoing ADB technical assistance to strengthen urban planning capacity.¹² Capacity development for water and wastewater utilities will target (i) improving the MUB and USUG management contract, (ii) defining a clearer tariff road map, and (iii) providing technical support to the Water and Sewerage Regulatory Commission. For heating, the focus will be to ensure financial sustainability and capacity of new and existing heating facilities operators in the selected subcenters and to strengthen provisions in management contracts.

9. Financing modality. An MFF is the proposed financing modality to promote a long-term partnership between ADB, the government, and the MUB to facilitate the development of sustainable, inclusive, and livable ger areas. The MFF will support the policy framework for the redevelopment of ger areas, and provide opportunities for constructive dialogue and capacity development on city planning, policy reforms, and physical and nonphysical investments. It will generate critical mass, predictability, and continuity for basic urban services provision in ger areas, and enable ADB to better respond to MUB needs.

10. Development coordination. In preparing the program, ADB coordinated closely with development partners involved in Ulaanbaatar's urban sector. Three ADB-financed projects will directly support the program: (i) a bus rapid transit line from the city center to Selbe subcenter;¹³ (ii) support for housing and micro-, small-, and medium-sized enterprise financing in ger areas targeted by the program;¹⁴ and (iii) capacity development technical assistance to strengthen MUB urban planning capacity (footnote 13).

⁹ ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.

¹⁰ ADB. 2013. *Urban Operational Plan, 2012–2020*. Manila.

¹¹ The consultative and participatory approach to ger area redevelopment, introduced by the United Nations Human Settlements Programme (UN-Habitat) during program preparation, was introduced for the project 1 subcenters.

¹² ADB. 2013. *Technical Assistance to Mongolia for Ulaanbaatar Urban Planning Capacity Improvement*. Manila. Financed by the Japan Fund for Poverty Reduction.

¹³ ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Mongolia for the Urban Transport Development Investment Program*. Manila (Loan 0070). Implementation of the loan is independent of and will not affect implementation of the proposed program.

¹⁴ TenGer Financial Group will onlend a portion of an ADB private sector loan to XacBank. An estimated \$6.0 million–\$10.0 million could be made available for the targeted areas. ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Loans to Mongolia for XacBank and TenGer Financial Group for Supporting Micro, Small, Medium-Sized Enterprises and Leasing Finance*. Manila.

B. Impact and Outcome

11. The impact of the program is improved living conditions in Ulaanbaatar. The outcome is a network of livable, competitive, and inclusive subcenters in Ulaanbaatar's ger areas.

C. Outputs

12. The program has four outputs: (i) roads and urban services are expanded within priority subcenters, and connectivity between them is improved; (ii) economic and public services in targeted areas are improved; (iii) service providers become more efficient; and (iv) institutions and capacity for urban development, program management, and service delivery are strengthened. The program will be implemented over three tranches.

13. **Project 1.** The first tranche will support implementation of a city master plan to develop Selbe and Bayankhoshuu subcenters: (i) extend the sewerage network from the city core: collector main (6.1 kilometers [km]) and sewer pipes (2.9 km); (ii) within subcenters, develop priority roads (15 km), water supply network (18.6 km), sewerage network (20 km), district heating network (21 km), and five heating facilities using most suitable state-of-the-art environmentally friendly technologies; (iii) construct social and economic facilities, i.e., two kindergartens, green areas, and small squares; and two business incubators, associated with two vocational training centers; (iv) improve USUG operations and service delivery efficiency of water supply and wastewater collection; and (v) provide institutional and capacity development to (a) prepare detailed design and construction supervision; (b) support community participation, awareness, and SME development; (c) improve subcenter redevelopment; (d) strengthen program management office (PMO) capacity; and (e) support service provider reforms.

14. **Projects 2 and 3.** The projects will (i) expand coverage of similar investments in project 1 subcenters, and in other subcenters in the northern and eastern ger areas; and (ii) improve road connections between targeted subcenters. Khaniin Material and Market Area subcenters are tentatively targeted for project 2, and Ulyastai and Amgalan subcenters for project 3. Other subcenters may be considered. Heating solutions developed under tranches 2 and 3 will prioritize gas-fired state-of-the-art environmentally friendly technology, subject to satisfactory due diligence.

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

Table 1: Project Readiness Activities for Tranche 1

Indicative Activities	2013						2014				Responsible Agency
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Advance contracting actions											MUB, ADB
Retroactive financing actions											MUB, ADB
Establish project implementation arrangements											MUB, ADB
ADB Board approval											ADB
Loan signing											MED, MUB, ADB
Government legal opinion provided											MED, MOJ
Government budget inclusion											MOF
Loan effectiveness											MOF, MUB

ADB = Asian Development Bank, MED = Ministry of Economic Development, MOF = Ministry of Finance, MOJ = Ministry of Justice, MUB = Municipality of Ulaanbaatar.

B. Implementation Plan for the Investment Program

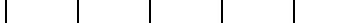
Item	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
PPTA 7970 / RETA 7918												
Setting up of PMO												
Implementation support and capacity building												
Tranche 1: Bayankhoshuu and Selbe Subcenters												
Selection of consultants, design, tendering subcenter development												
Resettlement plan update, LAR, and compensation payments												
Construction subcenter development												
Selection of consultants, design, tendering, WSS												
WSS systems construction												
Selection of consultants, design, tender heating service												
Heating service construction												
Tranche 2: Two Additional Subcenters												
Selection of consultants, design, tendering subcenter development												
Resettlement plan, LAR, and compensation payments												
Construction subcenter development												
Selection of consultants, design, tendering WSS												
WSS systems construction												
Selection of consultants, design, tender heating service												

Item	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Heating service construction												
Tranche 3: Two Additional Subcenters												
Selection of consultants, design, tendering subcenter development												
Resettlement plan, LAR, and compensation payments												
Construction subcenter development												
Selection of consultants, design, tendering WSS												
WSS systems construction												
Selection of consultants, design, tender heating service												
Heating service construction												

LAR = land acquisition and resettlement, PMO = program management office, PPTA = project preparatory technical assistance, RETA = regional technical assistance, WSS = water supply and sewerage.

Source: Asian Development Bank.

C. Implementation Plan for Project 1

Item	2012	2013	2014	2015	2016	2017
PPTA 7970 / RETA 7918						
Setting-up of PMO						
Selection of advisory consultant to PMO						
Selection and fielding of consultant for subcenter development						
Design and tenders subcenter development						
Tendering for procurement civil works subcenter infrastructure						
Resettlement plan update, land acquisition, and compensation payment.						
Construction subcenter development						
Technical specification and technical design for procurement of general contractor for WWOIP						
WWOIP tender submission and evaluation						
WWOIP implementation						
Selection of WSS subproject consultant						
Design and tender documents WSS						
Tendering for procurement works and goods WSS						
Water supply and sewerage system construction						
Selection and fielding of consultant for heating services						
Design and tender hot water and heating services						
Tendering for works and heating services						
Heating services infrastructure construction						

Item	2012	2013	2014	2015	2016	2017
Community engagement						
Strengthened program implementation capacity						
Improved planning and subcenter development						
Improved O&M of service providers and institutional and regulatory reforms						

PMO = program management office, PPTA = project preparatory technical assistance, O&M = operation and maintenance, RETA = regional-capacity development technical assistance, WSS = water supply and sewerage, WWOIP = Water and Wastewater Operation Improvement Project.

Source: Asian Development Bank.

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations – Roles and Responsibilities

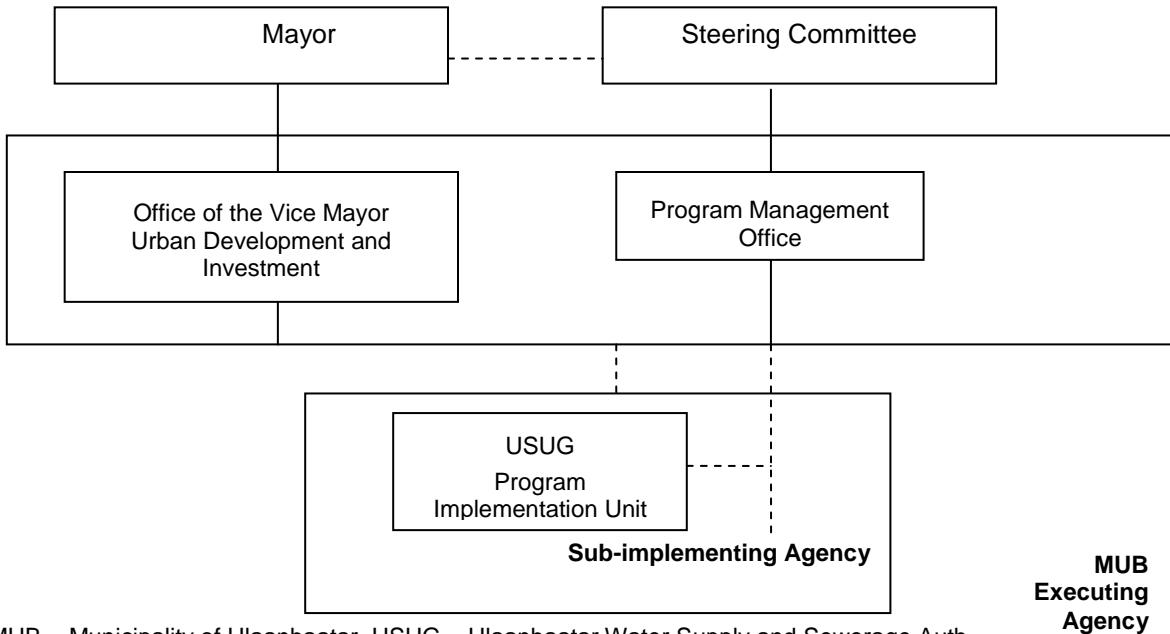
Program Implementation Organizations	Management Roles and Responsibilities
Asian Development Bank (ADB)	<ul style="list-style-type: none"> – Oversees the implementation, including compliance by executing and implementing agencies of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.
The Government	<ul style="list-style-type: none"> – The Borrower's representative – Ensures that the MUB provides timely counterpart funding. – Screens and approves withdrawal applications. – Establish three imprest accounts (for loans and grant funds, respectively) in a Commercial bank acceptable to ADB. – Ensures annual audit of the project accounts. – Negotiates project and loan agreements.
Program Steering Committee	<ul style="list-style-type: none"> – Chaired by the Mayor of Ulaanbaatar – Comprise representatives of the Ministry of Economic Development, Ministry of Finance, Ministry of Construction and Urban Development, Ministry of Labor, Ministry of Education, and other agencies concerned, as needed. – Oversees progress on the Investment program. – Provides strategic guidance on program implementation. – Meet at least once every 6 months until program completion.
Executing Agency – Municipality of Ulaanbaatar (MUB)	<ul style="list-style-type: none"> – Responsible for program oversight and administration. – Sets up multimodal coordination committee and follow up the action plan. – Oversees implementation of investment program road maps. – Submits progress reports to the steering committee for decision making. – Prepares subsequent tranches. – Be accountable and responsible for proper use of advances to the imprest accounts. – Endorses withdrawal applications. – Ensures compliance with project covenants. – Hold quarterly meetings with the program management office.
Implementing Agency – Municipality of Ulaanbaatar (MUB)	<ul style="list-style-type: none"> – Responsible for implementation of the program, including finance and administration, technical and procurement matters, monitoring and evaluation, and safeguards compliance.
Program Management Office, and Procurement Committee	<ul style="list-style-type: none"> – Responsible for program implementation and management. – Establishes and maintains program performance management system. – Manages detailed surveys, investigations and engineering designs for all subcomponents. – Prepares/update and submits final resettlement plans and updated EMP for ADB approval prior to award of contracts and implements all necessary documents related to land acquisition and resettlement, environmental, and other social safeguards. – Secures technical and ecological expertise for all civil works prior to bidding. – Assists the MUB in procurement and management of works, goods supply, and consulting services contracts (with support from relevant municipal bodies). – Ensures monitoring and quality control of construction works with necessary safety measures. – Coordinates with ADB on matters related to disbursements, including preparation of withdrawal/replenishment applications for endorsement by the MUB and the Ministry of Finance, and retaining of supporting documents. – Submits progress reports and audit reports, to ADB and the MUB on time. – Maintains the program imprest accounts. – Submits the withdrawal application to ADB, collect and keep supporting documents, submit reporting requirements, including the annual report and financial statements.

B. Key Persons Involved in Implementation

Executing Agency	
Municipality of Ulaanbaatar (MUB)	Mr. E. Bat-Uul Governor of the Capital City and Mayor of Ulaanbaatar Jigjidav Street -9, Ulaanbaatar-15160 Mongolia Tel./Fax: +976 11 315347 Email:
ADB	
Urban and Social Sectors Division (EASS)	Mr. Diwesh Sharan Director Tel.: + 63 2 632 5340 Fax: +63 2 636 2407 E-mail: dsharan@adb.org
Mission Leader	
	Mr. Arnaud Heckmann Urban Development Specialist Tel.: + 63 2 632 5029 Fax: +63 2 636 2407 E-mail: aheckmann@adb.org

C. Project Organization Structure

Figure 1: Program Organizational Structure



MUB = Municipality of Ulaanbaatar, USUG = Ulaanbaatar Water Supply and Sewerage Auth
Source: Asian Development Bank.

IV. COSTS AND FINANCING

15. The total cost of the investment program is estimated at about \$320.0 million equivalent, including taxes and duties. Project 1, inclusive of physical and price contingencies, interest, taxes and duties, and other charges is estimated to cost \$104.52 million. The investment plan for the program is summarized in below.

Table 1: Summary Investment Plan
(\$ million)

Item		Investment Program	Project 1
A. Base Cost^a			
1. Expanded roads and urban services			
1.1 Roads improvement	93.21	24.59	
1.2 Water supply system improvement	35.23	12.39	
1.3 Sewerage system improvement	42.91	13.31	
1.4 Heating services expansion	74.67	30.14	
Subtotal (1)	246.02	80.43	
2. More efficient service providers	11.48	3.70	
3. Increased economic and public services	15.36	5.00	
4. Institutional strengthening and capacity development			
4.1 Program management implementation support	6.13	2.00	
4.2 Strengthening service providers	1.53	.50	
4.3 Subcenter development and community engagement	4.59	1.50	
Subtotal (4)	12.25	4.00	
Subtotal (A)	285.11	93.13	
B. Contingencies^b		22.63	7.40
C. Financing Charges During Implementation^c		12.25	4.00
Total (A+B+C)		320.00	104.52

Note: Numbers may not sum precisely because of rounding.

^a In mid-2013 prices. Includes value-added tax and import duties estimated at \$16.7 million for the investment program and \$6.18 million for project 1. The government will finance these taxes and duties through tax exemptions.

^b Physical contingencies computed at 5% of civil works and consulting services. Price contingencies calculated at rates ranging from 3%–8.0% for local currency costs and 0.5%–2.2% for foreign exchange costs; includes provision for exchange rate fluctuations under a purchasing power parity exchange rate.

^c Includes interest and commitment charges. Financing charges during implementation on the Asian Development Bank (ADB) loans has been computed (i) at 2.0% per annum of the first tranche's loan from ADB's Special Funds resources (Asian Development Fund); and (ii) at the 5-year USD fixed swap rate plus an effective contractual spread of 0.4%; and a commitment charge of 0.15% on the undisbursed portion of the first tranche's loan from ADB's ordinary capital resources. Financing charges during implementation for the European Investment Bank loan were also calculated based on the 5-year USD fixed swap.

Source: Asian Development Bank estimates.

16. The government has requested a MFF in an amount up to \$163.70 million equivalent or 51.2% of the investment program from a blend of ADB's Special Funds resources, ordinary capital resources (OCR), and cofinancing to be administered by ADB. The MFF will consist of three tranches to be implemented a period of up to 9 years, subject to the government's submission of related periodic financing requests, execution of the related loan and project agreements for each tranche, and fulfillment of terms and conditions and undertakings set forth in the framework financing agreement. The government will make the proceeds of each tranche available to the MUB for purposes of financing projects under the MFF. It is expected that the MUB will finance the remaining cost of about \$96 million equivalent, or about 30% of the total

cost, including taxes and duties (for project 1 only), resettlement, and other miscellaneous costs.

Table 2: Summary Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Investment program		
Asian Development Bank MFF	163.70	51.20
Municipality of Ulaanbaatar	96.00	30.00
Cofinancing ^a	60.30	18.80
Total	320.00	100.00
Project 1		
Asian Development Bank		
ADF Loan	22.50	21.50
OCR Loan	27.50	26.30
UEIF-UFPF ^b	3.70	3.50
Subtotal ADB	53.70	51.30
Municipality of Ulaanbaatar ^c	22.44	21.50
Cofinancing ^a	28.38	27.25
Total	104.52	100.00

ADF = Asian Development Fund, MFF = multitranche financing facility, OCR = ordinary capital resources, UEIF = Urban Environmental Infrastructure Fund.

Note: Numbers may not sum precisely because of rounding.

^a EIB has expressed interest to provide parallel collaborative cofinancing (not administered by Asian Development Bank) for water supply and sanitation up to \$60.30 million equivalent for the MFF including \$28.38 million equivalent for project 1. If EIB cofinancing does not materialize as planned, the GOM will undertake necessary measures to substitute the shortfall with suitable funding.

^b Urban Environmental Infrastructure Fund under the Urban Financing Partnership Facility.

^c This includes local taxes and duties of Project 1 only, which will be borne by GOM in form of exemption.

Source: Asian Development Bank estimates.

17. The allocation of ADF and OCR financing within the MFF is tentative. It is understood that provision of any additional ADF financing will be accompanied by a corresponding reduction in the available OCR financing, and vice versa, so that in any event the total financing provided by ADB will not exceed the MFF amount. Any additional ADF allocation will be subject to (i) the general availability of ADF resources from time to time, (ii) Mongolia's access to such resources pursuant to ADB's then applicable graduation policy and the requirements of the ADF donors, and (iii) the availability of such resources to Mongolia pursuant to ADB's then applicable policy on performance-based allocation of ADF resources. In addition, development partners have indicated a preliminary interest in complementing ADB's financing after the Board's approval of the proposed MFF through cofinancing. The amounts of cofinancing to be provided by such development partners will be deducted from the total MFF amount. Such cofinancing may be provided as loans or grants, and may take the form of parallel or joint cofinancing. ADB's administration of such cofinancing from time to time will be reported to the Board for information annually. If additional financing is needed because the funding requirements of the MUB exceed the original MFF allocation, a request for additional financing will be submitted to and will require ADB Board approval.

18. For project 1, the ADF loan will finance (i) civil works including equipment and detailed engineering design and supervision, (ii) program management support, (iii) consulting services, (iv) a proportionate share of the contingencies, (v) financing charges during implementation, and (vi) associated bank charges, transportation, and insurance costs. The OCR loan will finance (i) civil works including equipment, (ii) a corresponding share of the contingencies, and (iii) financing charges during implementation, and (iv) associated bank charges, transportation and insurance costs. The ADB grant will finance civil works and all associated costs including bank

charges, transportation and insurance costs to be incurred by the Ulaanbaatar Water Supply and Sewerage Authority (USUG) under the program. The EIB loan will finance civil works and equipment specific to water supply and sewerage improvements including contingencies and financing charges during implementation. The counterpart funds from the MUB will finance (i) land acquisition, (ii) civil works, (iii) resettlement support, (iv) taxes and duties, and (v) a share of the financing charges during implementation.

19. For project 1, ADB will finance \$53.70 million or 51.3% of the total investment requirement. About 21.5% or \$22.5 million equivalent will be financed from ADF; \$27.5 million or 26.3% from OCR; and \$3.7 million as a grant from the Urban Environmental Infrastructure Fund under the Urban Financing Partnership Facility. The proposed ADF loan for \$22.50 million equivalent will have a 25-year term, including a grace period of 5 years, a 2.0% annual interest rate, and repayments in equal amortization. The proposed OCR loan for \$27.50 million will have a 20-year term including a grace period of 5 years, an interest rate determined in accordance with ADB's London interbank offered rate-based lending facility, a commitment charge of 0.15% per year; and such other terms and conditions to be set forth in the relevant loan agreements. The EIB is currently processing parallel cofinancing up to €50 million for its management and board approval by November 2013. The proposed EIB loan will have a 20-year term including a grace period of 5 years and an interest rate in accordance with its London interbank offered rate-based lending facility. Portion of such cofinancing will be limited to water supply and sanitation included in project 1.

20. The Government of Mongolia is the borrower of the loan and will relend the proceeds of ADB's loan to the MUB on terms and conditions acceptable to ADB. The grant proceeds will be passed through the MUB without financing charges.

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

Expenditure Item	(MNT Million)					(US\$ Million)					% of Total Base Cost	
	Foreign Currency	Local Currency			Total Cost	Foreign	Local Currency			Total		
		Exclu-ding Taxes	Taxes	Total			Exclu-ding Taxes	Taxes				
A. Investment Costs ^a												
1. Land acquisition	0.00	1,448.40	0.00	1,448.40	1,448.40	0.00	1.02	0.00	1.02	1.02	1.1	
2. Civil works ^b	72,150.24	36,204.08	8,065.20	44,283.88	102,646.60	50.81	25.48	5.68	31.17	82.00	88.1	
2.1 Water supply and sewerage	23,996.82	10,805.67	2,754.66	13,574.53	37,557.15	16.90	7.61	1.94	9.56	26.46	28.4	
2.2 Socioeconomic facilities	4,302.39	1,945.30	496.98	2,442.28	6,744.67	3.03	1.37	.35	1.72	4.75	5.1	
2.3 Heat distribution networks	8,803.57	3,975.80	1,008.15	4,983.95	13,787.52	6.20	2.80	.71	3.51	9.71	10.4	
2.4 Civil works for USUG	5253.74	0.00	0.00	0.00	5,253.74	3.70	0.00	0.00	0.00	3.70	4.0	
2.5 Landscaping and river embankments	5,637.13	3,677.62	724.16	4,401.79	10,038.91	3.97	2.59	.51	3.10	7.07	7.6	
2.6 Other civil works	24,156.59	15,799.69	3,081.25	18,881.33	43,052.13	17.01	11.11	2.17	13.28	30.29	32.6	
3. Detailed engineering design & supervision	6,176.70	0.00	0.00	0.00	6,176.70	4.35	0.00	0.00	0.00	4.35	4.7	
4. Resettlement support	0.00	2,504.88	0.00	2,504.88	2,504.88	0.00	1.76	0.00	1.76	1.76	1.9	
5. Program management support	2,840.00	0.00	0.00	0.00	2,840.00	2.00	0.00	0.00	0.00	2.00	2.1	
6. Consulting services	2,840.00	0.00	0.00	0.00	2,840.0	2.00	0.00	0.00	0.00	2.00	2.1	
Subtotal (A)	84,006.93	40,157.37	8,079.80	48,237.2	132,244.09	59.16	28.28	5.68	33.97	93.13	100.0	
Total Base Cost	84,006.93	40,157.37	8,079.80	48,237.2	132,244.09	59.16	28.28	5.68	33.97	93.13	100.0	
B. Contingencies ^c												
Physical contingencies	4,247.59	1,915.02	426.00	2,341.02	6,588.61	2.99	1.35	0.30	1.65	4.64	5.0	
Price contingencies	10,698.68	4,873.79	1,157.33	6,031.12	16,729.79	1.76	0.80	0.19	0.99	2.75	3.0	
Subtotal (B)	14,946.27	6,788.81	1,583.33	8,372.14	23,318.41	4.75	2.15	0.49	2.64	7.39	7.0	
C. Interest and Commitment Charges^d												
Interest during implementation	4,610.60	1,481.06	0.00	1,481.06	6,091.66	3.02	0.97	0.00	0.97	3.99	4.0	
Commitment charges	20.54	0.00	0.00	0.00	20.54	0.01	0.00	0.00	0.0	0.01	0.0	
Subtotal (C)	4,631.14	1,481.06	0.00	1,481.06	6,112.20	3.003	0.97	0.00	0.97	4.00	4.0	
Total Project Cost (A+B+C)	103,584.34	48,427.24	9,663.13	58,090.36	161,674.70	66.94	31.40	6.18	37.58	104.52	112.0	

MNT = Mongolian togrog, USUG = Ulaanbaatar Water Supply and Sewerage Authority.

^a In mid-2013 prices. Includes value-added tax and import duties. The taxes and duties are estimated at \$6.18 million for project 1. The government will finance these taxes and duties through tax exemptions.

^b Expenditure item includes equipment.

^c Physical contingencies computed at 5% of civil works and consulting services. Price contingencies computed at 3%-8% for local currency costs and 0.5-2.2% for foreign exchange costs; includes provision for exchange rate fluctuation under a purchasing power parity exchange rate.

^d Includes interest and commitment charges. Interest during construction on the Asian Development Bank (ADB) loans has been computed (i) at 2.0% per annum of the first tranche's loan from ADB's Special Funds resources (Asian Development Fund); and (ii) at the 5-year (corresponding to implementation period) USD fixed swap rate plus an effective contractual spread of 0.4%; and a commitment charge of 0.15% on the undisbursed portion of the first tranche's loan from ADB's ordinary capital resources. Financing charges during implementation for the European Investment Bank (EIB) loan were also calculated based on the 5-year dollar fixed swap rate.

Source: Asian Development Bank.

B. Allocation and Withdrawal of Loan Proceeds

1. Project 1: Allocation and Withdrawal of ADB Ordinary Capital Resources Loan Proceeds

ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS
Ulaanbaatar Services and Ger Areas Development Investment Program)

No.	Item	CATEGORY		ADB OCR FINANCING	
		Category	Subcategory	Total Amount Allocated for ADB Financing (in \$ equivalent)	Percentage and Basis for Withdrawal from the Loan Account
1	Civil Works			23,500,000	
	1A Heat distribution networks**			4,949,010	55.00% of total expenditure claimed*
	1B Other civil works excluding heat distribution networks			18,550,990	69.60% of total expenditure claimed
2	Interest and Commitment Charges			2,240,000	100.0% of total amount due.
3	Unallocated			1,760,000	
TOTAL				27,500,000	

ADB = Asian Development Bank, OCR = ordinary capital resources.

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

** Disbursements for this expenditure item are preconditioned on the approval of the parallel EIB loan.

Source: Asian Development Bank.

2. Project 1: Allocation and Withdrawal of ADB Asian Development Fund Loan Proceeds

ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS
Ulaanbaatar Services and Ger Areas Development Investment Program)

No.	Item	CATEGORY		ADB ADF FINANCING	
		Category	Subcategory	Total Amount Allocated for ADB Financing (SDR) (in \$equivalent)	Percentage and Basis for Withdrawal from the Loan Account
1	Civil Works			11,472,300	100.00% of total expenditure claimed*
2	Detailed Engineering and Design Supervision			4,347,700	100.00% of total expenditure claimed*
3	Project Management Support and Administration			2,000,000	100.00% of total expenditure claimed*
4	Consulting Services			2,000,000	100.00% of total expenditure claimed*
5	Interest and Commitment Charges			690,000	100.00% of total amount due
6	Unallocated			1,990,000	
TOTAL				22,500,000	

ADB = Asian Development Bank, ADF = Asian Development Fund.

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

Source: Asian Development Bank.

3. Project 1: Allocation and Withdrawal of ADB (Urban Environmental Infrastructure Fund) Grant Proceeds

**ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS
Ulaanbaatar Services and Ger Areas Development Investment Program)**

No.	Item	CATEGORY		UEIF GRANT FOR USUG Percentage and Basis for Withdrawal from the Grant Account
		Total Amount Allocated for ADB Financing (SDR) (in \$ million equivalent)	Category Subcategory	
1	Works	3,700,000		100.00% of total expenditure claimed *
	TOTAL	3,700,000		

ADB = Asian Development Bank, UEIF = Urban Environmental Infrastructure Fund, USUG = Ulaanbaatar Water Supply and Sewerage Authority.

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

Source: Asian Development Bank.

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

Expenditure Item	(MNT Million)					(US\$ Million)					% of Total Base Cost	
	Foreign Currency	Local Currency			Total Cost	Foreign	Local Currency			Total Cost		
		Exclud-ing Taxes	Taxes	Total			Exclud-ing Taxes	Taxes	Total			
A. Investment Costs ^a												
1. Land acquisition	0.00	1,448.40	0.00	1,448.40	1,448.40	0.00	1.02	0.00	1.02	1.02	1.1	
2. Civil works ^b	72,150.24	36,204.08	8,065.20	44,283.88	102,646.60	50.81	25.48	5.68	31.17	82.00	88.1	
a. Water supply and sewerage	23,996.82	10,805.67	2,754.66	13,574.53	37,557.15	16.90	7.61	1.94	9.56	26.46	28.4	
b. Socioeconomic facilities	4,302.39	1,945.30	496.98	2,442.28	6,744.67	3.03	1.37	.35	1.72	4.75	5.1	
c. Heat distribution networks	8,803.57	3,975.80	1,008.15	4,983.95	13,787.52	6.20	2.80	.71	3.51	9.71	10.4	
d. Civil works for USUG	5253.74	0.00	0.00	0.00	5,253.74	3.70	0.00	0.00	0.00	3.70	4.0	
e. Landscaping and river embankments	5,637.13	3,677.62	724.16	4,401.79	10,038.91	3.97	2.59	.51	3.10	7.07	7.6	
f. Other civil works	24,156.59	15,799.69	3,081.25	18,881.33	43,052.13	17.01	11.11	2.17	13.28	30.29	32.6	
3.. Detailed engineering design & supervision	6,176.70	0.00	0.00	0.00	6,176.70	4.35	0.00	0.00	0.00	4.35	4.7	
4. Resettlement support	0.00	2,504.88	0.00	2,504.88	2,504.88	0.00	1.76	0.00	1.76	1.76	1.9	
5. Program management support	2,840.00	0.00	0.00	0.00	2,840.000	2.00	0.00	0.00	0.00	2.00	2.1	
6. Consulting services	2,840.00	0.00	0.00	0.00	2,840.0	2.00	0.00	0.00	0.00	2.00	2.1	
Subtotal (A)	84,006.93	40,157.37	8,079.80	48,237.2	132,244.09	59.16	28.28	5.68	33.97	93.13	100.0	
Total Base Cost	84,006.93	40,157.37	8,079.80	48,237.2	132,244.09	59.16	28.28	5.68	33.97	93.13	100.0	
B. Contingencies ^c												
Physical contingencies	4,247.59	1,915.02	426.00	2,341.02	6,588.61	2.99	1.35	0.30	1.65	4.64	5.0	
Price contingencies	10,698.68	4,873.79	1,157.33	6,031.12	16,729.79	1.76	0.80	0.19	0.99	2.75	3.0	
Subtotal (B)	14,946.27	6,788.81	1,583.33	8,372.14	23,318.41	4.75	2.15	0.49	2.64	7.39	7.0	
C. Interest and Commitment Charges ^d												
Interest during implementation	4,610.60	1,481.06	0.00	1,481.06	6,091.66	3.02	0.97	0.00	0.97	3.99	4.0	
Commitment charges	20.54	0.00	0.00	0.00	20.54	0.01	0.00	0.00	0.0	0.01	0.0	
Subtotal (C)	4,631.14	1,481.06	0.00	1,481.06	6,112.20	3.003	0.97	0.00	0.97	4.00	4.0	
Total Project Cost (A+B+C)	103,584.34	48,427.24	9,663.13	58,090.36	161,674.70	66.94	31.40	6.18	37.58	104.52	112.0	

MNT = Mongolian togrog, USUG = Ulaanbaatar Water Supply and Sewerage Authority.

^a In mid-2013 prices. Includes value-added tax and import duties. The taxes and duties are estimated at \$6.18 million for project 1. The government will finance these taxes and duties through tax exemptions.

^b Expenditure item includes equipment.

^c Physical contingencies computed at 5% of civil works and consulting services. Price contingencies computed at 3%-8% for local currency costs and 0.5-2.2% for foreign exchange costs; includes provision for exchange rate fluctuation under a purchasing power parity exchange rate.

^d Includes interest and commitment charges. Interest during construction on the Asian Development Bank (ADB) loans has been computed (i) at 2.0% per annum of the first tranche's loan from ADB's Special Funds resources (Asian Development Fund); and (ii) at the 5-year (corresponding to implementation period) USD fixed swap rate plus an effective contractual spread of 0.4%; and a commitment charge of 0.15% on the undisbursed portion of the first tranche's loan from ADB's ordinary capital resources. Financing charges during implementation for the European Investment Bank loan were also calculated based on the 5-year dollar fixed swap rate.

Source: Asian Development Bank.

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

Item	ADB OCR Loan		ADB ADF Loan		UEIF Grant		European Investment Bank		Municipality of Ulaanbaatar		Total Cost
	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Total	% of Cost Category	
A. Investment Costs^a											
1. Land acquisition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02	100.00	1.02
2. Civil works ^b											
a. Water supply and sewerage	0.00	0.00	0.00	0.00	0.00	0.00	25.00	100.00	0.00	0.00	25.00
b. Civil works for USUG	0.00	0.00	0.00	0.00	3.70	100.00	0.00	0.00	0.00	0.00	3.70
c. Socioeconomic facilities	0.00	0.00	4.40	100.00	0.00	0.00	0.00	0.00	0.00	0.00	4.40
d. Heat distribution networks	4.95	55.00	0.00	0.00	0.00	0.00	0.00	0.00	4.05	45.00	9.00
e. Landscaping and river embankments	0.00	0.00	7.07	100.00	0.00	0.00	0.00	0.00	0.00	0.00	7.07
f. Other civil works	18.55	69.60	0.00	0.00	0.00	0.00	0.00	0.00	8.10	30.40	26.65
Subtotal Civil Works	23.50	30.99	11.47	15.13	3.70	4.88	25.00	32.97	12.15	16.02	75.82
3. Detailed engineering design and supervision	0.00	0.00	4.35	100.00	0.00	0.00	0.00	0.00	0.00	0.00	4.35
4. Resettlement support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.76	100.00	1.76
5. Program management support	0.00	0.00	2.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
6. Consulting services	0.00	0.00	2.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
7. Duties and taxes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.18	100.00	6.18
Subtotal (A)	23.50	25.23	19.82	21.28	3.70	43.97	25.00	26.80	21.11	22.67	93.13
B. Contingencies^c											
	1.76	23.78	1.99	26.89	0.00	0.00	2.34	31.70	1.30	17.57	7.40
C. Interest and Commitment Charges^d											
Total Project Cost (A+B+C)	27.50	26.30	22.50	21.50	3.70	3.50	28.38	27.25	22.44	21.50	104.52

ADB = Asian Development Bank, ADF = Asian Development Fund, OCR = ordinary capital resources, UEIF = Urban Environmental Infrastructure Fund, USUG = Ulaanbaatar Water Supply and Sewerage Authority.

Note: Numbers may not sum precisely because of rounding.

^a In mid-2013 prices. Includes value-added tax and import duties. The taxes and duties are estimated at \$6.18 million for project 1. The government will finance these taxes and duties through tax exemptions.

^b Expenditure item includes equipment.

^c Physical contingencies computed at 5% of civil works and consulting services. Price contingencies computed at 8%-3% for local currency costs and 2.2%-0.5% foreign exchange costs.

Includes provision for exchange rate fluctuation under a purchasing power parity exchange rate.

^d Includes interest and commitment charges. Financing charges during implementation on the Asian Development Bank (ADB) loans has been computed (i) at 2.0% per annum of the first tranche's loan from ADB's Special Funds resources (Asian Development Fund); and (ii) at the 5-year (corresponding to implementation period) USD fixed swap rate plus an effective contractual spread of 0.4%; and a commitment charge of 0.15% on the undisbursed portion of the first tranche's loan from ADB's ordinary capital resources. Financing charges during implementation for the European Investment Bank loan were also calculated based on the 5-year dollar fixed swap rate.

Source: Asian Development Bank.

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

Item	Expanded Roads and Urban Services										Institutional Strengthening and Capacity Building								
	Total	RI	% of Cost Category	WSSI	% of Cost Category	SSI	% of Cost Category	HSE	% of Cost Category	MESP	% of Cost Category	IEPS	% of Cost Category	PMI S	% of Cost Category	SSP	% of Cost Category	SDC E	% of Cost Category
A. Investment Costs^a																			
1. Land acquisition	1.02	0.00	0.0	0.00	0.00	0.03	3.1	0.99	97.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2. Civil works ^b	81.99	21.61	26.4	11.76	14.3	13.05	15.9	26.89	32.8	3.70	4.3	5.0	5.8	0.00	0.00	0.00	0.00	0.00	
3. Detailed engineering design and supervision	4.35	1.22	28.0	0.63	14.5	0.22	5.1	2.25	51.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4. Resettlement support	1.76	1.76	100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5. Program management support	2.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	100.00	0.00	0.00	0.00	0.00	0.00	
6. Consulting services	2.00	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.50	25.00	1.50	75.00		
Total Investment Costs	93.13	24.59	26.4	12.39	13.3	13.31	14.3	30.14	32.4	3.70	4.3	5.0	5.4	2.00	2.1	0.50	0.5	1.50	1.6
B. Contingencies^c																			
Physical contingencies	4.64	1.27	27.4	0.85	18.2	0.66	14.3	1.41	30.4	0.00	0.00	0.25	5.4	0.10	2.2	0.03	0.5	0.08	1.6
Price contingencies	2.75	0.81	29.6	0.39	14.3	0.43	15.8	0.95	34.7	0.00	0.00	0.16	5.7	0.00	0.0	0.00	0	0.00	0.0
Subtotal Contingencies	7.39	2.08	28.2	1.24	16.8	1.10	14.9	2.36	32.0	0.00	0.00	0.41	5.5	0.10	1.4	0.03	0.3	0.08	1.0
C. Interest and Commitment Charges^d																			
Total Project Cost	104.52	26.68	26.5	13.63	13.6	14.40	14.3	32.50	33.2	3.70	3.7	5.41	5.4	2.10	2.1	0.53	0.5	1.58	1.6

HSE = heating service expansion, IEPS = increased economic and public services, MESP = more efficient service providers, PMIS = program management and implementation support, RI = roads improvement, SDCE = subcenter development and community engagement, SSI = sewerage system improvement, SSP = strengthening service providers, WSSI = water supply system improvement.

Note: Numbers may not sum precisely because of rounding.

^a In mid-2013 prices. Includes value-added tax and import duties. The taxes and duties are estimated at \$6.18 million for project 1. The government will finance these taxes and duties through tax exemptions.

^b Expenditure item includes equipment.

^c Physical contingencies computed at 5% of civil works and consulting services. Price contingencies computed at 3%-8% for local currency costs and 0.5-2.2% for foreign exchange costs; includes provision for exchange rate fluctuation under a purchasing power parity exchange rate.

^d Includes interest and commitment charges. Financing charges during implementation on the Asian Development Bank (ADB) loans has been computed (i) at 2.0% per annum of the first tranche's loan from ADB's Special Funds resources (Asian Development Fund); and (ii) at the 5-year (corresponding to implementation period) USD fixed swap rate plus an effective contractual spread of 0.4%; and a commitment charge of 0.15% on the undisbursed portion of the first tranche's loan from ADB's ordinary capital resources. Financing charges during implementation for the European Investment Bank loan were also calculated based on the 5-year dollar fixed swap rate.

Source: Asian Development Bank.

F. Detailed Cost Estimates by Year (in \$ million)

Source of Funds	Total	2014	2015	2016	2017	%
I ADF and OCR loans						
A. Investment cost						
Land acquisition	0.00	0.00	0.00	0.00	0.00	0.00
Civil works	34.97	3.49	10.5	13.99	6.99	69.94
Heating distribution networks	4.95	0.49	1.49	1.98	0.99	9.90
Socioeconomic facilities	4.40	0.44	1.32	1.76	0.88	8.80
Landscaping and river embankments	7.07	0.71	2.12	2.83	1.41	14.14
Other civil works	18.55	1.86	5.56	7.42	3.71	37.10
Detailed engineering design & supervision	4.35	0.44	1.31	1.74	0.87	8.70
Resettlement support	0.00	0.00	0.00	0.00	0.00	0.00
Program management support	2.00	0.20	0.60	0.80	0.40	4.00
Consulting services	2.00	0.20	0.60	0.80	0.40	4.00
Subtotal (A)	43.32	4.33	13.00	17.33	8.66	86.64
B. Contingencies	3.75	0.38	1.13	1.50	0.75	7.50
C. Duties and taxes	0.00	0.00	0.00	0.00	0.00	0.00
D. Interest and commitment charges	2.93	0.29	0.88	1.17	0.59	5.86
Subtotal (B+C+D)	6.68	0.67	2.00	2.67	1.34	13.36
Total ADF and OCR Loans	50.00	5.00	15.00	20.00	10.00	100.00
II EIB cofinancing						
A. Investment cost						
Land acquisition	0.00	0.00	0.00	0.00	0.00	0.00
Civil works	25.00	2.50	7.50	10.00	5.00	88.10
Resettlement support	0.00	0.00	0.00	0.00	0.00	0.00
Consulting services	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (A)	25.00	2.50	7.50	10.00	5.00	88.10
B. Contingencies	2.34	0.23	0.70	0.93	0.47	8.20
C. Duties and taxes	0.00	0.00	0.00	0.00	0.00	0.00
D. Interest and commitment charges	1.04	0.10	0.31	0.42	0.21	3.70
Subtotal (B+C+D)	3.38	0.34	1.01	1.35	0.68	11.90
Total EIB cofinancing	28.38	2.84	8.51	11.35	5.68	100.00
III UEIF grant						
A. Investment cost						
Land acquisition	0.00	0.00	0.00	0.00	0.00	0.00
Civil works	3.70	0.37	1.11	1.48	0.74	100.00
Resettlement support	0.00	0.00	0.00	0.00	0.00	0.00
Consulting services	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (A)	3.70	0.37	1.11	1.48	0.74	100.00
B. Contingencies	0.00	0.00	0.00	0.00	0.00	0.00
C. Duties and taxes	0.00	0.00	0.00	0.00	0.00	0.00
D. Interest and commitment charges	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (B+C+D)	0.00	0.00	0.00	0.00	0.00	0.00
Total UEIF grant	3.70	0.37	1.11	1.48	0.74	100.00
IV. MUB counterpart fund						
A. Investment cost						
Land acquisition	1.02	0.10	0.31	0.41	0.20	4.60
Civil works	12.16	1.22	3.65	4.86	2.43	54.24
Resettlement support	1.76	0.18	0.53	0.70	0.35	7.90
Consulting services	0.00	0.00	0.00	0.00	0.00	0.00

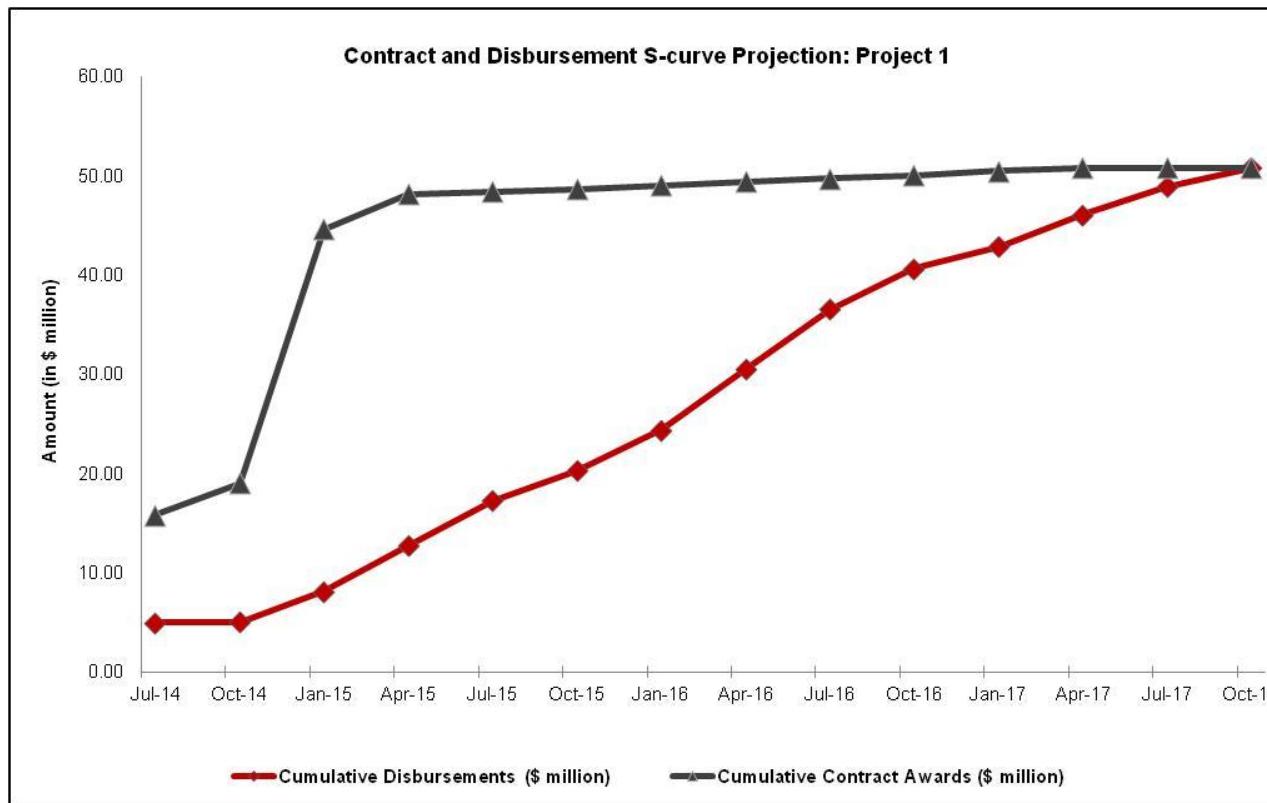
Source of Funds	Total	2014	2015	2016	2017	%
Subtotal (A)	14.94	1.49	4.48	5.98	2.99	66.64
Source of Funds	Total	2014	2015	2016	2017	%
B. Contingencies	1.30	0.13	0.39	0.53	0.26	5.90
C. Duties and taxes	6.18	0.62	1.85	2.47	1.24	27.60
D. Interest and commitment charges	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (B+C+D)	7.48	0.75	2.24	2.99	1.50	33.36
Total MUB financing	22.42	2.24	6.72	8.97	4.49	100.00
Total MUB counterpart fund	22.42	2.24	6.72	8.97	4.49	100.00
Total investment	104.52	10.45	31.36	41.81	20.90	100.00
% Total project cost	10	30	40	20		

^a Numbers may not sum precisely because of rounding.

ADF = Asian Development Fund, EIB = European Investment Bank, MUB = Municipality of Ulaanbaatar, OCR = ordinary capital resources, UEIF = Urban Environmental Infrastructure Fund.

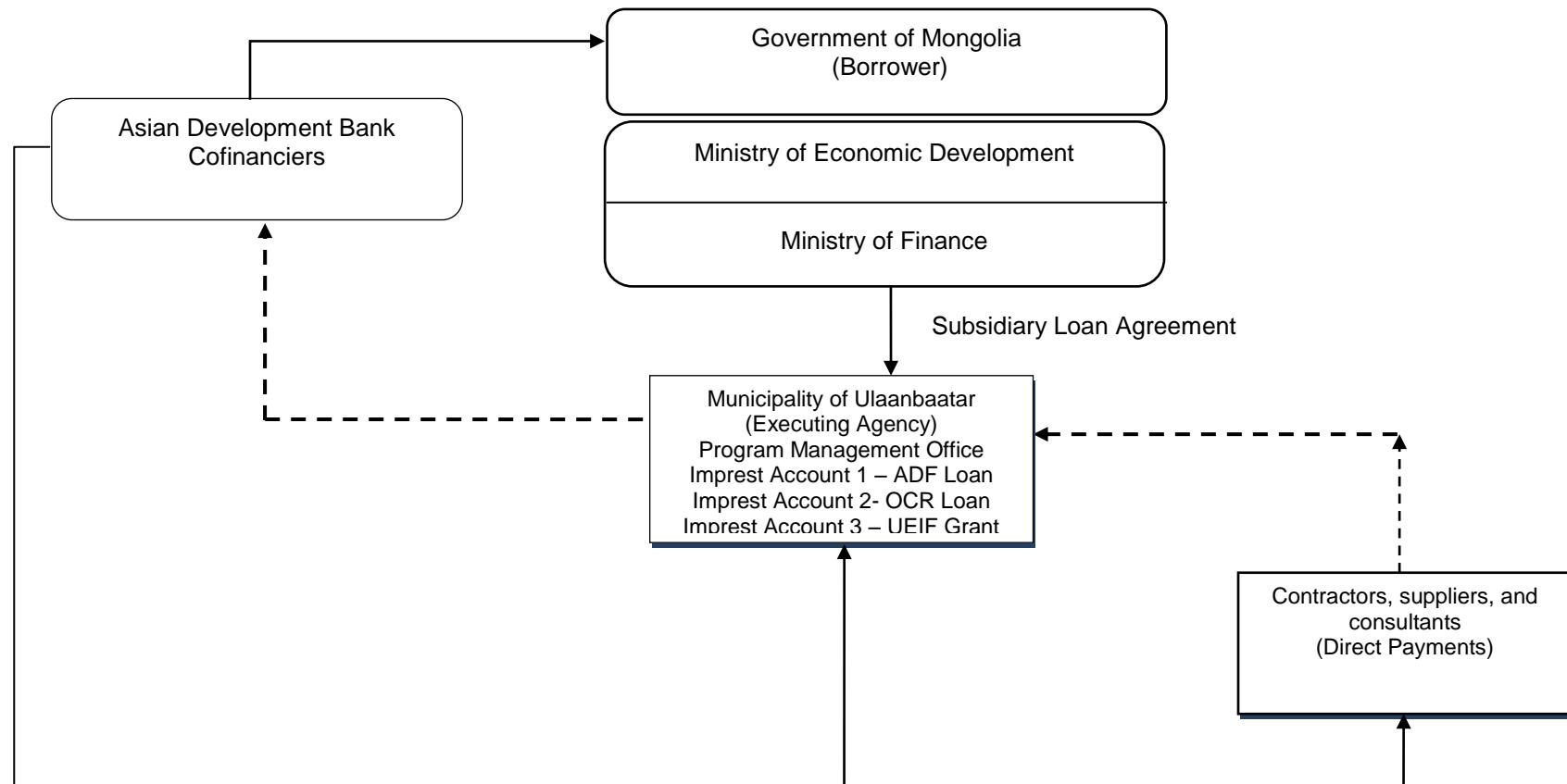
Source: Asian Development Bank.

G. Contract and Disbursement S-curve



Item	Q3 2014	Q4 2014	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017
Cumulative contract awards (in \$ million)	15.84	19.08	44.60	48.13	48.39	48.66	49.01	49.37	49.72	50.00	50.00	50.00	50.00	50.00
Cumulative disbursements (in \$ million)	5.00	5.08	8.13	12.70	17.27	20.32	24.38	30.48	36.57	40.63	42.88	46.08	48.90	50.00

H. Fund Flow Diagram



----- = withdrawal application (W/A) prepared by MUB and forwarded to Ministry of Finance (MOF)

→ = payments released to imprest accounts and/or directly to contractors,

ADF = Asian Development Fund; EA = executing agency, OCR = ordinary capital resources; PMO = project management office; UEIF = urban environmental infrastructure fund

Source: Asian Development Bank.

IV. FINANCIAL MANAGEMENT

A. Financial Management Assessment

21. A financial management assessment (FMA) was carried out in accordance with ADB's guidelines to establish the financial management capacity of the Municipality of Ulaanbaatar (MUB) as the executing agency of the project. The assessment covered funds flow arrangements, accounting policies and procedures, staffing, internal and external audit arrangements, reporting and monitoring system, and the financial information systems. An individual FMA questionnaire was accomplished for the MUB in line with its major role in the project. The accomplished questionnaire is in Appendix 2.

22. In general, adequate knowledge and skills in project management, financial management, financial analysis, and management accounting are prevalent among the officers and staff of the MUB. The Government of Mongolia through its ministries, various decrees, and training strengthened the guidelines for financial management in its hierarchy of governance. The Public Sector Financial Management Law is the overarching decree which regulate the financial management and reporting system of government.

23. The MUB has undertaken studies and development projects funded by government and various donors such as the Japan International Cooperation Agency, World Bank, and others. Involvement had been from project conceptualization, budget preparation, detailed plans, procurement of goods, services, and infrastructure works, project supervision, monitoring, and evaluation. They are equipped with appropriate information and technology hardware and software programs which enable them to perform their tasks efficiently and generate timely reports. Accounting and Finance departments are functioning efficiently with the use of electronic accounting system based on government-prescribed accounting system. Just recently, the World Bank's review and study of the accounting and finance system of the MUB resulted to a set of recommendations to improve transparency in reporting system on the expenditure accounts and better inform the citizenry to access public utilities and services which have received municipal funds for improvement.

24. The results of the FMA showed that the MUB will require technical assistance in the following areas: (i) budget preparation and oversight, (ii) ensuring the fixed asset module of the MUB's accounting software is functioning, (iii) training in procurement guidelines and financial disbursement arrangements, and (iv) financial audit process and requirements. Training on the proper use and accounting of the imprest accounts are recommended.

B. Disbursement

25. The ADB ADF and OCR loan proceeds and grant funds from the UEIF will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2012, as amended from time to time),¹⁵ and detailed arrangements agreed upon between the government and ADB.

26. Pursuant to ADB's Safeguard Policy Statement (2009),¹⁶ 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. All financial institutions will ensure that their investments are in compliance with applicable national laws and regulations and will apply the prohibited

¹⁵ Available at: http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf

¹⁶ Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>

investment activities list (Appendix 5) to subprojects financed by ADB.

27. The government will open two separate imprest accounts for the ADF and OCR loans proceeds and one imprest account for the UEIF grant proceeds. The imprest account will be established, managed, and liquidated in accordance with ADB's *Loan Disbursement Handbook* and detailed arrangements agreed by the government and ADB. The maximum ceiling of the respective imprest account will not at any time exceed 10% of the respective loan and grant. The currency of the imprest accounts will be the US dollar. The respective imprest account, which will be opened at a commercial bank acceptable to ADB, will be used exclusively for ADB's share of eligible expenditures.¹⁷ The MUB as executing agency will be accountable and responsible for proper use of advances to the imprest accounts. The MUB may request for initial and additional advances to the respective imprest accounts based on an Estimate of Expenditure Sheet setting out the estimated expenditures to be financed through the respective imprest account for the forthcoming 6 months. Supporting documents should be submitted to ADB or retained by the MUB in accordance with ADB's *Loan Disbursement Handbook* when liquidating or replenishing the imprest accounts

28. ADB's statement of expenditures (SOE) procedures are proposed for reimbursement and liquidation and replenishment of the imprest accounts, with applicable SOE ceiling. The ceiling of the SOE procedure is the equivalent of \$ 100,000 per individual payment.

29. Before the submission of the first withdrawal application, the government will submit to the 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. All withdrawal applications will be consolidated by the Ministry of Finance and submitted to ADB. The minimum value per withdrawal application is \$100,000 equivalent, unless otherwise approved by ADB. Individual payments below this amount should generally be paid from the imprest accounts or by the MUB and subsequently claimed to ADB through reimbursement. ADB reserves the right not to accept withdrawal applications below the minimum amount. Withdrawal applications and supporting documents will demonstrate, among other things that the goods, and/or services were produced in or from ADB member countries and are eligible for ADB financing.

30. 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. SOE records should be maintained and made readily available for review by ADB's disbursement and review mission or upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit.¹⁸

31. Notwithstanding any other provision of the loan agreement, no withdrawals shall be made from the OCR loan account for civil works related to the heat distribution networks [which are linked to the EIB-cofinanced components of the project] until the Borrower has certified to ADB in writing that the execution and delivery of the EIB Loan agreement on behalf of the

¹⁷ Bank charges incurred in the operation of the imprest accounts may be financed from the loans and grant proceeds.

¹⁸ Checklist for SOE procedures and formats are available at:

http://www.adb.org/documents/handbooks/loan_disbursement/chap-09.pdf

http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Contracts-100-Below.xls

http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Contracts-Over-100.xls

http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Operating-Costs.xls

http://www.adb.org/documents/handbooks/loan_disbursement/SOE-Free-Format.xls

Borrower and EIB shall have been duly authorized or ratified by all necessary corporate and governmental action.

C. Accounting

32. The MUB will maintain separate books and records by funding source for all expenditures incurred on the project. The PMO will prepare consolidated project financial statements in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices.

D. Auditing

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

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

35. The MUB shall furnish to ADB, on an annual basis during a period from loan effectiveness to loan closing, no later than 1 month after approval by the relevant authorities, copies of its annual audited financial statements in the English language audited by an independent auditors whose qualifications, experience and terms of references are acceptable to ADB.

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

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

38. Public disclosure of the project financial statements, including the audit report on the project financial statements, will be guided by ADB's Public Communications Policy (2011). After review, ADB will disclose the project financial statements for the project and the opinion of the auditors on the financial statements within 30 days of the date of their receipt by posting

them on ADB's website. The Audit Management Letter will not be disclosed.

V. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting and Retroactive Financing

39. The Asian Development Bank (ADB) has approved retroactive financing for all consulting services except those pertaining to strengthening service providers, and advance contracting for strengthening service providers, heat distribution networks, and water and wastewater operation improvement packages. All advance contracting to be financed out of the proceeds of the loan shall be subject to and governed by ADB's Procurement Guidelines (2013, as amended from time to time)¹⁹ and Guidelines on the Use of Consultants²⁰ (2013, as amended from time to time). The issuance of invitations to bid under advance contracting will be subject to ADB approval. The borrower, and the executing, and implementing agency have been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the project.

40. Withdrawals from the Loan Account may be made for reimbursement of eligible expenditures incurred under the Project before the Effective Date, but not earlier than 12 months before the date of the Loans Agreements in connection with civil works and consulting services, subject to a maximum amount equivalent to 20% of the respective loans and grant amounts.

B. Procurement of Goods, Works, and Consulting Services

41. Procurement of goods and services financed under the investment program will be in accordance with ADB's Procurement Guidelines. All procurement contracts will contain anticorruption provisions as specified by ADB. Procurement will generally be carried out by the program management office (PMO) with the support and guidance of detailed design consultants and project implementation support consultants.

42. Civil works above \$1,000,000 or goods above \$500,000 will be procured through international competitive bidding (ICB), civil works below \$1,000,000 through national competitive bidding (NCB), and civil works below \$3,000,000 for road works only through NCB. Equipment and selected material packages worth \$100,000 to \$500,000 will be procured using NCB, while packages under \$100,000 will be procured through shopping. Force accounts will be used for minor works that cannot be defined in advance. Before commencement of NCB procurement, ADB and the government may review the government's procurement procedures to ensure consistency with ADB's requirements. Any necessary modifications or clarifications will be documented in the procurement plan.

43. The procedures to be followed for national competitive bidding shall be those set forth in the Public Procurement Law of Mongolia of 1 December 2005, effective 1 February 2006, as amended on 6 February 2007, 16 July 2009, 10 June 2010, 9 June 2011 and December 2011 (referred to as PPLM), with the clarifications and modifications required for compliance with the provisions of ADB's Procurement Guide.

44. The implementation of project 1 covering the Bayankhoshuu and Selbe subcenters will include (i) 13 contracts for civil works procured under ICB method, and (iii) six contracts for

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

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

consultancy services for the development of design and tender documents and construction supervision and for institutional support.

45. All consultants will be recruited according to ADB's Guidelines on the Use of Consultants.

C. Procurement Plan

Basic Data

Project Name: Ulaanbaatar Urban Services and Ger Areas Development Investment Program	Executing Agency: Municipality of Ulaanbaatar
Country: Mongolia	Loan Number : XXXX
Loan Amount: \$50 million	Grant Number: XXXX
Grant Amount: \$3.7 million	Date of this Procurement Plan: 1 November 2013
Date of First procurement Plan: 15 May 2013	

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

(a) Project Procurement Thresholds

46. Except as ADB may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works

Method	Threshold
International Competitive Bidding for Works	Equal or more than US\$1,000,000
International Competitive Bidding for Goods	Equal or more than US\$500,000
National Competitive Bidding for Works	Equal or more than US\$ 100,000 and below US\$ 1,000,000 (or below \$3,000,000 for road works only)
National Competitive Bidding for Goods	Equal or more than US\$ 100,000 and below US\$ 500,000
Shopping for Works	Below US\$ 100,000
Shopping for Goods	Below US\$ 100,000
Direct Contracting	Only in special cases
Any other methods of procurement approved for use (see Section III of the Procurement Guidelines)	Not applicable

(b) ADB Prior or Post Review

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

Procurement Method	Prior or Post	Comments
Procurement of Goods and Works		
International Competitive Bidding Works and Goods	Prior	
International Competitive Bidding Goods	Prior	
National Competitive Bidding Works	Prior	Prior review only for the first package
National Competitive Bidding Goods	Prior	Prior review only for the first package
Shopping for Works	Post	
Shopping for Goods	Post	
Recruitment of Consulting Firms		
Quality- and Cost-Based Selection	Prior	Information to be submitted: (i) draft request for proposals; (ii) shortlist of consultants; and (iii) evaluation and ranking report

Procurement Method	Prior or Post	Comments
Quality-based Selection	Prior	
Other selection methods: Consultants Qualifications, Least-cost Selection, Fixed Budget, and Single Source Selection	Prior	
Recruitment of Individual Consultants		
Individual Consultants	Prior	

D. Goods and Works Contracts Estimated to Cost more than \$1 Million

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

General Description	Contract value (in US\$)	Procurement Method	Prequalification of Bidders (Y/N)	Advertisement date (Quarter/Year)	Comments
Bayankhoshuu Subcenter Subproject					
Construction of (i) 4.96 km road, 5.5 m CW, 1 m sidewalk & underground power line; (ii) 1.19 km road, 5.5m CW; (iii) treatment of 1800 m ² remaining space roads and/or plots; (iv) power line in Bayankhoshuu subcenter	6,067,000	ICB	N	November-14	Civil Works Contract (Itemized BOQ).
Construction of (i) 4.32 ha landscaping; (ii) 868 m of drainage culvert - 6m ³ /ml earth filling + 6m ³ /ml concrete + asphalt road in Bayankhoshuu subcenter.	4,336,000	ICB	N	November-14	Civil Works Contract (Itemized BOQ).
Construction of a kindergarten + business incubator/vocational training center 2,500 m ² in Bayankhoshuu subcenter.	2,200,000	ICB	N	January-15	Civil Works Contract (Itemized BOQ).
Construction of (i) 14.4 km of HDPE water supply and sewerage network HDPE pipelines, manholes, valves, water and flow meters, water and sewerage connections, and related appurtenances; (ii) 3.45 km of Dia 300 mm HDPE sewerage collector main; and (iii) one 500 m ³ ground reservoir in Bayankhoshuu.	9,854,900	ICB	N	April-14	Civil Works Contract (Itemized BOQ). For EIB Advance contracting
Construction of 8.7 km of double DN80 - DN 200 heat distribution network mains, including supply and installation of insulated GRE and steel pipelines, manholes, valves, water and flow meters, heating service connections, and related appurtenances in Bayankhoshuu.	3,891,700	ICB	N	April-14	Civil Works Contract (Itemized BOQ). Advance contracting
Construction of two heating facilities to support a district heating system in Bayankhoshuu, including supply of all equipment and materials, automatic controls, emission control equipment, and connections to local infrastructure.	4,960,000	ICB	N	December-14	Civil Works Contract (Itemized BOQ).
Selbe Subcenter Subproject					
Construction of (i) 5.35 km road, 5.5 m CW, and underground power line; (ii) 3.42 km road, 5.5 m CW; (iii) treatment of 1800 m ² remaining space roads and/or plots; and (iv) underground power line in Selbe subcenter.	8,490,000	ICB	N	November-14	Civil Works Contract (Itemized BOQ).
Construction of (i) 2 bridges, 1000 m ² & improvement of existing river embankment 2km; (ii) landscaping 3.12 ha in Selbe subcenter.	2,734,000	ICB	N	November-14	Civil Works Contract (Itemized BOQ).
Construction of a kindergarten + business incubator/vocational training center 2,500 m ² in Selbe subcenter.	2,200,000	ICB	N	January-15	Civil Works Contract (Itemized BOQ).
Construction of (i) 23.7 km of HDPE water supply and sewerage network;	14,674,000	ICB	N	April-14	Civil Works Contract

General Description	Contract value (in US\$)	Procurement Method	Prequalification of Bidders (Y/N)	Advertisement date (Quarter/Year)	Comments
(ii) one 2 x 10 kW pumping station, 1.18 km of Dia 250 mm HPDE gravity sewerage pipe and 0.91 km of Dia 200 mm pressure sewerage pipe; (iii) 2.43 km Dia 400 mm and 0.12 km Dia 300 mm HDPE sewerage collector main; and (iv) one 500 m ³ ground reservoir, including supply of piping, valves, electrical equipment and remote control devices in Selbe.					(Itemized BOQ). For EIB Advance contracting
Construction of 12.7 km of double DN80 - DN 200 heat distribution network mains including supply and installation of insulated GRE and steel pipelines, manholes, valves, water and flow meters, heating service connections and related appurtenances in Selbe.	5,106,500	ICB	N	April-14	Civil Works Contract (Itemized BOQ). Advance contracting
Construction of three heating facilities to support a district heating system in Selbe, including supply of all equipment and materials, automatic controls, emission control equipment, and connections to local infrastructure.	7,440,000	ICB	N	December-14	Civil Works Contract (Itemized BOQ).
Water and Wastewater Operation Improvement Subproject					
Procurement and installation of pump equipment, SCADA equipment to be connected to an operational control center for monitoring of nonrevenue water and wastewater treatment process; installation of diffusers in wastewater treatment plant and other civil works; capacity building program.	3,700,000	ICB	N	February-14	Plant Design, Supply and Install Advance contracting

BOQ = bill of quantities, CW = carriage way, EIB = European Investment Bank, HDPE = high density polyethylene, ICB = international competitive bidding, km = kilometer, kW = kilowatt, m = meter, m² = square meter, m³ = cubic meter, mm = millimeter, SCADA = supervisory control and data acquisition.

Source: Asian Development Bank estimates.

E. Consulting Services Contracts Estimated to Cost more than \$100,000

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

General Description	Contract value (in US\$)	Recruitment Method	Advertisement date (Quarter/Yr)	International or National assignment	Comments
Engineering Services					
Design, tendering, and construction supervision for (i) urban and social infrastructure and access roads; (ii) water supply and wastewater systems and Turnkey procurement for Water and Wastewater Operation Improvement Project for the USUG; and (iii) district heating systems including heating facilities, and heat distribution pipe networks for Bayankhoshuu and Selbe subcenters. Feasibility study preparation for project 2.	4,347,700	QCBS (90:10)	October 2013	International - National Consultant	Recruitment by PMO, retroactive financing
Program management support					
Strengthened program implementation capacity	1,250,000	QCBS (90:10)	October 2013	International/ National Consultants	Recruitment by PMO, retroactive financing
Program management office staff	750,000	10 IS	September 2013	National	Recruitment by the MUB, retroactive financing
Subcenter Development and Community Engagement Support					
Improved subcenter planning and development	800,000	QCBS (90:10)	October 2013	International - National Consultant	Recruitment by PMO, retroactive financing
Community engagement	700,000	QCBS (90:10)	October 2013	International - National Consultant	Recruitment by PMO, retroactive financing
Improved Operation and Maintenance of Service Providers					
Support to the service delivery organizations USUG, OSNAAG, kantors, and heat-only boiler operators to improve the management of the services	500,000	QCBS (90:10)	January 2014	International / National Consultants	Recruitment by PMO, advance contracting

CQS = consultant qualification selection, MUB = Municipality of Ulaanbaatar, PMO = program management office, QCBS = quality and cost-based selection, SME = small and medium enterprises, USUG = Ulaanbaatar Water Supply and Sewerage Authority.

9. Indicative List of Packages Required Under the Project

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

General Description	Estimated Value ^a (cumulative)	Estimated Number of Contracts	Procurement Method	Domestic Preference Applicable	Comments
Works (> 1 million\$)	71,954,101	12	ICB	N	Detailed in para. 45
Water and wastewater operation improvement	3,700,000	1	ICB	N	Detailed in para. 45
Engineering consulting services	4,347,700	1	QCBS		QCBS ratio: 90-10
Capacity building and institutional support	2,000,000	3	QCBS		QCBS ratio: 90-10
Program management office	2,000,000	1/10	QCBS/IS		QCBS ratio: 90-10

ICB = international competitive bidding, QCBS = quality and cost-based selection.

^a All contract values in this procurement plan exclude taxes and duties, which will form part of the Municipality of Ulaanbaatar's counterpart contributions to the program and project investment plan through tax exemptions.

(a) National Competitive Bidding

i. General

51. The procedures to be followed for national competitive bidding shall be those set forth in the Public Procurement Law of Mongolia of 1 December 2005, effective 1 February 2006, as amended on 6 February 2007 and 16 July 2009 (hereinafter referred to as PPLM), with the clarifications and modifications described in the following paragraphs required for compliance with the provisions of ADB's Procurement Guidelines.

- (i) The Standard Bidding Documents of Mongolia for Goods and Works that have been approved by ADB as acceptable for ADB-financed projects, together with ADB's clarifications and modifications thereto, shall be used.
- (ii) Government-owned enterprises in Mongolia shall be eligible for projects only if they can establish that they (a) are legally and financially autonomous, (b) operate under the principles of commercial law, and (c) are not dependent agencies of the executing and/or implementing agency.
- (iii) If a bid security is required, the bid security shall be in any of the following forms at the bidder's option: (a) a bank guarantee, or (b) a cashier's or certified check.
- (iv) Bidders must be nationals of member countries of ADB, and offered Goods and Works must be produced in and supplied from member countries of ADB. Bidders or potential bidders shall not be required to register with the taxation and other registration authorities of the government as a condition or requirement of bidding or award, leaving these requirements for after award and before signing of contract.

- (v) Foreign bidders from eligible countries of ADB shall be allowed to participate in bidding under the same conditions as local bidders and without any domestic preference.
- (vi) Prequalification shall not be required, except in the case of large or complex works, and with prior written concurrence of ADB.
- (vii) Qualification criteria shall be clearly specified in the bidding documents, and all criteria so specified shall be used to determine whether a bidder is qualified. The evaluation of a bidder's qualifications shall only take into account the bidder's capacity and resources to perform the contract, in particular its experience and past performance on similar contracts, capabilities with respect to personnel, equipment and construction or manufacturing facilities, and financial position. The evaluation of the bidder's qualifications shall be conducted separately from the technical and commercial evaluation of the bid.
- (viii) Evaluation and qualification criteria, and submission requirements, to be used in each bidding activity shall be clearly specified in the bidding documents. The evaluation of bids shall be done in strict adherence to the criteria specified in the bidding documents.
- (ix) The invitation to bid and the bidding documents shall be prepared in the Mongolian language. If another language will be used, then such other language shall be English.
- (x) Bidders shall be requested to extend the validity of their bids only under exceptional circumstances and the executing or implementing agency, as the case may be, shall communicate such request for extension to all bidders before the date of expiry of their bids. When the procurement is subject to ADB's prior review, the executing or implementing agency, as the case may be, shall obtain in a timely manner the prior written concurrence of ADB for the extension of the bid validity period.
- (xi) All bids shall not be rejected or new bids invited without ADB's prior written concurrence. No bid shall be rejected merely on the basis of a comparison with the estimated cost or budget ceiling without ADB's prior written concurrence (with specific reference to Article 30 of the PPLM).
- (xii) Negotiations with bidders shall not be undertaken before award of contract, except as provided in paragraph 2.63 of ADB's Procurement Guidelines (with specific reference to Article 30.2 of the PPLM). A bidder shall not be required, as a condition for award, to undertake obligations not specified in the bidding documents or otherwise to modify its bid as originally submitted.
- (xiii) Bidding documents and contracts under national competitive bidding procedures financed by ADB shall include a provision requiring suppliers, contractors, and consultants to permit ADB to inspect their accounts and records relating to the bid submission and the performance of the contract by the supplier, contractor and/or consultant, as the case may be, and to have them audited by auditors appointed by ADB, if so required by ADB.
- (xiv) At the same time that notification on award of contract is given to the successful bidder, the results of the bid evaluation shall be posted on a well-known freely accessible website (namely Mongolia's Ministry of Finance e-procurement website: www.e-procurement.mn) identifying the bid and lot numbers and providing information on the (a) name of each bidder that submitted a bid, (b) bid prices as read out at bid opening, (c) names of bidders whose bids were rejected and the reasons for their rejection, and (d) name of the winning bidder, and the price it offered, as well as the duration and summary scope of the contract awarded. The executing or implementing agency, as the case may be, shall

respond in writing to unsuccessful bidders who seek explanations on the grounds on which their bids were not selected.

(b) Advance Contracting and Retroactive Financing

52. All advance contracting and retroactive financing will be undertaken in conformity with ADB's Procurement Guidelines and ADB's Guidelines on the Use of Consultants. The issuance of invitations to bid under advance contracting will be subject to ADB approval.²¹ The borrower and executing and implementing agencies have been advised that approval of advance contracting does not commit ADB to finance the project.

E. Consultant's Terms of Reference

53. Implementation of tranche 1 of the investment program will require 222.5 person-months of international and 749 person-months of national consultants with expertise in (i) urban infrastructure planning, design, tendering, construction, and operation and management; and (ii) institutional strengthening and capacity building in urban planning and management and service delivery. The consultants will provide the following services: (i) preparation of detailed engineering design, specifications, bill of quantities, and bidding documents, tendering and construction supervision for (a) urban and social infrastructure and access roads, (b) water supply and wastewater systems and the turnkey procurement for the water and wastewater operation improvement project for the Ulaanbaatar Water Supply and Sewerage Authority (USUG), and (c) district heating system including heating facilities, and heat distribution pipe networks; and (ii) institutional strengthening and capacity building covering (a) implementation of the capacity building and institutional support plan—support to improve urban planning and subcenter development, the implementation of institutional and regulatory reforms to improve the service providers, and to strengthen program implementation capacities; and (b) consulting services for community engagement and small and medium enterprise development. The outline consulting assignments are summarized below.

54. The detailed terms of reference for each are in Appendix 1.

55. **The preparation of detailed engineering design, tendering, and construction supervision** will require 448.5 person-months of consultants—99.5 person-months of international and 349 person-months of national consultants and advisers. The consultants will have expertise in engineering design and construction supervision of heating systems, water supply and wastewater systems, urban roads and drainage, and public facilities; urban design and landscaping; geodetic engineering; and AutoCAD operations. The consultants will (i) carry out all surveys, field verification, studies, collection of data, and analyses needed to prepare the detailed engineering designs and contract documents for the above components, and for the turnkey procurement for the water and wastewater operation improvement project; (ii) prepare detailed engineering designs, technical specifications, bill of quantities, cost estimates, and tender documents for the above components; (iii) provide support to the program management office (PMO) for the supervision of construction and compliance with project designs and specifications; (iv) develop the project risk management procedures; (v) update and/or finalize required safeguards documents, including the resettlement plan, initial environment examination or environment impact assessment, and environment management plan in compliance with

²¹ Checklists for actions required to contract consultants by method are available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>

ADB guidelines and the relevant frameworks agreed between ADB and the Government of Mongolia; and (vi) act as resource persons for training and development activities.

56. The implementation of the institutional strengthening and capacity building component 1: improved subcenter planning and development will require 69 person-months of consultants—20 person-months of international and 49 person-months of national consultants and advisers. The consultants will have expertise in urban development finance, urban design and planning, real estate market analysis, land management, legal aspects, urban economics, micro-enterprise and housing finance, and project monitoring. The consultants will (i) support the MUB in the establishment the mechanisms and regulations for subcenter redevelopment; provide orientation and training of relevant staff engaged in the subcenter redevelopment process; (ii) closely monitor the planning and redevelopment process to ensure the integration of the current residents into the subcenter redevelopment plan; (iii) facilitate community and private development and financing entities consultations on the subcenter redevelopment concept and plans; (iv) formulate policy options, approaches, and tools and methods to facilitate the formulation of and communication on the subcenter plans and ger areas development; and (vi) develop appropriate urban planning/design regulations for ger areas, Ger Area Development Agency, Ger Area Housing Project, and PMO staff on all aspects of urban planning and management; and (vii) act as resource persons for the training and development activities.

57. The implementation of the institutional strengthening and capacity building component 2: improved operations and management by service providers and institutional and regulatory reform will require 45 person-months of consultants—12 person-months of international and 33 person-months of national consultants and advisers. The consultants will have expertise in institutional and regulatory reform, public-private partnerships and transactions, public utility tariffs and economics, water and waste water operations and maintenance, and wastewater treatment plant operations and maintenance. The consultants will (i) assist USUG in the implementation of operation and maintenance (O&M) management improvements to control nonrevenue water, monitor installation of the new operational controls, and assist USUG in developing its business planning processes; (ii) assist the MUB (PMO) in the selection and contracting out the heating plant agency to operate the new heating facilities; (iii) provide on the job and formal training to USUG, OSNAAG, *kantor*, and possible heating agency staff on all aspects of project management; (iv) improve provisions in the OSNAAG management and the USUG performance contracts; (v) improve the revenue base of service providers; (vi) improve efficiency and effectiveness of service delivery; (vii) improve the capacity of Water Supply Regulatory Commission and the Energy Regulatory Commission; (viii) set clear policy directions based on comprehensive studies and recommendations to facilitate the Government of Mongolia's priority for the development state of the art environmentally friendly gas-fired district heating; (ix) supervise the implementation of the water and wastewater operational improvements; and (x) act as resource persons for the training and development activities.

58. The implementation of the institutional strengthening and capacity building component 3: strengthened program implementation capacity will require 97.5 person-months of consultants—33 person-months of international and 64.5 person-months of national consultants and advisers. The consultants will have expertise in the implementation of urban services projects, municipal engineering, urban and/or utility services finance, procurement, social safeguards and gender, environmental management, and financial management and accounting. The international and national financial experts to be engaged must have a recognized professional accountancy qualification, such as Chartered Accountant or Certified

Public Accountant, and financial management and accounting. The consultants will (i) assist the MUB in staffing the PMO and adopting procedures and safeguards—involuntary resettlement and environment—which are consistent with the guidelines of ADB and the Government of Mongolia; (ii) establish detailed work schedules and the work load distribution for the PMO; (iii) provide on the job and formal training to PMO staff on all aspects of project management; (iv) set up and operationalize the financial management and accounting system for the investment program, including disbursements; (v) monitor and ensure the effective implementation of the resettlement plan, the environmental management plan, and other safeguard requirements; and (vi) act as resource persons for the training and development activities.

59. **Community engagement and small- and medium enterprise development services** will require 78 person-months of consultants—18 person-months of international and 60 person-months of national consultants and advisers. The consultants will have expertise in social and poverty analysis, community development, small- and medium- enterprises (SME) development, gender, communications, social mobilization, implement and monitor SAP and GAP, and legal aspects. The consultants will facilitate and guide (i) the capacity building of the CDCs and SME development council; (ii) consultations; (iii) the registration of the CDCs and/or SDCs, formalize their organizational, project, and financial management systems, policies and procedures, and provide legal support to the CDCs; (iv) the implementation of the SME development plan; (v) the consultation and participation of women and other vulnerable community members; (vi) the CDCs to engage into community contracts with the construction companies; (vii) the information, education, and communication of the project; (viii) the CDCs and SDCs in mobilizing resources; (ix) the consultations with affected people to ensure smooth planning, land acquisition and resettlement negotiation, and implementation of project 1; (x) the monitoring of current residents integration into the redevelopment plan of the targeted areas; (xi) capacity building on O&M, estate management, community contracting, savings mobilization and micro-credit operations, and CDC engagement in the subcenter redevelopment process and (xii) provide technical guidance through formal and on-the-job training.

VI. SAFEGUARDS

60. **Environment.** Project 1 was classified as category B for environment by the Asian Development Bank (ADB) as it will not have significant and/or irreversible negative environmental impacts. An initial environmental examination (IEE), including environmental management plan (EMP) for project 1, as well as an environmental assessment and review framework (EARF) for the entire multitranche financing facility (MFF) investment program, have been prepared. The EARF²² provides guidance for the selection, screening and categorization, environmental assessment, and preparation and implementation of environmental safeguard plans of projects and subprojects prepared after approval of the investment program to comply with ADB's Safeguard Policy Statement (SPS, 2009) and the Law on Environmental Impact Assessment of Mongolia (2012). The IEE, including a comprehensive EMP for project 1, was prepared by the PPTA on behalf of MUB. Domestically, project 1 was subject to general environmental impact assessment (GEIA) by the Ministry of Environment and Green Development (MEGD). The GEIA conclusion has required the preparation of a detailed EIA (DEIA) for each subcenter, expected to get approval from MEGD in October 2013. The EMP is in Appendix 4 of this facility administration manual.

61. **Institutional responsibilities.** The EARF and EMP specify the roles and responsibilities of institutions (including the Municipality of Ulaanbaatar (MUB), the program management office (PMO), project units, contractors, and environment consultants) in overall environmental management.

62. The MUB as executing agency has the overall responsibility for compliance with EARF, IEEs, and EMPS. The PMO will handle day-to-day activities under the program. The PMO will ensure compliance with assurances, including preparation, finalization, and implementation of the EMP for each tranche. It will be staffed with at least one environmental safeguard staff (an environmental engineer/scientist). The PMO environmental safeguard staff will be responsible for the coordination and supervision of the implementation of the EARF and project 1 EMP, including (but not limited to) (i) updating IEE and EMP after detailed project design for project 1 and subsequent projects; (ii) overseeing incorporation of EMP recommendations into the bidding documents; (iii) ensuring the procurement of environmentally responsible contractors; (iv) ensuring that DEIA approval by MEGD has been secured prior to the awarding of civil works contract; (v) setting up baseline ambient air quality, noise and vibration levels, ground- and surface water quality and baseline in concerned *khoros*²³ for subsequent projects; (vi) setting up, coordinating, and reporting on the grievance redress mechanism (GRM, see below); (vii) monitoring contractors to ensure adherence to the project 1 EMP and the contractor EMPS; (viii) preparing monthly reports on project EMP implementation to the PMO; (ix) coordinating consultation with local stakeholders as required, informing them of imminent construction works, updating them on the latest project development activities, GRM, etc.; (x) supporting the environment consultants in conducting training, EMP compliance reviews, annual reporting, etc.; and (xi) coordinating the preparation of IEEs, including EMPS, for subsequent tranches.

63. Contractors will be required to formulate contractor EMPS with complete management systems for adverse impacts, e.g., dust control, noise control, traffic management, addressing as minimum the requirements of the project 1 EMP. The contractor EMPS will be reviewed and cleared by the PMO, and by the MEGD as necessary. To ensure that the contractors comply with the project 1 EMP provisions, the PMO will prepare and provide the following specification

²² Environmental Assessment and Review Framework (accessible from the list of RRP linked documents).

²³ Same with *kheseg*, lowest administrative structures in the community.

clauses for incorporation into the bidding procedures: (i) a list of environmental management requirements to be budgeted by the bidders in their proposals; (ii) environmental clauses for contractual terms and conditions; and (iii) the full project 1 EMP and DEIAs in Mongolian.

64. In compliance with the agreed upon procurement plan, the PMO will procure the services of environment consultants to provide support in (i) project preparation including updating the project 1 EMP; (ii) training; (iii) quarterly environmental quality monitoring (air, surface and ground water, and noise); (iv) annual project EMP implementation reporting; (v) identifying environment-related implementation issues and necessary corrective actions; and (vi) undertaking site visits as required.

68. **Environment grievance redresses mechanism.** Environment safeguards related complaints or disputes will be handled in accordance with the grievance redress mechanism established for the investment program and project 1. The GRM will be linked to the Citizen Service Center of the Office of the Mayor of Ulaanbaatar (established in 2012 by virtue of Mayor's Ordinance A/675 for a centralized system of receiving, referring, solving and responding to public grievances in the Capital City). The environment specialist of the PMO will coordinate the environment GRM. The GRM is defined in the EMP (Appendix 4 of the FAM).

69. **Information disclosure.** In compliance with the SPS, environmental information related to tranche 1 components will be disclosed as follows: (i) the environmental impact assessments (EIAs) or initial environmental examinations (IEEs) for each tranche will be disclosed on ADB's project website (www.adb.org), and will be available for consultation in the PMO's office; (ii) detailed environmental impact assessments (DEIAs) approved by the Ministry of Environment and Green Development (MEGD) will be disclosed on the MEGD website; and (iii) annual EMP implementation report will be available at www.adb.org.

70. **Resettlement.** Land acquisition and resettlement plans for tranche 1 have been prepared for Bayankhoshuu and Selbe. The land acquisition and resettlement plans for tranche 1 and the resettlement framework for the entire MFF investment program are attached as linked documents.

71. **Institutional arrangements.** The executing agency and implementing agency will be the Municipality of Ulaanbaatar. The vice mayor in charge of urban development and investment of the MUB will be responsible for coordinating the program implementation. A program management office (PMO) has been established under the chief of the mayor office and will be transferred to the vice mayor in charge of urban development and investment. The PMO director will be the vice mayor in charge of the urban development and investment. The PMO will be operational and fully staffed by September 2013. External staff will be recruited as needed, including specialists in land acquisition and resettlement. The PMO will also be assisted by a technical assistance consultant team who will be engaged—as part of the capacity building/institutional support to provide advisory and capacity building services to the executing agency and PMO. Land acquisition and resettlement process will be supported by community engagement consulting services to ensure smooth negotiations with the affected people. Resettlement plan implementation activities will also be overseen by a resettlement plan implementing committee (RPIC). The RPIC will be comprised of key government officials at the district and *khoroo* levels, and other relevant²⁴ government departments and agencies from the MUB, including representatives of Ulaanbaatar property relations department, the PMO, and representatives of affected entities, women, and NGOs. The RPIC will be formed at the start of

²⁴ Agencies responsible for urban roads, water, sewerage, power, etc.

subproject design so that affected entities' input may be incorporated into the design. This will also ensure that key government institutions including local governments are involved and their coordination is ensured in finalizing the resettlement plans for tranche 1, preparing the resettlement plans for subsequent tranches and carrying out LAR implementation tasks.

72. The PMO will ensure compliance with assurances, including safeguards and preparation, finalization, and implementation of the resettlement plan for each tranche. The resettlement plans for tranche 1 were prepared based on feasibility design; the information it contains is preliminary and estimates only. During the detailed design, the two resettlement plans will be finalized based on a complete census, updated detailed measurement survey, latest replacement rates, and further consultation with and participation of affected persons. The impacts of the subprojects under tranche 1 that are not covered by the two resettlement plans prepared for tranche 1 will be addressed in accordance with the provisions of ADB Operations Manual F1 (para. 51) for subprojects prepared after board approval and in accordance with the Resettlement Framework. The land acquisition and resettlement impacts of these subprojects will be insignificant. The time for implementation of the resettlement plan for tranche 1 shall be scheduled as per LAR procedures and integrated with the project civil works implementation schedules. All activities related to land acquisition and resettlement must be implemented in a manner that ensures that compensation and other entitlements are provided to affected persons prior to their displacement and to commencement of civil works.

73. Training workshops will be provided for the staff of PMO, *khoroo*, and other government officials involved in LAR activities, including the members of RPIC, representatives of the affected persons and other stakeholders about the resettlement plan provisions and implementation arrangements, as well as the principles and safeguards requirements of ADB resettlement policy, the agreed resettlement framework and legislation of Mongolia. The training will also highlight the differences between the provisions of the SPS and the Mongolian laws and explain how to ensure that the SPS requirements are met.

74. **Land acquisition and resettlement grievance redress mechanism.** The MUB will form an RPIC, comprised of the key government offices at the district and *khoroo* levels, including representatives of the Ulaanbaatar Land Administration Department, the Property Relations and Asset Office, PMO staff, as well as representatives of affected persons/households in the grievance redress process. The RPIC shall be formed prior to commencement of detailed design. In this manner, it will be accessible for any disputes and concerns of affected persons raised during the design stage, final inventory of losses, detail measurement survey, census of affected persons, negotiation of compensation, and project implementation. The RPIC will be assisted and supported by the resettlement specialist of the PMO for coordination of complaints, keeping track of their status, and reporting the results to the MUB and ADB.

75. **Monitoring.** Internal monitoring will be carried out routinely by the PMO and monthly reports to the city will be submitted. The results will be communicated to ADB through the quarterly project implementation reports.²⁵ The PMO is responsible for managing LAR implementation and taking actions to handle the day-to-day issues. At the end of each tranche, the PMO will prepare a resettlement plan completion report and submit to ADB. The PMO is responsible for engaging an independent local consulting firm or nongovernment organization or a qualified individual expert as an external monitor to investigate and assess resettlement plan

²⁵ As and when necessary to report significant progress, implementation issues, or status of earlier identified problems.

implementation in each tranche. External monitoring will be carried out semiannually during the implementation of the resettlement plan, and its results will be reported to the MUB and ADB in semiannual reports at the end of each input. The external monitor will carry out a post-implementation evaluation(s) of the resettlement plan about 1 and 2 years after completion of its implementation. The compelling reason for this evaluation is to ascertain if the objectives of the resettlement plan have been attained or not. In case of a shortfall, the external monitor will recommend remedial measures.

76. **Budget.** The resettlement plan for each tranche under the investment program will contain a detailed budget section with a table of costs for all compensation and other entitlement expenses as well as administration costs and other related expenses, plus 10% for contingencies. Finances for implementation of resettlement plans will be provided by the MUB through the PMO from MUB funds. The MUB and the PMO are responsible for timely allocation of funds needed to implement the resettlement plan for each tranche. Allocation will be reviewed semiannually based on the budget requirements indicated in the resettlement plans.

77. **Indigenous peoples.** The project under tranche 1 is classified as category C for Indigenous Peoples as there are no ethnic minority communities in the project area. No further action is required. Subsequent tranches will also be screened and categorized. It is anticipated that they will likely be category C as well. If ADB's indigenous peoples policy requirements are triggered, an ethnic minority development plan will need to be prepared by the PMO and submitted to ADB for approval and then implemented accordingly.

VII. GENDER AND SOCIAL DIMENSIONS

78. A social, poverty, and gender analysis was undertaken in accordance to the Asian Development Bank (ADB) guidelines. The project is expected to improve the living conditions of population in ger areas of Ulaanbaatar by developing a network of livable, competitive, and inclusive subcenters in Ulaanbaatar's ger areas.

A. Social Action Plan

79. The social action plan (SAP) includes measures to (i) facilitate and support the subcenter community development council (CDC) and small- and medium- enterprise development council (SDC); (ii) identify and prioritize CDC and SDC needs and sustain awareness and support to the project by the different stakeholders; (iii) mobilize and organize community members as well as the business owners in the two subcenters affected into subcenter CDC and SDC to support the development of the land use plan, local development plan, and investment plan of the project; (iv) build consensus concerning overall strategy of urban functions development; (v) facilitate the skills mapping of the community members and matching with the demand of the small and medium enterprises as well as linking the community groups with training institutions providing vocational/technical skills training; and (v) facilitate proper monitoring and evaluation of the different aspects of these components.

80. The following detailed SAP activities will be undertaken to sustain the involvement of the community members and organized groups (CDC and SDC) in the detailed design and implementation phases of the project (Table 1). The resources for implementation of SAP are part of project component 4 (institutional strengthening and capacity development).

Table 1: Detailed Design and Implementation Phases of the Project

Activity	Target /Indicators	Responsible Entity	Time
I. Project Preparation Phase			
Conduct series of consultative meetings and information campaign at the <i>kheseg</i> level on (i) project objectives and investments, and (ii) redevelopment options and preferences.	20 meetings conducted organized with primary groups, CDCs and SDCs attended by 50% women SAP and SDC development plans reflect the needs of the communities and considered in the preliminary design of the physical infrastructures Documentation of meeting minutes	Staff consultant PMO-MUB CDCs, <i>kheseg</i> and <i>khoroo</i> leaders	Q2 2013 to Q1 2014
II. Detailed Design Phase			
Continuing organizational formation and strengthening of primary groups, community development councils, SME development councils, and savings groups.	90 primary groups in Bayankhoshuu and 70 in Selbe organized and functioning with by-laws, policies, systems, and plans 50% women members for each groups and CDCs 5 <i>khoroo</i> level CDCs and 1 subcenter CDC organized and functioning with by-laws, policies, systems, and plans Documentation of organizational	Staff consultant PMO-MUB CDCs, <i>kheseg</i> and <i>khoroo</i> leaders	Q1 2013 to Q4 2014

	<p>strengthening activities and training/OJT modules</p> <p>Savings groups formed and functioning with policies, systems, and ongoing micro-credit project</p>		
Conduct series of consultations on the scope and technical/engineering design of proposed water supply, sanitation, sewerage, heating facilities, and affordable apartments.	<p>15 meetings conducted, attended by 50% women</p> <p>Final detailed design of proposed projects confirmed by the beneficiaries, women, elderly, differently-abled persons, and affected persons/families.</p>	<p>PMO-MUB, staff consultant</p> <p>CDCs, primary groups, <i>kheseg</i> and <i>khoro</i> leaders</p>	Q1 2014 to Q3 2014
Conduct consultations with households, businesses, and public institutions affected by the construction/right of way requirements for project 1/tranche 1	<p>24 meetings in both subcenters attended by all affected stakeholders</p> <p>Documentation of meeting/consultation minutes</p>	<p>PMO-MUB, staff consultant</p> <p>CDCs, <i>kheseg</i> and <i>khoro</i> leaders</p>	Q1 2014 to Q3 2014
Comprehensive IEC campaign on the final redevelopment schemes, land valuation, engineering designs, resettlement plan, etc.	<p>Comprehensive IEC plan developed</p> <p>Printed IEC materials distributed (i.e., project leaflets/ brochures on FAQs, posters, etc.)</p> <p>16 IEC campaign meetings in both subcenters conducted; documentation of meeting minutes</p>	<p>PMO-MUB, staff consultant</p> <p><i>kheseg</i> and <i>khoro</i> CDC leaders</p>	Q4 2013
Setting up of grievance or feedback mechanisms in the community	<p>System for resolution of grievance/feedback established</p> <p>CDCs function as the grievance committee with guidelines on handling grievances</p>	<p>PMO-MUB, staff consultant</p> <p><i>Kheseg</i> and <i>khoro</i> CDC leaders</p>	Q3 2013
Preparation and Finalization of the proposed SME development plan	<p>16 meetings of SDC with CDCs in both subcenters</p> <p>Skills survey and demand mapping completed and documented</p> <p>Documentation of meeting minutes</p> <p>50% women members actively participating</p>	<p>PMO-MUB, staff consultant</p> <p><i>Kheseg</i> and <i>khoro</i> CDC leaders</p>	Q2 2013 to Q1 2014
Capacity building of the CDCs on how to engage meaningfully in the subcenter redevelopment process	<p>Legal support for the CDC to guide them in their engagement in the SRA</p> <p>Terms of reference of the CDCs in the SRA well defined and understood by them</p> <p>Curriculum/training design for CDC engagement in the SRA</p> <p>Documentation of capacity building approach and modules</p>	<p>PMO-MUB, staff consultant</p> <p><i>Kheseg</i> and <i>khoro</i> CDC leaders</p>	starting Q1 2014

III. Implementation/Construction Stage			
Facilitate consultative meetings for resettlement/relocation	20 meetings in both subcenters attended by all affected stakeholders	PMO-MUB, staff consultant CDC leaders	Q4 2013 to Q2 2014
Facilitate and support implementation of SME development plan	1,000 community members trained so various skills and partnership with SMEs and other institutions developed for employment or contracting for goods and services Trained community members linked with the business incubators for services like work space, business advisory, etc. Documentation of process and results - # of employed, entered into self-employment, recorded increases in income, # of employees generated	PMO-MUB, staff consultant <i>Kheseg and khoro CDC leaders</i>	Q4 2013-Q1 2015
Conduct community-led monitoring of construction works for quality control	System, tools, and templates developed and used for community-led construction project monitoring Trained CDCs with structure on construction project monitoring	PMO-MUB, staff consultant <i>Kheseg and khoro CDC leaders</i>	Q1- Q2 2014
Facilitate and support consultations on the implementation of relocation plan from temporary housing to new apartments	Number of households provided with transfer assistance to new apartments	PMO-MUB, staff consultant <i>Kheseg and khoro CDC leaders</i>	2015
Continuous capacity building for the CDC and primary groups	20 capacity building trainings/workshops and learning exchange conducted in both subcenters Training designs of capacity building interventions on Leadership, Team building, Community contracting, participation in the SRA, contracts negotiation, business planning, savings movement, etc. Registration of the CDCs as NGOs with the State Registration Authority of the Ministry of Justice	PMO-MUB, staff consultant <i>Kheseg and khoro CDC leaders</i>	Q1-Q3 2014
Documentation of good practices, lessons learned, feedback, complaints, or grievance issues	Documented good practices, lessons learned and community feedback shared with all stakeholders and reflected in major reports Complaints and grievance issues documented and resolved	PMO-MUB <i>Kheseg and khoro CDC leaders</i>	starting Q12014
IEC program for (i) basic hygiene practices, (ii) water conservation, (iii) community involvement on the ger redevelopment, and (iv)	IEC materials developed and disseminated	PMO-MUB <i>Kheseg and khoro CDC leaders</i>	Q3 2014

SME development program, etc.			
Capacity development activities for CDCs or small neighborhood associations for redeveloped lots on (i) operations and maintenance of new facilities, (ii) estate management, etc.	Curriculum on O&M and estate management developed and implemented 4 trainings on O&M, etc. conducted and documented	PMO-MUB <i>Kheseg and khoroo CDC leaders</i>	Q3-4 2014
Conduct series of consultations on the scope and technical/engineering design and implementation arrangements for proposed social and environmental projects (i.e., kindergarten, clinics, bus station, market, <i>khoroo</i> building, vocational training centers, public spaces/open parks)	Consultation plans and minutes documented Designs reflect the needs of the vulnerable groups Implementation arrangements reflect inputs of the CDCs and community members especially the women and other vulnerable groups	PMO-MUB <i>Kheseg and khoroo CDC leaders</i>	2015 onwards
Documentation of good practices, feedback, complaints, or grievance issues and lessons learned.	Good practices and lessons learned documented and complaints and grievance issues resolved	PMO-MUB, staff consultant CDCs, <i>kheseg</i> and <i>khoroo</i> leaders	starting Q3 2014
Documentation of schemes/approaches that worked (good practices), feedback, lessons learned, complaints, or grievance issues.	Documented good practices and lessons learned on the approach shared with all stakeholders Number of complaints and grievance issues documented and resolved	PMO-MUB, staff consultant CDCs, <i>kheseg</i> and <i>khoroo</i> leaders	starting Q2 2013 to end 2018
Conduct community-based monitoring and evaluation of new basic infrastructure and services for the community empowerment and SME development.	Community empowerment and SME development component developed and agreed upon by all stakeholders Monitoring reports and final evaluation reports done according to quality standards of ADB and submitted on time	PMO-MUB, staff consultant CDCs, <i>kheseg</i> and <i>khoroo</i> leaders	starting Q4 2014 to end 2018 2015

ADB = Asian Development Bank, CDC = community development council, FAQ = frequently asked questions, MUB = Municipality of Ulaanbaatar, NGO = non-governmental organization, O&M = operation and maintenance, OJT = on-the-job training, PMO = program management office, SAP = social action plan, SME = small- and medium-enterprise development council, SDC = small- and medium-enterprise development council, SRA = subcenter redevelopment authority.

81. Resources. A team of consultants will be fielded to implement the assistance. It is estimated that a total of 78 person-months will be required—18 person-months of international and 60 person-months of national consultants and advisers will be required. The team will work closely with all relevant MUB stakeholders, particularly the PMO. All team members are

expected to act as resource persons for the training and development activities. International and national positions required are set out as Table 2. The total cost of the consulting services package is estimated at \$0.7 million over a 3-year timeframe from 2014 to 2016.

Table 2: Community Engagement and Small and Medium Enterprise Development—International and National Consultants

No.	International Positions	Person-months	No.	National Positions	Person-months
1	Social, poverty, and community development specialist	10	1	Community development/gender specialist	4
2	Small- and medium- enterprise development specialist	3	2	Communications specialist	10
3	Gender specialist	3	3	Social mobilizers	36
4	Communications specialist	2	4	Legal specialist	10
	Total	18		Total	60

Source: Asian Development Bank.

82. **Implementation and monitoring.** The program management office with the assistance of the project consulting service (see FAM Section VI, Project Consulting service on Institutional Strengthening and Capacity Building Component 1, on community engagement and SME development) are responsible for the implementation of SAP and gender action plan (GAP), and reporting on progress and achievements of the project. Key indicators from both plans will be included in the PPMS. The impact analysis will include the effectiveness of CDCs and SDCs, SME development and gender dimensions of project, and social issues.

B. Gender Action Plan

83. **Key actions.** The GAP ensures that the project (i) includes design features for safety, security, and pedestrian mobility are integrated into road network; (ii) collects sex disaggregated data on key issues such as utility connections, time, and cost savings; (iii) further investigates affordability issues under improved services provision to make recommendations on providing subsidies for the vulnerable groups including female-headed households; and (iv) provides social service infrastructure which has targets for serving women so they can join economic opportunities.

84. Project 1 is designed as effective gender mainstreaming. A GAP has been prepared and the actions agreed on. Analysis of the survey and focus group discussion data reveal that (i) the majority²⁶ of households currently access water supply from public kiosks, which means water must be collected daily. This task is done primarily by women (73%) or children; (ii) open pit latrines are mostly used (95% of surveyed households) and these are especially hard for children, elderly and women to use in the winter months; (iii) many households in the ger areas use traditional stoves for heating and cooking (59% in Bayankhoshuu), which is a major source of air pollution in the city, especially in the household. As in many countries, women are among the most at risk for health problems caused by for household pollution from cooking and heating; (iv) the road network within the ger areas is mostly unpaved and lack sidewalks or lighting. This is a risk for majority of road users who are pedestrians; and safety, particularly at night is an important concern for all, especially women; and (v) there is a lack of public space

²⁶ 95% in Selbe and 78% in Bayankhoshuu. The rest have either private wells or are in apartments that are serviced with utilities.

(such as parks) and social services such as kindergartens and vocational training opportunities. All of these are priorities for women in the communities to increase quality of life, provide safe and secure educational opportunities for young children thus freeing women from the burden of providing childcare at home and providing training to allow them to enter into new economic opportunities that are emerging in the city and will eventually be created in the subcenters.

85. Improvements in the infrastructure (roads, water supply and sanitation, heating) will have a significant impact on time savings, mobility, access, economic opportunity, health, safety and security of ger area residents, and particularly for women residents. Project 1 has prepared a comprehensive GAP covering action in all of the outputs. These are in addition to the gender targets outlined in the actions for the SAP. One of the most important aspects both plans emphasize is ensuring the role of women in decision making bodies and consultations with the public on how development of the subcenters will go forward. Women already have high representation on local community councils. The gender analysis found that while there is good representation of women in the local administrative structure, within MUB, men dominate, especially in the decision making levels, while at the *khoro* and *kheseg* levels, women dominate. The project will help ensure that substantive roles for women are further supported to ensure that women's visions of the revitalized subcenters and concerns are fully integrated into planning and implementation of activities.

Table 3: Gender Action Plan for Project 1

Outputs	Action	Indicator	Budget	Responsible Party
Output 1: Roads and urban services are expanded within the targeted subcenters and connectivity between subcenters is improved	<p>Integrate gender inclusive design measures into road infrastructure to ensure safe and security mobility and access</p> <p>Assess impact of improved roads, water, sanitation and heating on population</p>	<p>6.15 km in Bayankhoshuu and 8.77 km in Selbe of sidewalks built alongside improved roads</p> <p>6.15 km in Bayankhoshuu and 8.77 in Selbe of lighting provided on improved roads</p> <p>4.5 ha and 3.43 ha in Bayankhoshuu and Selbe of landscaping (public spaces) including pedestrian pathways</p> <p>Social indicators included in PPMS such as number of households connected, time and cost savings, health impact, number of nighttime safety incidents, (disaggregated by sex, income quintile and female-headed households where possible). Focus group discussions will also be conducted to further assess impact.</p>	Included in the project output	MUB, PMO, gender specialist, community engagement consultants
Output 2: Economic and public services are improved	One kindergarten facility in each subcenter with 1,800 m ² of floor areas of classrooms, administration and services, and 500 m ² of playground (baseline 0 in	<p>At least two kindergartens operating by 2018 (number of students served and staff sex disaggregated)</p> <p>At least two business incubators and vocational training centers operational by 2018 (number of students and staff served annually, sex disaggregated)</p>	Included in project costs	MUB, PMO, gender specialist, community engagement consultants

Outputs	Action	Indicator	Budget	Responsible Party
	2012) One business incubator and vocational training center in each subcenter with 1,800 m ² floor area and 500 m ² of open green area (baseline 0 in 2012)	At least 20 MSME's, 50% of which are women led graduated from incubation program (baseline 0 in 2012) At least 1,000 beneficiaries, 50% of whom are women, receiving vocational training (baseline 0 in 2012)		
Output 3: Service providers become more efficient	Report on affordability and subsidies included in tariff assessment (disaggregated by income quintile and if possible looking at female-headed households as a special group) Customer satisfaction survey	Report by 2018 Survey report (providing sex disaggregated data where possible)	Included in project costs	PMO and consultants working with service providers
Output 4: Institutional capacity building	Establishment of <i>khoroo</i> CDCs and SDCs with women's representation Establishment and agreement on community, gender and MSME plans Targets established for and sex disaggregated data collected on participants for all community consultations on urban planning and project activities (see SAP activities) collected and reported on in the GAP Subcenters plan and redevelopment process are	<i>Khoroo</i> CDCs and SDCs fully functioning in targeted areas, with at least 40% women participating actively (baseline: to be established) Community, gender, and MSME action plans accepted and regularly updated in each subcenter (0 in 2012) GAP report with targets and sex disaggregated data provided semi annually Consultation meeting attendance and SAP monitoring	Included in project costs	MUB, PMO, gender specialist, community engagement consultants, staff of new educational establishments

Outputs	Action	Indicator	Budget	Responsible Party
	<p>prepared and endorsed by all the stakeholders through community consultation including at least 50% of women's participation</p> <p>Establishment of PMO with 30% gender representation</p>	PMO is fully functioning with trained staff at least 30% women (baseline 0 in 2012).		

CDC = community development council, GAP = gender action plan, ha = hectare, km = kilometer, MSME = micro-small- and medium- enterprise, MUB = Municipality of Ulaanbaatar, PMO = program management office, PPMS = project performance monitoring system, SDC = small- and medium- enterprise development council.

86. **Budget and monitoring of the gender action plan.** All actions in the GAP have been integrated into the project budget. In addition, 42 person months consulting services have been provided to support the PMO in establishing the mechanisms, implementing and monitoring the actions. This is complemented by activities under the community development plan, and the consulting services which support these activities. Within the first three months of implementation, the PMO specialist along with the community development consultants will prepare an implementation plan for the GAP to be agreed to with ADB. Monitoring of implementation will be supported by ADB gender and social development specialists during regular review missions. GAP implementation progress reporting will be included in the overall semi-annual progress reports by the executing agency. Poverty, gender, and social assessments will be done in preparation for subsequent tranches to determine their respective gender categorization and required actions (e.g., GAPs).

C. Community Development Councils and Small- and Medium-Enterprise Development Councils

87. CDCs are organized community groups at the *khoroo* and eventually at the subcenter levels, which will represent the larger community in the project (TA 7970). Their main function is to (i) serve as the voice of the larger community in providing their sentiments, inputs and/or recommendations to the project to ensure that the investment projects truly respond to their needs through the needs identification and/or prioritization and community action plan processes; (ii) this organization also facilitates the involvement of the community members in the actual implementation of the investment projects so that they do not only benefit from access to improved physical environment but also access to employment as paid labor during construction; (iii) apart from representing the interest of the larger community, the CDCs will also function as the grievance mechanism of the project; (iv) it will also ensure that the requirements of the vulnerable groups, especially the women, disabled, very poor, elderly and children are considered in the design and up to the implementation of the investment projects; (v) the CDC will also serve or function as a monitor to ensure that their needs are not only included in the plan but are actually implemented; (vi) the CDC also serve as the lobby or advocacy group of the community to deal with government and other institutions to push for the community-led approach in *ger* area development; (vii) it will facilitate the awareness-raising among the community members during the land redevelopment process to foster better understanding of the land markets, etc.; (viii) through the guidance of the legal expert, the CDCs

serve as the mechanism to uphold the legal rights of the people especially on matters pertaining to land rights; (ix) the CDCs will work with the private sector to ensure that the construction standards are observed, the appropriate costs are maintained to ensure affordability of services, and that the community members are given the opportunity for employment in the investment projects; and (x) the CDC will ensure that most especially function to highlight the meaningful involvement of the women members in the community in all processes of community development (more on qualitative involvement in issues analysis and decision-making), that optimum benefits accrue to them and they will not be negatively or adversely affected by the investment projects.

88. As a structure, the CDCs emanate from the primary groups composed of 10-20 families from the larger community covered by the project. Each primary group elects their group leader and secretary to represent them to the *khoroo* CDC. There are now five *khoroo* CDCs in Bayankhoshuu subcenter and three *khoroo* CDC in Selbe subcenter. These *khoroo*-level CDCs will elect their chairpersons and vice-chairpersons who will represent them to the subcenter CDC. There will be one subcenter CDC in each subcenter and these are still in the formation process. All the eight *khoroo* CDCs are now functioning and actively engaged in the project.

89. The formation process as well as the roles and functions of the SDC are very similar to that of the regular CDC except that the SDC is a sectoral grouping - SDC. It will function as the voice of the sector including the micro-entrepreneurs in the areas which are mostly operated by women, in the development of the economic facilities in the sub-center. Similar to the CDC, the SDC also went through the needs assessment and prioritization and SDC action plan preparation processes which were submitted to the project preparatory technical assistance for consideration in the selection and preliminary design of the economic facilities. For Selbe, the formation has proceeded directly from the large membership to the subcenter SDC. It has already elected its officers and now actively functioning and interacting with all stakeholders in the project. The Bayankhoshuu SDC formation is still underway.

VIII. PERFORMANCE MONITORING, EVALUATION, REPORTING, AND COMMUNICATION

A. Design and Monitoring Frameworks

90. The project design and monitoring frameworks for the multitranche financing facility and project 1 are shown in Tables 1 and 2.

Table 1: Project Design and Monitoring Framework for the Investment Program

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Improved living conditions in Ulaanbaatar	<p>By 2028: Poverty headcount index reduced by 30% (baseline: 23.5% in 2012)</p> <p>Incidence of waterborne diseases reduced by 30% (baseline: 90,310 in 2012)</p> <p>Air pollution in Ulaanbaatar reduced by 30% (baseline: 1.286 PM₁₀ concentration in 2012)</p>	National Statistical Office reports Government public health statistics National Statistical Office reports	Assumption Policy environment supports urban development and increased investments in urban infrastructure. Risk Urban infrastructure investments are constrained by fiscal and political factors.
Outcome A network of livable, competitive, and inclusive subcenters in Ulaanbaatar's ger areas	<p>By 2024: % of population with improved access to water, sanitation, and heating increased by 50% (baseline: 0% for water 0%; 0% for sanitation, and 0% for heating in 2012) in targeted areas</p> <p>Average density in targeted subcenter increased to 120 persons per ha (average baseline: 50 persons per ha in 2010)</p> <p>Number of business establishments increased by 30% (baseline: 33,140 in 2012) in targeted areas</p> <p>Unit production cost of water reduced by 50% (baseline: MNT59,400/ cubic meter in 2011)</p>	MUB report on urban construction and districts records MUB report on urban construction and districts records MUB report on urban construction and Districts records USUG operation and financial reports	Assumptions Political support and investment in urban infrastructure continue throughout the program. Improved services and urban governance lead to sustained economic growth in the ger areas. Risks Insufficient time and resources are devoted to community mobilization. Lack of private sector participation
Outputs	<p>By 2016: 18.6 km of water supply network, 20.0 km of sewer network, and 6.0 km of collector mains constructed</p> <p>Five heating facilities, 21 km of heating network pipes, and 2.4 km of heating service connections constructed</p> <p>15 km of carriageway and 7.9 ha of landscaping and public space including universal design features such as sidewalk, lighting, and sitting</p> <p>By 2023: Water supply, sewer lines, urban roads, and heating constructed in 132 ha in 6 subcenters (baseline:</p>	PMO progress and completion reports	Assumption The MUB complies with ADBs safeguards policies. Risk Rising world prices of energy and construction materials significantly increase the program's investment and operation and maintenance costs.

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	0 in 2012) Improvements and construction of respectively 14.8 km and 9.5 km of connecting roads (baseline: 0 in 2012)		
2. Economic and public services in subcenters are improved.	By 2023: At least 5,000 beneficiaries, 50% of whom are women, receive vocational training (baseline: 0 in 2012) Constructed social facilities based on community needs fully staffed and operational in participating subcenters (baseline: 0 in 2012)	PMO progress and completion reports and district records	Assumption Investment in economic and social facilities leads to increased employment. Risks Inappropriate vocational training courses provided. Lack of demand for commercial facilities built
3. Service providers become more efficient	By 2023: Water supply network pumping system is improved Distribution system is optimized Operation Control Centre is upgraded and expanded	USUG operating and financial reports PMO progress and completion reports	Assumptions Service providers are supportive of proposed policy and institutional reforms Customers continue to pay water and sewerage charges Risk The MUB fails to provide adequate subsidies to augment shortfalls of revenues.
4. Institutional strengthening and capacity building 4.1 Subcenter development and community engagement 4.2 Operations and management of service providers improved	By 2023: 6 CDCs and SDCs fully functioning in targeted areas, with at least 40% women participating actively (baseline: CDCs established only in Bayankhoshuu and Selbe in 2012) Subcenters plan are prepared and endorsed by all the stakeholders through community consultation including at least 50% of women participants By 2017: USUG is autonomous in terms of financial and asset management (baseline: USUG not autonomous) Utility tariffs linked to direct cost recovery of O&M, including asset depreciation (baseline: tariffs barely cover O&M) Revised performance contract	PMO progress and completion reports CDC reports USUG operating and financial reports USUG business plans	Assumptions Urban planning and subcenter development methodologies and tools and supporting legislation are in place at the start of program implementation. Subcenter redevelopment leads to more efficient land use and management. Risks Program implementation is slowed down by a lack of community and private sector participation. Women are not effectively mainstreamed into the program. Assumptions Policy reforms receive full government support. Appropriate user charges/tariffs are not implemented by the MUB, and/or not supported by the target consumers.

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	between the MUB and service providers in place		Risks Inadequate program resources are allotted to support the policy and institutional reforms. Lack of incentives to attract private sector participation
4.3 Strengthened program implementation capacity	By 2023: PMO is fully functioning with fully trained staff, at least 30% of whom are women (baseline: 0 in 2012) Sex-disaggregated program performance and monitoring system operational (baseline: 0 in 2012) Project feasibility studies, due diligence, and safeguards prepared for participating subcenters (baseline: 0 in 2012)	MUB reports PMO progress and completion reports	Assumption Consultants and PMO staff work effectively as a team. Risk Failure to appoint and retain well qualified and experienced consultants
Activities with Milestones for Tranche 1 (after Loan Effectiveness)			Inputs
1. Roads and urban services expanded 1.1 Detailed design of water and/or sewerage improvements completed (Apr 2014) 1.2 Detailed design of heating improvements completed (Apr 2014) 1.3 Detailed design of roads and/or other infrastructure completed (Apr 2014) 1.4 Urban infrastructure constructed, commissioned, and operating in phases from Apr 2014 to 2016 2. Economic and public services in subcenters improved 2.1 Detailed design of kindergarten and business incubators and/or vocational training centers completed (mid-2014) 2.2 Facilities constructed, commissioned, and operating in phases from the end of 2014 to 2017 3. More efficient service providers 3.1 Support improvements in operating efficiency 3.2 Construction of upgraded facilities and measurement systems completed 4. Institutional strengthening and capacity building 4.1 PMO fully staffed (mid-Dec 2013) 4.2 Hiring of capacity development consultants (Jan 2014) 4.3 Subcenter redevelopment authority established and staffed (Dec 2013) 4.4 Subcenter planning and development guidelines and regulations in place (Sep 2014) 4.5 CDCs and SDCs fully functioning in targeted areas (mid-2014) 4.6 Support to financial strengthening and improved regulatory and institutional framework (mid-2015)			Amount (\$ million) Investment Program ADB MFF 163.70 MUB 96.00 Cofinancing 60.30 Total 320.00 Project 1 ADB ADF Loan 22.50 OCR Loan 27.50 UEIF-UFPF ^a 3.70 MUB 22.44 Cofinancing 28.38 Total 104.52

Tranche 2 is prepared and approved by 2016

Tranche 3 is prepared and approved by 2017

ADB = Asian Development Bank, ADF = Asian Development Fund, CDC = community development council, ha = hectare, km = kilometer, MFF = multitranche financing facility, MUB = Municipality of Ulaanbaatar, MW = megawatt, OCR = ordinary capital resources, O&M = operation and maintenance, PMO = program management office, SDC = small- and medium-enterprise development council, USUG = Ulaanbaatar Water Supply and Sewerage Authority.

^a Urban Environmental Infrastructure Fund under the Urban Financing Partnership Facility

Table 2: Project Design and Monitoring Framework for Project 1

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Improved living conditions in Ulaanbaatar	By 2022: Poverty headcount index reduced by 20% (baseline: 23.5% in 2012) Incidence of water-borne diseases reduced by 20% (baseline: 90,310 in 2012) Air pollution in Ulaanbaatar reduced by 20% (baseline: 1.286 PM ₁₀ concentration in 2012)	National Statistical Office reports Government public health statistics National Statistical Office reports	Assumption Policy environment supports urban development and increased investments in urban infrastructure. Risk Urban infrastructure investments constrained by fiscal and political factors
Outcome A network of livable, competitive, and inclusive subcenters in Ulaanbaatar's ger ^a areas	By 2018: % of population with improved access to water, sanitation, and heating increased to 20% (baseline: 0% for water 0% and 0% for sanitation and 0% for heating in 2012) in targeted areas Average density in targeted subcenter increased to 75 persons per ha (average baseline: 50 persons per ha in 2010) Number of business establishments increased by 20% (baseline: 33,140 in 2012) in targeted areas Unit production cost of water reduced by 35% (baseline: MNT5,940 per m ³ in 2011)	MUB report on urban construction and districts records MUB report on urban construction and districts records MUB report on urban construction and districts records USUG operation and financial reports	Assumptions Political support and investment in urban infrastructure continue throughout the program. Improved services and urban governance leads to sustained economic growth in the ger areas. Risks Insufficient time and resources devoted to community mobilization Lack of private sector participation
Outputs			
1. Roads and urban services are expanded within the targeted subcenters and connectivity between subcenters is improved.	By 2016: 18.6 km of water supply network, 20.0 km of sewer network and 6.0 km of collector mains constructed Five heating facilities, 21 km of heating network pipes and 2.4 km of heating service connections constructed 15 km of carriageway and 7.9 ha of landscaping and public space including universal design features such as sidewalk, lighting, and sitting	PMO progress and completion reports	Assumption MUB complies with ADB's safeguards policies. Risk Rising world prices of energy and construction materials significantly increase the program's investment and operation and maintenance costs.
2. Economic and public services in subcenters are improved.	By 2016: One kindergarten facility each in Bayankhoshuu and Selbe with 1,800 m ² of floor area of class rooms, administration and services and 500 playground (baseline: 0 in 2012) One business incubator and vocational training center each in Bayankhoshuu and Selbe with 1,800 m ² floor area and	PMO progress and completion reports and District records	Assumption Investment in economic and social facilities leads to increased employment. Risks Inappropriate vocational training courses provided

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	500 m ² of open/green area (baseline: 0 in 2012)		Lack of demand for commercial facilities built
3. Service providers become more efficient.	<p>By 2017: Central operational system upgraded Equipment and procedures for 4 water pumping stations upgraded 10,000 diffusers installed and 5 selectors put in place in the aeration tanks Program for reduction of nonrevenue water implemented in the selected pilot areas</p>	USUG operating and financial reports PMO progress and completion reports	Assumptions Service providers are supportive of proposed policy and institutional reforms. Risk Customers continue to pay water and sewerage charges. The MUB fails to provide adequate subsidies to augment shortfalls of revenues.
4. Institutional strengthening and capacity building	<p>By 2015: CDCs and SDCs fully functioning in the two targeted subcenters, with at least 40% women participating actively</p>	PMO progress and completion reports	Assumptions Urban planning and subcenter development methodologies and tools and supporting legislation are in place at the start of program implementation. Risks Subcenter redevelopment leads to more efficient land use and management.
4.1 Subcenter development and community engagement	<p>Subcenters plan and redevelopment process are prepared and endorsed by all the stakeholders, through community consultation including at least 50% of women participants</p>	CDCs' reports	Program implementation is slowed down by a lack of community and private sector participation. Women are not effectively mainstreamed into the program.
4.2 Operations and management of service providers improved	<p>By 2017: USUG is autonomous in terms of financial and asset management (baseline: USUG not autonomous)</p> <p>Utility tariffs linked to direct cost recovery of O&M, including asset depreciation (baseline: tariffs barely cover O&M)</p> <p>Revised performance contract between the MUB and service providers in place</p>	USUG operating and financial reports USUG business plans	Assumptions Policy reforms receive full government support. Risks Appropriate user charges/tariffs are not implemented by the MUB, and/or not supported by the target consumers. Inadequate program resources are allotted to support the policy and institutional reforms.

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks																
			Lack of incentives to attract private sector participation																
4.3 Strengthened program implementation capacity	<p>By 2014: PMO is fully functioning with fully-trained staff, at least 30% of whom are women (baseline: 0 in 2012)</p> <p>Sex disaggregated program performance and monitoring system operational (baseline: 0 in 2012)</p> <p>Project1 detailed designed are completed (baseline: 0 in 2012)</p>	<p>MUB reports</p> <p>PMO progress and completion reports</p>	<p>Assumption Consultants and PMO staff work effectively as one team.</p> <p>Risk Failure to appoint and retain well qualified and experienced consultants</p>																
Activities with Milestones for Tranche 1 (after Loan Effectiveness)			Inputs																
<p>1. Roads and urban services expanded</p> <p>1.1 Detailed design of water/sewerage improvements completed by April 2014</p> <p>1.2 Detailed design of heating improvements completed by April 2014</p> <p>1.3 Detailed design of roads/other infrastructure completed by April 2014</p> <p>1.4 Urban infrastructure constructed, commissioned and made operational in phases between April 2014 and 2016</p> <p>2. Economic and public services in subcenters improved</p> <p>2.1 Detailed design of kindergarten and business incubators/vocational training centers completed by mid-2014</p> <p>2.2 Facilities constructed, commissioned, and made operational in phases between mid-2014 and 2017</p> <p>3. More efficient service providers</p> <p>3.1 Support to improvements in operational efficiency</p> <p>3.2 Construction of upgraded facilities and measurement systems completed</p> <p>4. Institutional strengthening and capacity building</p> <p>4.1 PMO fully staffed by mid-December 2013</p> <p>4.2 Hiring of capacity development consultants by January 2014</p> <p>4.3 Subcenter planning and development guidelines/regulations in place by December 2014</p> <p>4.4 CDCs and SDCs established in targeted areas by mid-2014</p> <p>4.5 Support to financial strengthening and improved regulatory and institutional framework by mid-2015</p>			<p>Amount (\$ million)</p> <table> <thead> <tr> <th>Project 1</th> <th></th> </tr> </thead> <tbody> <tr> <td>ADB</td> <td></td> </tr> <tr> <td>ADF Loan</td> <td>22.50</td> </tr> <tr> <td>OCR Loan</td> <td>27.50</td> </tr> <tr> <td>UEIF-UFPF^a</td> <td>3.70</td> </tr> <tr> <td>MUB</td> <td>22.44</td> </tr> <tr> <td>Cofinancing</td> <td>28.38</td> </tr> <tr> <td>Total</td> <td>104.52</td> </tr> </tbody> </table>	Project 1		ADB		ADF Loan	22.50	OCR Loan	27.50	UEIF-UFPF ^a	3.70	MUB	22.44	Cofinancing	28.38	Total	104.52
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ADB = Asian Development Bank, ADF = Asian Development Fund, CDC = community development council, ha = hectare, km = kilometer, m² = square meter, m³ = cubic meter, MFF = multitranche financing facility, MUB = Municipality of Ulaanbaatar, OCR = ordinary capital resources, O&M = operation and maintenance, PMO = program management office, SDC = small- and medium-enterprise development council, USUG = Ulaanbaatar Water Supply and Sewerage Authority.

^aTraditional tents for housing.

^bUrban Environmental Infrastructure Fund under the Urban Financing Partnership Facility.

B. Monitoring

91. **Investment program performance monitoring and evaluation.** The MUB will be assisted by a program steering committee (PSC). The PSC will set up and will be chaired by the Mayor of Ulaanbaatar and comprise representatives of the MUB and national agencies. The PSC will meet at least once in every 6 months and review the progress of implementation and provide guidance, as necessary.

92. ADB will regularly visit the project to monitor performance during implementation.

93. ADB and the MUB will use PPMS to monitor the effectiveness of the investment program. This will be achieved through the use of indicators and targets covering both macro and micro issues.

94. **Investment program review.** ADB and the executing agency will review the investment program and the periodic financing requests annually covering all institutional, administrative, technical, economic, and other relevant aspects that may have an impact on the performance of the investment program. The review will examine implementation progress and compliance with assurances in the loan agreement.

95. **Compliance monitoring.** The compliance status of loan and project covenants will be reported and assessed through the semiannual progress reports and verified by ADB review missions.

96. **Project performance monitoring and evaluation.** The government will cause the MUB to monitor and evaluate impact through a performance monitoring system, as agreed to by the government and ADB, to ensure that project equipment and materials are managed efficiently, benefit are maximized, and impacts are monitored. The government will also cause the MUB to collect the necessary information and data on project performance, as agreed to by the government and ADB, before project implementation, and at completion of the investment program.

97. **Safeguards monitoring.** The government and the MUB will ensure that laws and regulations of Mongolia governing safeguards, as well as ADB's Safeguard Policy Statement (2009) are followed. The MUB will ensure that all works contracts under the investment program incorporate provisions and budgets for safeguards plans implementation. A program management office (PMO) will be established in the MUB. The PMO will include full-time social and environment staff members responsible for social and environmental aspects of the project, respectively.

- (i) **Resettlement plan.** Internal monitoring for resettlement plan implementation will be carried out routinely by the PMO either directly or through the services of a resettlement consultant. The results will be communicated to ADB through the quarterly project implementation reports.²⁷ The PMO is responsible for managing resettlement plan implementation and taking actions to handle the day-to-day issues. At the end of each tranche, the PMO will prepare a resettlement plan completion report and submit to ADB. The PMO is also responsible for engaging a qualified external monitor to investigate and assess resettlement plan implementation in each tranche. External resettlement plan implementation monitoring will be carried out semiannually during the implementation of resettlement plan and its results will be reported to the MUB and ADB in semiannual reports.
- (ii) **Environmental management plan.** During construction, contractors will develop contractor environment management plans (C-EMP) with environmental management and internal monitoring systems based on the updated project 1 EMP, undertake self-check activities and fully cooperate with the environmental inspectors of the municipal specialized inspection department and/or specialized inspection divisions of the districts. Contractors will submit monthly C-EMP

²⁷ As and when necessary to report significant progress, implementation issues, or status of earlier identified problems.

implementation reports to the PMO. Project 1 EMP implementation coordination and verification for the construction and operation periods will be carried out routinely by the PMO with the support of the services of environment consultants. Periodic environmental impact monitoring will be carried out by the PMO through the services of a licensed institute or consultant. The results of project 1 EMP implementation and environmental impact monitoring will be communicated to ADB through the annual project EMP monitoring and progress reports, and summarized in the quarterly project implementation reports.²⁸ The annual project EMP monitoring and progress reports will be disclosed on the ADB website.

C. Evaluation

98. ADB and the government will jointly review implementation of the investment program once a year, covering a detailed evaluation of the scope, implementation arrangements, institutional, administrative, technical, economic, financial, achievement of scheduled targets, and other relevant aspects that may have an impact on the performance of the investment program. The review will examine implementation progress and compliance with assurances in the loan agreement. Feedback from the PPMS activities will be analyzed. Within 3 months of physical completion of tranche 1, the executing agency will submit a project completion report (PCR) to ADB.²⁹

D. Reporting

99. The Municipality of Ulaanbaatar 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 indicator's performance targets, (b) key implementation issues and solutions, (c) updated procurement plan, and (d) updated implementation plan for next 12 months; and (iii) a PCR within 6 months of physical completion of first tranche. 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.

E. Stakeholder Communication Strategy

100. The PMO with support of consultants will undertake consultations with key stakeholders. Communication with stakeholders will be managed by the PMO environmental and/or social safeguards specialist. The PMO will ensure local stakeholders are consulted, that information on the project is disseminated, and that questions and complaints are addressed quickly and effectively. The community participation component builds off the participation process initiated under the PPTA and has a focus on community based planning. During implementation, the development of a framework with a transparent mechanism to regulate urban and land redevelopment will support continuous dialogue with the communities and will insure the integration of the current resident into the urban redevelopment process.

²⁸ As and when necessary to report significant progress, implementation issues, or status of earlier identified problems.

²⁹ Project completion report format available at: <http://adb.org/Consulting/consultants-toolskits/PCR-Public-Sector-Landscape.rar>.

IX. ANTICORRUPTION POLICY

101. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the investment program.³⁰ All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the program.³¹

102. To support these efforts, relevant provisions of ADB's Anticorruption Policy are included in the loan regulations and bidding documents for the program. In particular, all contracts financed by ADB in connection with the program shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all contractors, suppliers, consultants, and other service providers as they relate to the investment program. In relation to the program, the executing agency will ensure that (i) a supervisory body is established for prevention of undue interference in business practices, and adequate resources are made available for its effective operation; (ii) a leading group of officials from the supervision division of the executing agency is located in offices involved in bidding, installation, and other operational activities under the investment program; and (iii) periodic inspections on the contractor's activities related to fund withdrawals and settlements are carried out. The executing agency shall also initiate liaison meetings with the Prosecutor's Office, as needed, to discuss any warnings about, or information on, alleged corrupt, fraudulent, collusive, or coercive practices relating to the investment program.

103. The MUB will disclose to the public, and update annually the current status of the program and how the proceeds of the facility are used. For each contract financed under the program, the MUB will disclose on their respective websites information on, among others, the (i) list of participating bidders; (ii) name of the winning bidder; (iii) basic details on bidding procedures and procurement methods adopted; (iv) amount of contract awarded; (v) list of goods/services, including consulting services procured; and (vi) intended and actual utilization of the facility proceeds.

³⁰ Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>.

³¹ ADB's Integrity Office web site is available at: <http://www.adb.org/integrity/unit.asp>.

X. ACCOUNTABILITY MECHANISM

104. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.³²

³² For further information see: <http://www.adb.org/Accountability-Mechanism/default.asp>.

XI. RECORD OF FAM CHANGES

105. All revisions/updates during the course of implementation are retained in this Section to provide a chronological history of changes to implemented arrangements recorded in the FAM.

No.	FAM Changes/Updates	Date	Remarks
1	Initial draft	29 July 2013	First draft provided to executing agency during fact-finding mission

APPENDIX 1

DRAFT CONSULTANTS' TERMS OF REFERENCE

CONSULTING SERVICES FOR DETAILED DESIGN AND SUPERVISION AND INSTITUTIONAL STRENGTHENING AND CAPACITY BUILDING – PROJECT 1

A. Project Description

1. Utilizing a loan from the Asian Development Bank (ADB), cofinanciers, and Municipality of Ulaanbaatar (MUB) funds, an investment program will be financed under a multitranche financing facility (MFF) to implement the Ulaanbaatar Urban Services and Ger Areas Development Investment Program.
2. The outputs of project 1 of the investment program are (i) improvement of basic urban infrastructure in the subdistricts Bayankhoshuu and Selbe; (ii) construction of new water supply and wastewater collection systems in each of the two subdistricts; (iii) improved operational performance of the water and wastewater company, the Ulaanbaatar Water Supply and Sewerage Authority (USUG); (iv) expansion and improvement of heating and hot water supply; and (v) overall improvement of planning, provision, and management of urban services and related corporate governance.

1. Overview

3. Assessments prepared during project preparatory technical assistance (PPTA) and other previous relevant studies have identified and confirmed the need for capacity building and institutional support. These are discussed fully in the Due Diligence sections of the main report for the PPTA. This appendix consolidates all the key institutional recommendations made and development capacity needs and integrates them into a capacity building and institutional support plan.

4. Capacity building, here, refers to a broad range of interventions—from advisory and close guidance, demonstration, training, workshop, policy formulation—formal and on-the-job training. This proposal covers a 4-year period and is expected to run parallel to both tranche 1 and part of tranche 2 of the MFF. The objectives, scope of work, and the structure and composition of the consulting services teams are outlined; and an estimate of the resources needed over a 5-year period is included. Task descriptions and qualification recommendation are also made for the key team members

2. Goals and Objectives

5. The scope of consulting services involves two major components:
 - (i) **Engineering services** covering the design, tendering, and construction supervision for:
 - a. urban and social infrastructure and access roads;
 - b. water supply and wastewater systems and the turnkey procurement for the Water and Wastewater Operation Improvement Project for USUG; and

- c. district heating systems including: 8.4 to 30 megawatt (MW) coal-fired heating plants, and heat distribution pipe networks for Bayankhoshuu and Selbe subcenters.
- (ii) **Institutional strengthening and capacity building** covering
- a. consulting services for the implementation of the capacity building and institutional support plan, which includes support to
 - i. improve urban planning and subcenter development, including assistance with the establishment of the subcenter redevelopment mechanisms and regulations, strengthening of the Ger Area Development Agency (GADA), including the Ger Area Housing Project (GAHP), and developing institutional capacity to raise community involvement in the redevelopment of subcenters;
 - ii. the service delivery organizations USUG, OSNAAG *kantors*, and heating plant operators, and the implementation of institutional and regulatory reforms to improve the management of the service providers; and
 - iii. the program management office (PMO) to strengthen program implementation capacities; and
 - b. consulting services for community engagement and small- and medium-enterprise (SME) development. Each component would involve a mix of training, systems improvements, technical advice, and other interventions.

(a) Engineering Services

i. Background

6. A PMO will be in charge of the overall implementation of the project and will be supported by international and local consultants. The PMO will select teams of international and national consultants which will assist the PMO to prepare detailed design and tender documents for each subproject. The subproject consultant teams will be selected accordance with ADB's Guidelines on the Use of Consultants (2013 as amended from time to time). International consultants will team up with national consultants.

7. Detailed engineering design and documentation of the project, as well as the supervision of civil works, commissioning and provision of operation and maintenance (O&M) training, and documentation of the completed infrastructure and superstructure subprojects in Bayankhoshuu and Selbe subcenters will be undertaken by a consulting firm procured by the PMO in accordance with ADB's Guidelines on the Use of Consultants.

8. National surveyors will be recruited to carry out topographic surveys. The scope of work of the topographic surveys will be done with input from the design consultants and will cover the needs of water supply and sewerage and heat distribution engineering as well as that of the infrastructure development and the infrastructure needed for the district heating subproject. Topographic surveyors will be subcontracted by the PMO.

3. General Tasks

9. Consultants will carry out all necessary surveys, field verification, studies, collection of data, and analyses needed to prepare the detailed engineering designs and contract documents for the projects. The consultants will also be required to provide support to the PMO for

supervision of construction to ensure quality control and compliance with all aspects of the project designs and specifications.

10. All design and procurement documents prepared by the design and construction supervision consultants will be in accordance with national and international norms and procedures as required. The consultants will coordinate closely with the PMO in all aspects of the consultancy design and supervision services.

11. Tender and contract documents shall be in accordance with the ADB Procurement Guidelines (2013 as amended from time to time) and the ADB Standard Bidding Documents for Procurement of Works, or Procurement of Goods.

12. The improvement of basic urban infrastructure will include planning and construction of (i) access roads; (ii) kindergartens; (iii) public space and open areas; and (iv) flood protection infrastructure, among others.

13. The new **water and sewerage** systems will consist of the construction of (i) a network of DN 75 to 150-millimeter (mm) water supply pipework of which 6.7 kilometers (km) in Bayankhoshuu and 12.7 km in Selbe; (ii) a network of Dia 150 mm to 400 mm of sewerage pipes of which 11.2 km in Bayankhoshuu and 15.7 km in Selbe, and (iii) two 500 m³ reservoirs. The water supply and wastewater networks will include inspection and sector connection manholes and district bulk flow meters. The newly constructed water supply and sewerage systems will be operated by USUG. **Improved operational performance** of USUG will be achieved through the provision and installation of process and control equipment aimed to: (i) reduce nonrevenue water, (ii) achieve energy savings; and (iii) improve the efficiency of the central wastewater treatment plant. It includes the following components:

- (i) improvements to the remote control of key components of the water supply system;
- (ii) management of nonrevenue water through the installation of remote controlled flow meters at key points of the water distribution network;
- (iii) the substitution of main pumps and of old submersible pumps in production wells, including automatic logic controls and telemetry systems;
- (iv) wastewater treatment improvement through the rehabilitation of the aeration process and the installation of automatic control devices at the central wastewater treatment plant; and
- (v) a capacity building program.

14. The expansion and improvement of heating supply will introduce district heating systems that consist of (i) construction of coal-fired heating plants, and (ii) construction of heat distribution networks serving the respective subcenters.

15. Major construction of the components of the proposed heating systems will be separated into heating boiler plants and the piped heat distribution systems, which will be implemented in phases for each subcenter. Design requirements for heating components should generally follow the construction packaging, although there are opportunities to save on design and implementation costs by creating typical design modules that can be easily adapted to future subcenter development.

16. There should also be design standards developed for connections to the heating systems that will be the basis for requirements given to developers and contractors for buildings that will be connected to the district heating systems.

17. A community-driven approach has been adopted. Throughout project implementation, specific measures will be taken so that local communities will benefit from participation in construction labor. Of particular emphasis is the possible involvement of women in the labor force to ensure that core labor standards are observed.

18. To ensure efficient management of the newly constructed living and sustainable operation and maintenance of the service infrastructure, new corporate capacity is being installed within the MUB administration.

B. Consulting Services

19. A PMO will be in charge of the overall implementation of the project and will be supported by international and local consultants. The PMO will select teams of international and national consultants which will assist the PMO to prepare detailed design and tender documents for each subproject. The subproject consultant teams will be selected accordance with ADB's Guidelines on the Use of Consultants. International consultants will team up with national consultants.

20. Detailed engineering design and documentation of the project, as well as the supervision of civil works, commissioning and provision of O&M training and documentation of the completed water supply and sewerage subprojects in Bayankhoshuu and Selbe subcenters will be undertaken by a consulting firm procured by the PMO in accordance with ADB's Guidelines on the Use of Consultants.

4. Consulting Services for Design and Supervision for Subcenter Development for Bayankhoshuu and Selbe

21. The international staff comprises two civil engineers specialized in road and civil works (bridges and flood protection) and one architect in charge of the public amenities. Their time will be shared out the half for conception (detailed design) in almost one mission and the half for bidding (two missions) and works supervision (two missions). No procurement expert is needed since the time dedicated to this profile in water supply, wastewater, and heating covers the requirements of the present sectors.

22. The national consultants will provide similar profiles, in close partnership with the international team. Thus, they will be involved for the design, development of tender documents, and construction supervision of the construction of roads and public amenities. In addition, two CAD specialists will support the expert team in mapping and plan drawing during the phase of detailed design, during the phase of supervision of the works, and at the acceptance of the works for "as-built" plans.

23. The mobilization of the teams is planned at the beginning of 2014.

5. Consulting Services for Design and Supervision for Water Supply and Sewerage for Bayankhoshuu and Selbe, and for Water and Wastewater Operation Improvement

24. The water supply and wastewater design and construction supervision consultancy will comprise (i) one international engineer with referred expertise in design, procurement, project organization, and construction supervision; (ii) one international water supply and sewerage design engineer; (iii) two national water supply and wastewater design engineers; (iv) one

international cost engineer (quantity surveyor); (v) one international wastewater treatment expert; and (vi) two national AutoCAD specialists.

25. The international engineer will remain in charge throughout the duration of the Subproject Water Supply and Sewerage in Bayankhoshuu and Selbe and the Water and Wastewater Operation Improvement, but with lighter input in the construction phase during which s/he will be supported by the international design engineer who will have sporadic inputs to assist in case of crucial changes in design concept. One national water supply and sewerage engineer will remain in charge throughout the duration of the water supply and sewerage subproject.

26. The overall duration of design and supervision consultancy services is expected to be 3 years (36 months) beginning in January 2014, and concluding in September 2016. The detailed design and bidding and award of contracts will run for 9 months from March to November 2014.

6. Consulting Services for Design and Supervision for Heating Plant and Heat Distribution for Bayankhoshuu and Selbe

27. The design consultant team will consist of (i) an international heating engineer, (ii) an international procurement and document specialist, (iii) a national senior heating engineer for the heating plants, (iv) a national senior mechanical and piping engineer for the heat distribution systems, and (v) seven national experts in various disciplines needed to prepare design details in accordance with Mongolian norms and standards. The consultant will also be responsible for the geotechnical investigations needed to support design.

28. Mobilization of consultants and tendering will start early in 2014. Design and preparation of documents to support tendering are expected to be completed from April 2014 to July 2015, and the first construction works are expected to commence in March 2014 and be completed by the end 2018, for a total duration of 50 months for the consultant team. The majority of the effort will be in the first 12 months while design is underway, and international team leader, who will remain responsible for the consultant team, will provide intermittent input as, will the national experts needed to provide technical oversight of construction and commissioning.

C. General Tasks

29. National surveyors will be recruited to carry out topographic surveys. The scope of work of the topographic surveys will be done with input from the design consultants and will cover the needs of water supply and sewerage and heat distribution engineering as well as that of the infrastructure development and the infrastructure needed for the district heating subproject. Topographic surveyors will be subcontracted by the PMO.

30. Consultants will carry out all necessary surveys, field verification, studies, collection of data, and analyses needed to prepare the detailed engineering designs and contract documents for the projects. The consultants will also be required to provide support to the PMO for supervision of construction to ensure quality control and compliance with all aspects of the project designs and specifications.

31. All design and procurement documents prepared by the design and construction supervision consultants will be in accordance with national and international norms and procedures as required. The consultants will coordinate closely with the PMO in all aspects of the consultancy design and supervision services.

32. Tender and contract documents shall be in accordance with the ADB Procurement Guidelines and the ADB Standard Bidding Documents for Procurement of Works, or Procurement of Goods.

D. Specific Tasks

7. Water Supply and Wastewater

33. Detailed design and tender documents consisting of detailed drawings for all water and wastewater components, shall be in accordance with national norms or other international standards (ISO, EN, BS,³³ etc.), if agreed upon by the PMO and the National Expertise Commission.

34. Drawings and sections of pipe works shall be at the scale 1:500 or 1:1000 if acceptable by national standards and the Experts Commission.

35. The new water distribution systems will be fed from the existing primary distribution networks which supply the center of Ulaanbaatar, constructed under the World Bank-supported USIP 2 Project. Bayankhoshuu subcenter will be fed from either or both the Upper and Lower Bayankhoshuu Reservoirs. Selbe subcenter will be supplied from the Chingeltei reservoir and from the Dari-Ekh pumping station. All mentioned reservoirs and pumping stations are fed from the Upper wellfield.

36. Profiles of trenches should be according to Norms BNbD3.05.04-90; BNbD3.02.01-90; BNbD3.01.01-89; BNbD3.01.03-88; BNbD3.01.05-90³⁴ and other. The invert for individual water and sewer pipes is set at -3.5 meters (m) from soil level. Local variations can be admitted as a function of local soil topography changes. Steeper slopes up to vertical shall be accepted if special construction procedures shall be applied, including wall sustainment with jacks.

37. The water distribution network shall include DN 100 to 50 mm high density polyethylene pipes with standard dimension ratio no higher than 11 are emphasized. All pipe works include joints, bends, manholes, valves, as well as flow meters and pressure gauges.

38. As a general rule, water and sewer pipes will be laid along access roads which will be rehabilitated under the Infrastructure improvement program thus integrating into a single operation both construction of pipes and road rehabilitation. Significant lengths of pipelines will however be constructed along paved and unpaved roads not included in the basic infrastructure rehabilitation package. This will be essentially the case for sewerage connection mains which will be needed to connect the subcenters' service areas with existing sewer mains terminals.

39. The service areas, encompassing each subcenter shall be subdivided into service zones or areas. For emergency purposes each service area will be connected to the distribution system via a second off-take. All service zones will be served by means of looped pipe works allowing service feeding from at least two points.

40. Off-takes can be from the existing kiosks. This will allow installing service area bulk flow meters and pressure gauges without risks of freezing during winter time. Flow meters and

³³ ISO: International Standardization Organization; EN: European Norms; BS: British Standard.

³⁴ BNbD: Construction Norms and Regulations.

pressure gauges are essential for management of nonrevenue water and system pressure management. Flow meters should be installed also at all service zones. Alternatively, off-takes could be directly from any convenient point of the existing distribution mains and will require the construction of insulated manholes 1.5 m in diameter; with this off-take configuration the installation of a flow meter will require the installation of thermocables or other heating devices.

41. All customer connections will be metered. Water meters shall be installed inside the customer's premises in such a way to be protected from freezing during the winter time.

42. Care will have to be taken that all water kiosks are kept operational throughout the construction period. Water kiosks shall be kept for the long-term and transformed into shelters for the flow meters, pressure gauges, and other recording devices.

43. Due to extreme low temperature prevailing during the winter period fire hydrants are not foreseen to be installed in the service areas. The firefighting of Ulaanbaatar is constituted of one main station in Sambuu street, in the center of the city and 13 satellite stations. Both Bayankhoshuu and Selbe subcenters are within the radius of action of one of such stations. For the long range it is suggested to consider installing fire hydrants inside the kiosks equipped with a heating system.

44. High density polyethylene sewerage pipes with minimum 150 mm diameter shall be used. The invert for sewer pipes is planned at 4 m below average soil level. Due to the arrangement of the neighborhoods and relative access roads in the two subcenters, as a general rule both sewer and water pipes will have to be laid along the same road. Appropriate measures will be adopted at the detailed design stage in order to secure minimum distance between water and sewer pipelines.

45. Water and sewerage sector connections spaced between 100 to 50 m apart will be provided as a part of the water distribution and sewerage collection pipe works. Manholes on water intakes in distribution pipes and sewer manholes will be installed simultaneously with the construction of the pipe works. Typically, the water and sewer pipes will extend for a limited distance outside both sides of the roadway and housed inside manholes located just outside the roadway borders. Sector control valves and flow meters will be installed inside the water intake manholes. The external water sector connection manholes will be equipped with valve and manifold. Up to six consumers or groups of consumers will be able to connect via the manifold.

46. Water supply and sewerage connections for private consumers will be at the charge of private consumers or by real estate developers.

8. Heating Services

(a) Heating Plant Design Scope

47. Heating plants will be designed to standard sizes (presently 8.4 MW, 20 MW, and 30 MW) with the intent of standardization of boiler equipment, combustion and emissions control, coal and ash handling and processing, water pumping systems, and building amenities such as office and shop space.

48. Heating plants will be comprised of at least three coal-fired boilers of equal size, although the configuration may be altered to economically meet summer hot water requirements. Boiler equipment will have a minimum combustion efficiency of 80% and meet or

exceed emission standards over all anticipated operating ranges, assuming the use of coal from the Baganuur Mine.

49. Heating plants will be designed to be located near residential areas and will meet the emissions exposure and maximum noise level requirements of MNS 4585:2007. Plant designs will also employ provisions for coal and ash storage and handling that effectively eliminate neighborhood exposure to dust emissions, and minimize exposure of plant workers to the extent possible.

50. Heating plant designs will include the following features:

- (i) boiler room containing boilers and associated coal feed, ash, air, and exhaust handling equipment;
- (ii) automated boiler operation, including coal feed, combustion, and water temperature control, with a control room separate from the boiler room;
- (iii) building system will be "sandwich" system with a steel frame and insulated wall and roof panels;
- (iv) central security and alarm system with remote monitoring capabilities;
- (v) Interior communications system and connection to a dedicated communication network with other plants serving the subcenter;
- (vi) covered coal storage, coal crusher, and coal conveyor system;
- (vii) covered ash storage with truck loading;
- (viii) separate pump room, with pumping systems designed to handle the anticipated variation in heating demands over the life of the plant with redundancy in the event of pump failure;
- (ix) separate electrical room for main panels and motor controls;
- (x) office space for engineers and managers;
- (xi) separate changing/locker and break rooms for workers;
- (xii) washroom and toilet rooms;
- (xiii) yard design with a perimeter security fence and sufficient paved access ways for 20T coal and ash trucks, and vehicle parking;
- (xiv) security guardhouse and access control gate;
- (xv) connections to subcenter water and sewer systems;
- (xvi) electrical supply connections including any necessary transformers/substations needed to connect to the local grid; and
- (xvii) backup and/or redundant power sources as needed to maintain safe operations in the event of a power outage.

51. Design of heating plants for the Bayankhoshuu and Selbe subcenters can be combined but should be separated into two phases. Based on the present heating demand assumptions the first phase will be for design of an 8.4 MW standard plant, of which two will be constructed initially in Bayankhoshuu and three in Selbe. A sixth may be constructed later in Selbe.

52. The second phase design will be for a 30 MW plant for Bayankhoshuu and the design of a 20 MW plant and site design for an 8.4 MW plant in Selbe. The actual scope of the second phase may be refined based on the actual progress of development after the first phase is built.

53. The design consultant will also provide technical supervision of construction.

(b) Heat Distribution Network Design Scope

54. Design of the heat distribution networks can be done separately from the heating plant design and should be well integrated with the water supply and sewage collection network designs and possibly could be done by the same consultant.

55. The heat distribution network design must be based on the final sizes and locations of the heating plants and the best predictions of where heating demands will develop over time. The design concept should be that the piping network will be constructed all at once concurrently with the water/sewer networks and preceding road construction, but there will have to be some careful network analysis to verify that the piping will efficiently handle both initial and future requirements.

56. There will be some piping needed to connect the second phase of heating plant construction and that should be delivered as a second document package.

57. The design scope will also require production of a service connection design and construction manual that will be used as standards for constructing sub-networks and building connections to the main distribution networks that will be done by building owners and developers.

58. The design consultant will also provide technical supervision of construction.

59. Following are the requirements for heat distribution network design:

- (i) All piping will be buried on public land, and land acquisition and resettlement requirements will be coordinated with the water and sewer system design.
- (ii) The heating service concept will be that building owners and developers within the various "development zones" will connect to access points located at approximately 60 m intervals on the major streets. Location of zone heating service access points will be coordinated with the water and sewer network design (GDP-03) consultant.
- (iii) Design presently assumes that all pipes DN150 and smaller will be insulated steel installed in concrete channel (per current local design codes) and that DN200 and larger an DN50 and smaller service connections will be constructed from glass reinforced epoxy with appropriate insulation and protective jacketing, that are directly buried. Consultant will assess regulations prior to starting design and the most economical piping system based on life-cycle costs.
- (iv) The heat distribution system will be configured with flow, temperature, and pressure sensors at sufficient points to assess and control the network from a control center to be established in one of the boiler plants.
- (v) Service connection standards shall include criteria for the locations of heat meters, heat exchangers for hot water production. Meters and shutoff valves will be in locations that are accessible to the Heat Distribution Operating Company. Heat meter specifications will include the capability for remote reading using a system compatible with that used by the Water Utility.

9. Staffing and Costs

60. A consultants' team will be fielded to implement to prepare the detailed engineering design and undertake construction supervision. It is estimated that 448.5 persons months of consultants—99.5 person-months of international and 349 person-months of national

consultants and advisers will be required. The team will work closely with all relevant MUB stakeholders, particularly the PMO. All team members are expected to act as resource persons for the training and development activities. International and national positions required are set out as Table 1. The total cost of the consulting services package is estimated at \$4.35 million over a 4-year period from 2013 to 2017.

Table 1: Engineering Services for Detailed Design and Construction Supervision—International and National Consultants

International Positions		Person-months		National Positions		Person-months	
1	Project manager	29.0	1	Deputy project manager		41.0	
2	Engineer/architect–social infrastructure	7.0	2	Geodetic engineer		12.0	
			3	Water supply and sewerage design engineer/ procurement expert		41.0	
3	Civil engineer–roads and embankments	5.5	4	Design engineer– water supply, and sewerage		12.0	
4	Water supply and sewerage engineer	19.0	5	Quantity survey, water supply, and sewerage engineer		6.0	
5	Sewerage and wastewater treatment expert	4.5	6	AutoCAD operators—water supply and sewerage (2)		30.0	
6	Heating expert	19.0	7	Design and construction supervision engineer – roads		37.0	
7	Quantity surveyor	4.5	8	Design and construction supervision architect public amenities		23.0	
	Economic & finance experts for FS 2ème tranche	3	9	AutoCAD operator–engineering		21.0	
	Social/gender experts for FS 2nd tranche	4	10	AutoCAD operator–architecture Senior design manager/heating engineer		21.0	
	Envionment and social safeguard experts for FS 2nd Tranche	4		Mechanical/piping engineer		14.0	
				Electrical engineer		7.0	
				Civil/structural engineer		13.0	
				Quantity surveyor/engineer		2.0	
				AutoCAD operators–heating (2)		24.0	
				Social/gender experts for FS 2nd Tranche		6	
				Env and social safeguard experts for FS 2nd Tranche		7	
				Economy & finance experts for FS 2nd Tranche		5	
Total Person-Months		99.5	Total Person-Months			349.0	

E. Institutional Strengthening and Capacity Building Component 1 – Improved Urban Planning and Subcenter Development

1. Output

61. The outcome of this package is improved urban planning and subcenter redevelopment policies, structures, and processes. Technical support will be targeted at the GAHP of GADA and the proposed subcenter redevelopment authority (SRA). This also includes community processes and mechanisms which strengthen the subcenter planning and implementation itself. At the same time, this package will assist in developing the long-term institutional arrangements centered on the proposed Ger Area Redevelopment Authority. The consultants will engage with, facilitate and prepare the existing agencies to readily take up their new roles.

62. Another ADB capacity development technical assistance (CDTA) called Ulaanbaatar Urban Planning Improvement³⁵ is under implementation. Coordination with this CDTA is important. While the CDTA will focus on the overall urban planning policies and processes in the city, this TA will focus on the relationship and linkages of overall improvements in the urban planning introduced by the CDTA as they impact on ger areas.

63. Specifically, by 2014, it is envisaged that with this assistance:

- (i) Staffs of the MUB involved in the establishment, orientation of the subcenter redevelopment process are recruited and adequately trained.
- (ii) Subcenter redevelopment plans are prepared and endorsed by the stakeholders through community action planning and consultations.
- (iii) Practical policy options and technical tools developed and tested.

64. In addition, this assistance envisages that subcenter planning will be strengthened with increased participation and organizational and management capacity at the community level. The assistance should ensure that staff involved in the subcenter redevelopment process are trained to undertake innovative subcenter planning, and manage the land readjustment process effectively.

65. Specifically, the following deliverables/indicators will be expected to reflect the impact of increased participation and involvement of the community:

- (i) Nine well-prepared community action plans (at least seven community development councils (CDC) and two small and medium enterprise development councils (SDC) formally accepted and regularly updated).
- (ii) Khoroo CDCs are fully functioning and active.
- (iii) Khoroo CDCs with policies and systems and able to effectively mobilize and manage their membership for the community contracting during construction of investment projects.
- (iv) Community Manpower Association formed and functioning with policies, systems, structure, and ongoing contract/s with subcenter SMEs and other institutions.
- (v) Two SDCs fully functioning and active.
- (vi) SDC representative in the SRA actively and meaningfully engaged in the management of the project and resolution of issues and problems.
- (vii) SDCs facilitate and manage business partnership between Community Manpower Association and SMEs and other institutions.
- (viii) At least 50% of SMEs are assisted and linked with qualified manpower, goods, services, and affordable financing.

2. Activities and Tasks

- (i) Support the MUB in the establishment, orientation and training of the staff involved in the subcenter redevelopment process.
- (ii) Facilitate the community and private development and financing entities consultations and discussions leading to an agreement on the subcenter redevelopment concept and plans.

³⁵ ADB. 2013. *Technical Assistance to Mongolia for Ulaanbaatar Urban Planning Capacity Improvement*, Manila, financed by JFPR.

- (iii) Formulate policy options, approaches, tools, and methods to facilitate formulation of and communication about the subcenter plans and *ger* areas development.
- (iv) Develop appropriate urban planning/design regulations for *ger* areas.
- (v) Closely monitor the planning and redevelopment process to ensure the integration of the current residents into the subcenter redevelopment plan;
- (vi) Provide on-the-job and formal training to SRA, GADA, GAHP, and PMO staff on all aspects of urban planning and management (See training plan).

66. The consultants should work closely with those hired to strengthen the PMO and those for community engagement and SME development.

3. Staffing and Costs

67. A consultants' team will be fielded to implement the assistance. It is estimated some 69 person months of consultants—20 person-months of international and 49 person-months of national consultants and advisers will be required. The team will work closely with all relevant MUB stakeholders, particularly the PMO. All team members are expected to act as resource persons for the training and development activities. International and national positions required are set out as Table 2. The total cost of the consulting services package is estimated at \$0.8 million over a 2.5-year period from 2014 to 2016.

Table 2: Improved Urban Planning and Subcenter Development—International and National Consultants

International Positions	Person-months	National Positions	Person-months
1 Team leader/urban development finance specialist	12.0	1 Deputy team leader/architect-planner	21.0
2 Urban planner/architect	4.0	2 Land management specialist	11.0
3 Real estate market analyst	2.0	3 Legal specialist	3.0
4 Land management specialist	2.0	4 Financial analyst/accountant	4.0
		5 Urban economist	3.0
		6 Microenterprise/housing finance specialist	4.0
		7 Monitoring analyst	7.0
Total Person-Months	20.0	Total Person-Months	49.0

F. Institutional Strengthening and Capacity Building Component 2—Improved Operations and Management by Service Providers and Institutional and Regulatory Reform

1. Outputs

68. In component 2, the consultants will engage the MUB and institutions involved in water supply, sewerage and heating services in a continuing dialogue to create a consensus on various policy and framework issues which greatly influence the MUB capacity to deliver services efficiently and effectively. Activities in component 2 will promote the enabling environment—clearer objectives and strategies, improved accountabilities, clearer incentives as expectations are clarified and more checks and balances are introduced. Regulatory arrangements will also have to be strengthened.

69. The institutional framework issues are generally addressed with a package of decisions on functions and relationships among the institutions, including a more conducive environment to promote public-private partnerships (PPP).

70. The performance indicators of this output are more effective and efficient O&M of water, sewerage and heating services.

71. Specifically, by 2018, nonrevenue water of USUG will be reduced; metering of apartment buildings will be increased; reduction of subsidy levels is achieved through the recovery of O&M costs from user fees. The unit production cost of water will be reduced. New enhancements and equipment at the operations control center will be installed. Planned process and operation improvements at the central waste water treatment plant will be in place, and annual business planning procedures will be adopted at USUG. On the provision of heating services, the output of this component is that the responsible heating boiler operators are fully operational.

2. Activities and Tasks

- (i) Assist USUG in the implementation of O&M management improvements to control nonrevenue water; monitor installation of the new operational control facilities (financed through ADB tranche 1 investments) in the operations control center and the wastewater treatment plant; assist USUG in developing (or improving) its business planning processes.
- (ii) Assist the MUB (PMO) in the selection and formalizing—contracting out—the heating plant agency who will operate the new heating facilities.
- (iii) Provide on-the-job and formal training to USUG, OSNAAG *kantor*, and possible heating agency staff on all aspects of project management (See training plan).
- (iv) Better governance and regulation of water supply, sewerage and heating service providers:

72. Improving some provisions in the contracts of OSNAAG management contracts and in the USUG performance contract by:

- (i) including clear targets related to service quality, reliability, nonrevenue water, collections, and other operational and financial parameters in the contract
- (ii) extending the contract term to 3–5 years;
- (iii) relating incentives of OSNAAG *kantor* management and USUG management to achievement of targets; and
- (iv) including commitments from MUB on 5-year capital investment plans:
 - a. establishing data baseline for determining performance targets, and
 - b. providing better incentives of service providers to improve performance.

73. Improved revenue base of service providers by enabling service providers the resources needed to hit targets by adopting a tariff policy where such tariff progressively attains full recovery of costs, in the improved contracts (where the approved tariff will be inadequate, MUB subsidy commitments should be included).

74. Improved efficiency and effectiveness of service delivery through structural innovations by preparing a comprehensive restructuring study to improve the efficiency and effectiveness of water, wastewater and heating services, including potential PPP arrangements.

75. Improved capacity of Water Supply Regulatory Commission and the Energy Regulatory Commission focused on tariff strategies, service quality standards, licensing, public communications and outreach, and other regulatory tools and systems.

76. Clear policy directions based on comprehensive studies and recommendations, including a study on how to get all the heat-only boilers integrated or managed more systematically. (Note: In the next tranche, a restructuring study of USUG/OSNAAG and PPP incentives, including the benefits and feasibility of options consolidating some *kantors* into a single service area or where feasible, merge *kantors*; where feasible, integrate *kantors* into USUG and a study and re-design and piloting of a competitive re-tendering process for heating plants in strict compliance with requirements in Concessions Law and PPP Policy.)

77. Supervision of the implementation of the water and wastewater operational improvements grant funded under tranche 1 of the MFF, in particular the operations and management improvements proposed.

3. Staffing

78. A consultants' team will be fielded to implement the assistance. It is estimated that 45 person months of consultants—12 person-months of international and 33 person-months of national consultants and advisers will be required. The team will work closely with all relevant MUB stakeholders, particularly the PMO. All team members are expected to act as resource persons for the training and development activities. International and national positions required are set out as Table 3. The total cost of the consulting services package is estimated at \$0.5 million.

Table 3: Improved Operations and Management by Service Providers and Institutional and Regulatory Reform—International and National Consultants

International Positions		Person-months	National Positions		Person-months
1	Team leader/Institutional and regulatory specialist	6.0	1	Water and wastewater engineer—operations and maintenance	7.0
2	Public private partnership expert, transaction and public utility tariffs advisor	2.5	2	Wastewater treatment expert—operations and maintenance	3.0
3	Water and wastewater engineer—operations and maintenance	2.5	3	Regulatory specialist	4.0
4	Wastewater treatment expert—operations and maintenance	1.0	4	Public utility economist/tariff specialist	4.0
			5	Transaction advisor	7.0
			6	Institutional reform specialist	8.0
Total Person-Months		12.0	Total Person-Months		33.0

G. Institutional Strengthening and Capacity Building Component 3—Strengthened Program Implementation Capacity

1. Outputs

79. The main outputs of this component are smooth and timely implementation of the investment project. Specifically,

- (i) the PMO is fully functioning with fully-trained staff, financial and management systems in place;

- (ii) project feasibility studies, detailed designs, due diligence and safeguards are prepared on time by the PMO for selected subcenters (for the next tranche);
- (iii) project implementation is generally on schedule;
- (iv) all relevant GOM and ADB guidelines are followed; and
- (v) all required project documentation and reports are submitted on time to ADB and the steering committee.

80. The PMO will formally be responsible for the implementation of the project. Since the PMO will be a relatively new entity, much of the actual work load will likely be done by the TA consultants initially. Over time, PMO staff will gain more knowledge, experience and the responsibility will be progressively transferred to the PMO staff and managers. Smooth working relationship and mutual confidence between PMO management and the consultant will be crucial.

81. Before the conclusion of this 5-year period, the consultants, in consultation with SRG and the PMO, will assess the overall status and progress made and draft an outline terms of reference for the next stage (another 4 years) of technical assistance needs.

2. Activities and Tasks

- (i) Assist the MUB in fully staffing the PMO and adopting procedures and safeguards—voluntary resettlement and environment—which are consistent with GOM and ADB guidelines.
- (ii) Establish detailed work schedules, work load distribution for the PMO.
- (iii) Provide on-the-job and formal training to PMO and SRG staff on all aspects of project management (See training plan).
- (iv) Set up and operationalize the financial management and accounting system for the investment program, including disbursements.
- (v) Ensure the effective implementation of the land acquisition and resettlement plan and the environmental management plan

3. Staffing and Costs

82. A consultants' team will be fielded to implement the assistance. It is estimated that 97.5 person months of consultants—33 person-months of international and 64.5 person-months of national consultants and advisers will be required. The team will work closely with all relevant MUB stakeholders, particularly the PMO. All team members are expected to act as resource persons for the training and development activities. International and national positions required are set out as Table 4. The total cost of the consulting services package to be some \$1.25 million over 4 years and 8 months from 2014 to 2017.

**Table 4: Strengthened Program Implementation Capacity
—International and National Consultants**

International Positions		Person-months	National Positions			Person-months
1	Team leader/urban development specialist/civil engineer	12.0	1	Land management specialist		22.5
2	Land management/resettlement specialist	5.0	2	Involuntary resettlement specialist		19.0
3	Financial expert	6.0	3	Social safeguards/gender specialist		8.0
4	Procurement specialist	5.0	4	Environmental specialist		8.0
5	Social safeguard/gender specialist	3.0	5	Finance specialist/accountant		7.0

6	Environmental specialist	2.0	6		
	Total Person-Months	33.0		Total Person-Months	64.5

H. Community Engagement and Small and Medium Enterprise Development

1. Outputs

83. Detailed design phase.
- (i) Well-functioning CDCs and SDCs fully engaged in the different processes of the project and resolution of issues and grievances in the project.
 - (ii) Documentation of the different consultations with the CDCs/SDCs and the larger communities on different issues and grievances related to the project.
 - (iii) CDCs/SDCs registered as NGOs with the State Registration Authority.
 - (iv) Completed skills inventory and demand mapping, documentation of skills matching for employment or signed contracts for sub-contracting of goods and services.
 - (v) Documentation of participation of vulnerable groups (i.e., women, elderly, etc.), and detailed designs and plans of investment projects reflect their inputs.
 - (vi) Job contracts signed between the CDCs and construction companies for the two *khoroos* offices to be built as multipurpose facility to serve as transitional housing suing the government funds.
 - (vii) Information, education, and communication materials developed and disseminated to the communities and other stakeholders.
 - (viii) Written resource mobilization strategy and at least one proposal submitted to possible donor (i.e., Japan Grassroots Facility, etc.).
 - (ix) International and national expert hired and outputs are delivered according to acceptable standards of ADB.
 - (x) Documentation of good practices and lessons learned.

84. Implementation phase.

- (i) Documentation of capacity building and strengthening modules and skills, knowledge, and attitudes developed by the CDCs/SDCs.
- (ii) Documentation of CDCs and SDCs' active engagement through their inputs into the policies, resolution of issues, and other decisions of the SRA.
- (iii) CDCs and SDCs actual implementation of O&M, direct contracts, etc., as documented in the minutes of meetings, contracts, and other communication materials.
- (iv) Formed Manpower Association operational with office space, policies, systems, and contracts, and with links with the business incubator.
- (v) PMO and GADA's documentation system (i.e., templates, guidelines, etc.), in place and being implemented.
- (vi) Forum, conferences, and meetings proceedings documented.

2. Activities and Tasks

85. Detailed design phase.

- (i) Facilitate continuing capacity building of the CDCs and SDCs to make them viable and professional community groups as well as the larger community to

- meaningfully engage with the other stakeholders of the project and for the CDCs to act as grievance committee of the project.
- (ii) Facilitate the conduct of different consultations to ensure smooth planning, land acquisition and resettlement negotiation, and implementation of project 1.
 - (iii) Loosely monitor the integration of current residents into the redevelopment plan of the targeted areas.
 - (iv) Facilitate the registration of the CDCs/SDCs to become legal entities with the State Registration Authority of the Ministry of Justice and formalize their organizational, project, and financial management systems, policies, and procedures. Provide legal support to the CDC to ensure that the CDCs' and the larger communities' rights are upheld and protected.
 - (v) Facilitate the implementation of the SME development plan skills inventory, demand mapping, matching of the trained labor and entrepreneurs with demand from SMEs and other institutions for goods and services, and link with the business incubators.
 - (vi) Facilitate the proper and adequate consultation and participation of women and other vulnerable members of the communities especially in the technical designs of the investment projects to ensure that optimum benefits accrue to the women, very poor, differently-abled, elderly, and children.
 - (vii) Prepare and guide the CDCs to engage into community contracts with the construction companies for the construction of the *khoroo* buildings as multi-purpose facility using government funds—how to do contracts negotiations, mobilize, train, and supervise their members, coordination with the contractors, reporting, establishing linkages, etc.
 - (viii) Facilitate the information, education, and communication campaign of the project.
 - (ix) Guide the CDCs and SDCs in mobilizing resources to support the implementation of their priority needs in their community action plans which could not be supported by the TA 7970-MON.
 - (x) Hire and supervise the international and national staff to ensure that work is delivered according to acceptable quality standards of the ADB and UN-Habitat.
 - (xi) Handle direct facilitation and supervision of the documentation of good practices and lessons learned.
86. Implementation phase.
- (i) Facilitate continuing capacity building and strengthening of CDCs/SDCs and primary groups in organizational, project, and financial management, O&M, contracts management, savings and credit management, etc.
 - (ii) Prepare, and guide the CDCs/SDCs in their proper and professional functioning. The CDCs/SDCs will be trained/coached on the job on how to understand and perform their duties by first understanding the issues, their roles and responsibilities vis-à-vis the other two member organization (MUB and private sector), and how they should carry out their roles and protect their interest while respecting the interests of the other stakeholders.
 - (iii) Directly handle and facilitate the capacity building on O&M, estate management, community contracting, savings mobilization and micro-credit operations, and CDC engagement in the SRA.
 - (iv) Provide technical guidance through formal training and on-the-job-training in the formation of the Manpower Association in its startup operations to be piloted in at least one subcenter which signifies interest.

- (v) Provide guidance to the MUB, PMO, and GADA in the documentation of good practices, lessons learned, and the facilitation of conflict resolution between community and other stakeholders (i.e., government, private sector, NGOs).
- (vi) Take responsibility for the documentation of the good practices and lessons learned from this component and facilitates knowledge sharing through forum and other venues.

3. Staffing and Costs

87. A consultants' team will be fielded to implement the assistance. It is estimated that a total of 78 person-months will be required—18 person-months of international and 60 person-months of national consultants and advisers will be required. The team will work closely with all relevant MUB stakeholders, particularly the PMO. All team members are expected to act as resource persons for the training and development activities. International and national positions required are set out as Table 5. The total cost of the consulting services package is estimated at \$0.7 million over a 3-year timeframe from 2014 to 2016.

**Table 5: Community Engagement and Small and Medium Enterprise Development—
International and National Consultants**

International Positions		Person-months	National Positions		Person-months
1	Social, poverty, and community development specialist	10.0	1	Community development/gender specialist	4.0
2	Small and medium enterprise development specialist	3.0	2	Communications specialist	10.0
3	Gender specialist	3.0	3	Social mobilizers	36.0
4	Communications specialist	2.0	4	Legal specialist	10.0
Total Person-Months		18.0	Total Person-Months		60.0

APPENDIX 2

FINANCIAL MANAGEMENT ASSESSMENT QUESTIONNAIRE MUNICIPALITY OF ULAANBAATAR AS OF JUNE 2013

Topic	Response	Remarks
1. Implementing Agency		
1.1 What is the entity's legal status / registration?	A Government Department Municipality of Ulaanbaatar	The Governor's office of Ulaanbaatar the capital city of Mongolia
1.2 Has the entity implemented an externally-financed project in the past (if so, please provide details)?	Yes. Few projects have been implemented by World Bank, World Health Organization and etc.	Project Strengthening public expenditure management capacity and human resources management in municipality of Ulaanbaatar implemented by World bank, Project Urban heart implemented by WHO.
1.3 What are the statutory reporting requirements for the entity?	Public Sector Financial Management Law (PSFML), Accounting Law, Unified Budget Law and relevant regulatory acts approved by Minister for Finance. As required by the law, financial statements, quarterly and annually , which includes: a) Balance sheet; b) Income/results statement c) statement of changes in equity d) statement of cash flow	Parliament of Mongolia approved amendments to the Budget law in 2012 and the amendments have become effective last 1 Jan 2013.
1.4 Is the governing body for the project independent?	Yes. Supervision will be under a PMO headed by a Vice Mayor assigned to oversee project.	
1.5 Is the organizational structure appropriate for the needs of the project?	Yes.	
2. Funds Flow Arrangements		
2.1 Describe (proposed) project funds flow arrangements, including a chart and explanation of the flow of funds from ADB, government and other financiers.	ADB Loan: ADB →MUB→PMO →Contractor and Supplier Counterpart fund: MUB →PMO→ Contractor and Supplier	MOF approves each transfer from Imprest account of a Project. Amounts greater than USD 100,000 will be approved by the State secretary of MOF and amounts less than USD 100 000 by Head of Regulation and Cooperation Department of MOF.
2.2 Are the (proposed) arrangements to transfer the	Will review proposed	

proceeds of the loan (from the government / Finance Ministry) to the entity satisfactory?	arrangements if similar as prior loans.	
2.3 What have been the major problems in the past in receipt of funds by the entity?	Haven't faced any problems regarding receipt of funds in prior cases nor met situation which has not been fully resolved.	
2.4 In which bank will the Imprest Account be opened?	Treasury and Finance department will decide with GOM/Ministry of Finance, Usually, most of the projects, financed by ADB, opened Imprest account in a commercial bank of Mongolia.	Imprest account will be opened in commercial bank which has been utilized for imprest account of other ADB-funded projects to ensure familiarity with procedures.
2.5 Does the (proposed) project implementing unit (PIU) have experience in the management of disbursements from ADB?	Yes, but needs more training for staff of Treasury and Finance department.	Familiarity with procedures and report formats will be most helpful to staff.
2.7 Does the entity have/need a capacity to manage foreign exchange risks?	Yes. Staff has capacity but should be trained more.	
2.8 How are the counterpart funds accessed?	Released through budget approval for the year.	Inclusion in Annual budget approval will ensure smooth release of funds.
2.9 How are payments made from the counterpart funds?	Regular fund disbursement	
2.10 If part of the project is implemented by communities or NGOs, does the PIU have the necessary reporting and monitoring features built into its systems to track the use of project proceeds by such agencies?	Yes.	
2.11 Are the beneficiaries required to contribute to project costs? If beneficiaries have an option to contribute in kind (in the form of labor), are proper guidelines formulated to record and value the labor contribution?	No.	
3. Staffing		
3.1 What is the (proposed) organizational structure of the accounting department? Attach an organization chart.	Department of Finance and Treasury of City Government ↓ Department of Finance and Treasury of District or agencies of city	
3.2 Identify the (proposed) accounts staff, including job title, responsibilities, educational background and professional experience. Attach job descriptions and CVs of key accounting staff.	Can be easily obtained when identified and required.	Will be made available when PMO has been established and Finance and Treasury Staff to be assigned to the Project have been identified.
3.3 Is the project finance and accounting function staffed adequately?	Yes	
3.4 Is the finance and accounts staff adequately qualified and experienced?	Yes	
3.5 Is the project accounts and finance staff trained in ADB procedures?	No. Needs training for ADB's financial management and accounting, Imprest account and disbursement procedures.	

3.6 What is the duration of the contract with the finance and accounts staff?	One year	Some hold Permanent positions and some are contractual renewable on annual basis.
3.7 Indicate key positions not contracted yet, and the estimated date of appointment.	None	
3.10 Does the project have written position descriptions that clearly define duties, responsibilities, lines of supervision, and limits of authority for all of the officers, managers, and staff?	Yes	
3.11 At what frequency are personnel transferred?	Only as needed or promotion related.	
3.12 What is training policy for the finance and accounting staff?	Seminars, training course are organized by Government ministry or other departments.	MOF provides training specifically when amendments to implementing rules and regulations to PSFML are approved.
4. Accounting Policies and Procedures		
4.1 Does the entity have an accounting system that allows for the proper recording of project financial transactions, including the allocation of expenditures in accordance with the respective components, disbursement categories, and sources of funds? Will the project use the entity accounting system?	Yes to both questions. Accounting is performed in accordance with policy documents as required by the International Accounting System. .	
4.2 Are controls in place concerning the preparation and approval of transactions, ensuring that all transactions are correctly made and adequately explained?	Yes,	
4.3 Is the chart of accounts adequate to properly account for and report on project activities and disbursement categories?	Yes,	
4.4 Are cost allocations to the various funding sources made accurately and in accordance with established agreements?	Yes,	
4.5 Are the General Ledger and subsidiary ledgers reconciled and in balance?	Yes,	
4.6 Are all accounting and supporting documents retained on a permanent basis in a defined system that allows authorized users easy access?	Yes, Accounting and supporting documents are compiled monthly and quarterly basis and archived accordingly to relevant procedure.	
<i>Segregation of Duties</i>		
4.7 Are the following functional responsibilities performed by different units or persons: (i) authorization to execute a transaction; (ii) recording of the transaction; and (iii) custody of assets involved in the transaction?	Yes,	
4.8 Are the functions of ordering, receiving, accounting for, and paying for goods and services appropriately segregated?	Yes,	
4.9 Are bank reconciliations prepared by someone other than those who make or approve payments?	Yes, there is a senior expert who is responsible for control in treasury. Accountant of treasury.	

Budgeting System		
4.10 Do budgets include physical and financial targets?	Yes,	
4.11 Are budgets prepared for all significant activities in sufficient detail to provide a meaningful tool with which to monitor subsequent performance?	Yes,	
4.12 Are actual expenditures compared to the budget with reasonable frequency, and explanations required for significant variations from the budget?	Yes,	
4.13 Are approvals for variations from the budget required in advance or after the fact?	In advance.	
4.14 Who is responsible for preparation and approval of budgets?	Expert of expenditure, senior financial officer. Accountant of Expenditures.	
4.15 Are procedures in place to plan project activities, collect information from the units in charge of the different components, and prepare the budgets?	Yes,	
4.16 Are the project plans and budgets of project activities realistic, based on valid assumptions, and developed by knowledgeable individuals?	Yes,	
Payments		
4.17 Do invoice-processing procedures provide for: (i) Copies of purchase orders and receiving reports to be obtained directly from issuing departments? (ii) Comparison of invoice quantities, prices and terms, with those indicated on the purchase order and with records of goods actually received? (iii) Comparison of invoice quantities with those indicated on the receiving reports? (iv) Checking the accuracy of calculations?	Yes. Every order is conducted by accounting standard.	
4.18 Are all invoices stamped PAID, dated, reviewed and approved, and clearly marked for account code assignment?	Yes, it is	
4.19 Do controls exist for the preparation of the payroll and are changes to the payroll properly authorized?	Yes, it may be changed in September 2013 due to minimum payroll level.	
Policies And Procedures		
4.20 What is the basis of accounting (e.g., cash, accrual)?	Basis of accounting –accrual basis	
4.21 What accounting standards are followed?	International accounting standards	
4.22 Does the project have an adequate policies and procedures manual to guide activities and ensure staff accountability?	We follow Project Administration Manual agreed with donor.	
4.23 Is the accounting policy and procedure manual updated for the project activities?	Adjustments are clarified as needed	
4.24 Do procedures exist to ensure that only authorized persons can alter or establish a new accounting principle, policy or procedure to be used by the entity?	Yes,	
4.25 Are there written policies and procedures covering all routine financial management and related administrative activities?	Yes,	
4.26 Do policies and procedures clearly define conflict of interest and related party transactions (real and apparent) and provide safeguards to protect the organization from them?	Yes,	
4.27 Are manuals distributed to appropriate personnel?	Yes	

Cash and Bank		
4.28 Indicate names and positions of authorized signatories in the bank accounts.	Chief of Department of Finance and Treasury.	
4.29 Does the organization maintain an adequate, up-to-date cashbook, recording receipts and payments?	Yes, in accordance with international accounting standards.	
4.30 Do controls exist for the collection, timely deposit and recording of receipts at each collection location?	Yes,	
4.31 Are bank and cash reconciled on a monthly basis?	Yes,	
4.32 Are all unusual items on the bank reconciliation reviewed and approved by a responsible official?	Yes, there is a senior officer who is responsible for control in the treasury. Accountant of Treasury	
4.33 Are all receipts deposited on a timely basis?	Yes,	
Safeguard over Assets		
4.34 Is there a system of adequate safeguards to protect assets from fraud, waste and abuse?	Yes, there is.	
4.35 Are subsidiary records of fixed assets and stocks kept up to date and reconciled with control accounts?	Yes, there is separate department for asset registration in MUB, Department of Property Relations	
4.36 Are there periodic physical inventories of fixed assets and stocks?	Yes, every quarter or year	
4.37 Are assets sufficiently covered by insurance policies?	Yes.	
Other Offices and Implementing Entities		
4.38 Are there any other regional offices or executing entities participating in implementation?	Yes, every district within the city can be participant in implementation.	
4.39 Has the project established controls and procedures for flow of funds, financial information, accountability, and audits in relation to the other offices or entities?	Yes,	
4.40 Does information among the different offices/implementing agencies flow in an accurate and timely fashion?	Yes,	
4.41 Are periodic reconciliations performed among the different offices/implementing agencies?	Yes, every fiscal year	
Other		
4.42 Has the project advised employees, beneficiaries and other recipients to whom to report if they suspect fraud, waste or misuse of project resources or property?	Yes,	
5. Internal Audit		
5.1 Is there an internal audit department in the entity?	Yes, every year	The city's audit department.
5.2 What are the qualifications and experience of audit department staff?	Highly educated and certificated auditors,	
5.3 To whom does the internal auditor report?	To the Council of City	
5.4 Will the internal audit department include the project in its work program?	Yes,	
5.5 Are actions taken on the internal audit findings?	Yes,	
6. External Audit		

6.1 Is the entity financial statement audited regularly by an independent auditor? Who is the auditor?	Yes, every year The State's Audit Department.	
6.2 Are there any delays in audit of the entity? When are the audit reports issued?	No, the audit reports are regularly issued on time.	
6.3 Is the audit of the entity conducted according to the International Standards on Auditing?	Yes,	
6.4 Were there any major accountability issues brought out in the audit report of the past three years?	No,	
6.5 Will the entity auditor audit the project accounts or will another auditor be appointed to audit the project financial statements?	Another auditor can be made available to audit the project financial statements. Usually, project's financial statements , which financed by ADB audited every year by an auditor, selected by MOF	.MOF-accredited Auditor will be appointed as Auditor of Project Financial Statements (annual basis).
6.6 Are there any recommendations made by the auditors in prior audit reports or management letters that have not yet been implemented?	No,	
6.7 Is the project subject to any kind of audit from an independent governmental entity (e.g., the supreme audit institution) in addition to the external audit?	Yes,	
6.8 Has the project prepared acceptable terms of reference for an annual project audit?	Yes,	
7. Reporting and Monitoring		
7.1 Are financial statements prepared for the entity? In accordance with which accounting standards?	Yes, in accordance international accounting standard.	
7.2 Are financial statements prepared for the implementing unit?	Yes,	
7.3 What is the frequency of preparation of financial statements? Are the reports prepared in a timely fashion so as to useful to management for decision making?	Financial statement is prepared quarterly and annually, submitted by 20 th of first month of the following quarter, and by February 20 th of the following year	
7.4 Does the reporting system need to be adapted to report on the project components?	Yes	
7.5 Does the reporting system have the capacity to link the financial information with the project's physical progress? If separate systems are used to gather and compile physical data, what controls are in place to reduce the risk that the physical data may not synchronize with the financial data?	Yes, we have the capacity to monitor financial and technical aspects of Project. Fund disbursements are supported by physical data or reports of physical progress .	Technical progress report is needed to justify release of payments to contractors as stated in conditions of contract.
7.6 Does the project have established financial management reporting responsibilities that specify what reports are to be prepared, what they are to contain, and how they are to be used?	Yes,	PSFML has prescribed reports and report formats which are followed.
7.7 Are financial management reports used by management?	Yes,	Supplementary budget may be requested.
7.8 Do the financial reports compare actual expenditures with budgeted and programmed allocations?	Yes,	Excess or deficit are examined for reason/s behind situation
7.9 Are financial reports prepared directly by the automated accounting system or are they prepared by spreadsheets or some other means?	Yes,	Prepared by the automated accounting system. Can also be

		prepared by some other means - manually.
8. Information Systems		
8.1 Is the financial management system computerized?	Yes,	
8.2 Can the system produce the necessary project financial reports?	Yes, System may be adjusted as needed.	
8.3 Is the staff adequately trained to maintain the system?	Yes, More training may be scheduled if necessary.	
8.4 Does the management organization and processing system safeguard the confidentiality, integrity and availability of the data?	Yes, Finance Department is very strict on confidentiality.	

Note: Response to questions under the response column were provided by the representative from Treasury and Finance Department to whom the FMAQ was assigned. Remarks column were additional information obtained by the due diligence consultants.

APPENDIX 3

PROCUREMENT CAPACITY

1. The Public Procurement Law (PPL), 2005, sets out the key policies, responsibilities and standards for procurement in the public sector. The sample documents in this prescribe the evaluation, contracting, payment, warranty liability period, among others. Arbitration is not allowed for procurement dispute settlement. Regulations allow for black listing—disbarment—of firms and individuals and if they violate the regulations and agreements.
2. The law requires public notice for all procurement activities above MNT 30 million for goods and consultancy services and above MNT 50 million for works. The Law further differentiates between processes for consulting services and goods and works. There is preference given for locally-produced goods and locally-provided services. The primary method for procurement activities is open competition. Prequalification is required for complex contracts. The procurement laws and regulations also contain provisions for dealing with misconduct—such as fraud and corrupt practices. The Investigation Department and Anticorruption Department are the lead enforcement institutions.
3. The Ministry of Finance (MOF) plays a lead role in guiding procurement policy in the country. The Ministry has developed various procurement-related Manuals and Rules since 2005. More specifically it:
 - (i) Drafts proposals to enhance procurement legislation.
 - (ii) Provides professional and practical advice to the procuring entity on procurement matters.
 - (iii) Drafts and adopts, if the law provides for, policies and procedures, guidelines, instructions, manuals and standard documents pertaining to procurement.
 - (iv) Annually reports to the government on implementation of procurement legislation.
 - (v) Oversees and assesses the procuring entity's procurement procedures.
 - (vi) Consolidates procuring agencies' reports, creates and maintains a national database of procurement and issues consolidated reports and data.
 - (vii) Provides recommendations and opinions on particular issues pertaining to the implementation of the law upon request from legal and supervision authorities.
 - (viii) Defines the level, quality, and standards for procurement related training jointly with the state administrative body for education issues, provide support and assistance in organizing the training.
 - (ix) Maintains a website for disclosing information on procurement, tender announcements and results, and determines the manner of posting the invitation to tender and other information.
 - (x) Cooperates with international organizations and other foreign organizations on procurement matters, and plans and coordinates technical assistance.
 - (xi) Keeps, oversees, and discloses the register of bodies whose rights to participate in tendering were restricted as specified in the PPL.
 - (xii) Defines the conditions and procedures of introducing information technology and electronic devices in procurement activities.
 - (xiii) Takes control on procurement activity through its procurement inspectors who are licensed.
4. The MOF has developed special Rules for ADB-funded procurement. There are standard bidding documents that have been approved for use on ADB funded projects. The

MOF has adopted several Rules and Regulations on implementation of the PPL, all the documents are acceptable to ADB, and pass the standards of international procurement practices. For national procurement of goods and works, the above PPL and Regulations will be followed. In summary the MOF has developed:

- (i) Rules for procurement funded by IBRD and IDA, 07/01/2013
- (ii) Sample Tender Documents for procurement of goods funded by the ADB, 07/01/2013
- (iii) Sample Tender Documents for procurement of works funded by the ADB, 07/01/2013

5. The National Procurement Agency was established by the Resolution #6 of the Government on 27th August 2012. The Agency is supervised by the Deputy Prime Minister, reports to the Cabinet, and has the mandate to:

Provide with professional supervision for procurement units.

- (i) Unify implementation process practices of PPL and submit its recommendation to the MOF.
- (ii) Keep the website on procurement information, tender selection, invitation, etc.
- (iii) Provide professional training and methodology on procurement for participants and procuring entities.
- (iv) Set up and implement a unified policy to upgrade capacity, technology and software for procuring entities.
- (v) Be responsible for general procurement contracting (long term, three year contracts).

6. The agency is authorized to establish Procurement Units within the *aimags*, the capital city, and the district governor offices. The Heads of Procurement Units of *aimags* and the capital city are appointed by the Governors, in consultation with the National Procurement Agency Head. The District Procurement Unit Head is appointed by District Governor in consultation with the Capital City Governor. The Head of the Procurement Unit should have no criminal record, at least 10 years of work experience in the civil service, and have at least 3 years experience of work on procurement. The structure of the National Procurement Agency is shown as **Figure 1**.

7. MUB has its own Procurement Unit, which was established on 4th January 2013 under Government Resolution #190, 2013, and MUB Governor's Order A/90 to undertake procurement activities on civil works, goods and consultancy services for MUB. The Procurement Unit reports directly to the MUB Governor. Since its establishment it has undertaken only local procurement. At the start of 2013, MUB prepared a Procurement Plan which was approved by Ulaanbaatar Citizen Representative Khural. The Department of Investment of MUB drafts and approves the specifications. Currently, the Procurement Unit has 56 staff, including 31 engineers, 6-professions of business administration, 5 accountants and 8 lawyers. Its organization structure is in the following **Figure 2**.

Figure 1: Organizational Structure of the National Procurement Agency

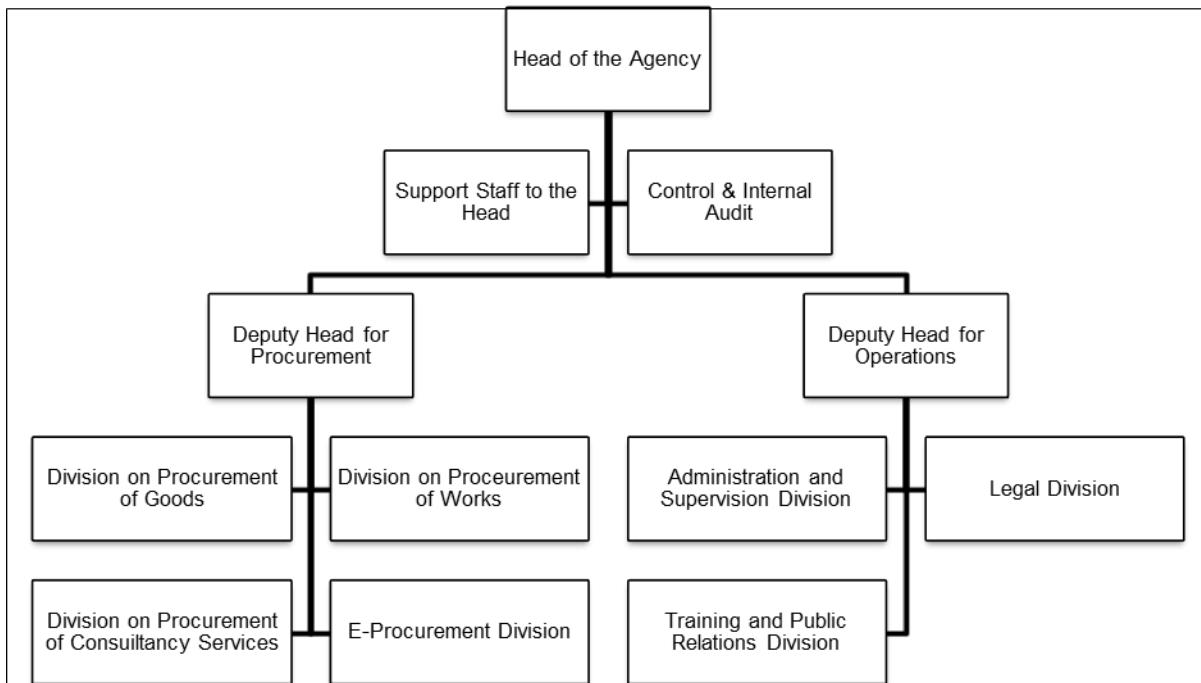
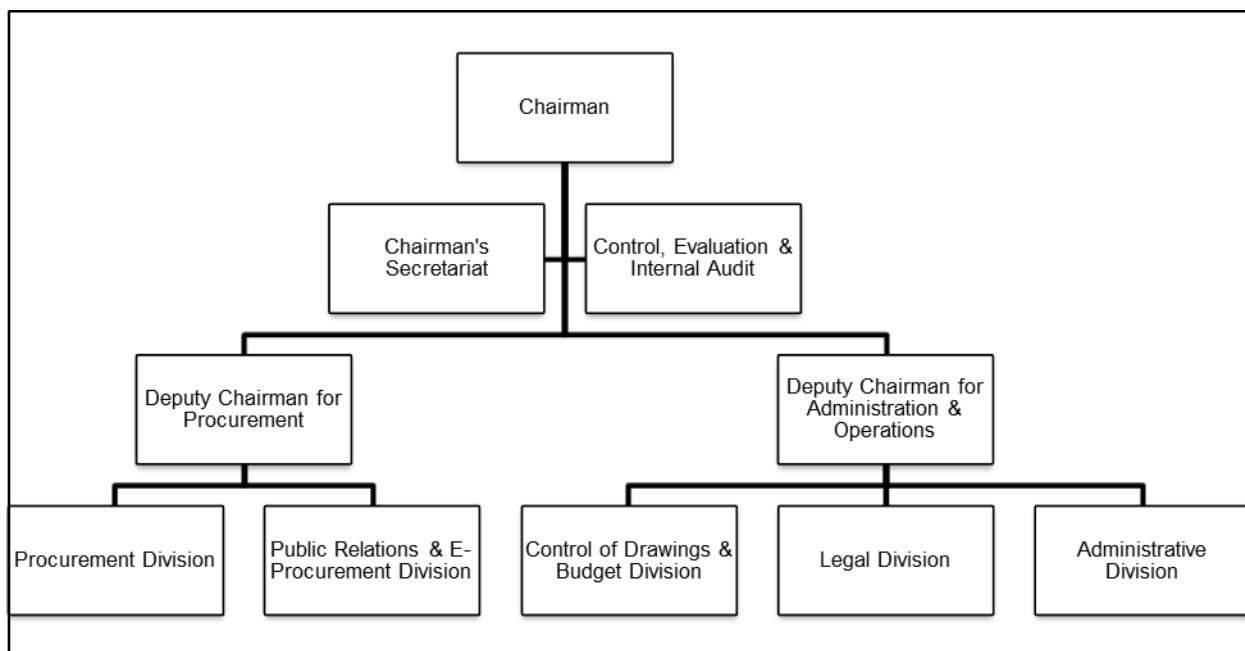


Figure 2: Organizational Structure of Procurement Unit, MUB



8. The MUB Procurement Unit is developing manuals for evaluation; for opening tenders; and for anticorruption measures. It has approved and issued a number of internal documents—Internal Labor Rules, Rules for Board Meetings, Rules for Documentation and Internal Control, Rules for Resolution of Citizens' Complaints, Internal Financial Rules, Rules for Office Hours Control, and Rules for Documentation and Archiving.

9. The Ulaanbaatar Governor, through the Department for Investment, identifies the need for consulting services requirements. An Evaluation Committee drafts the ToR based on an MUB Order. The methods and criteria for evaluation of EOIs are specified in the Articles 38-40 of the Law. The evaluation method for selecting consultants is based on qualifications, quality or both, and is pre-defined prior to release of the RFP. *Qualification evaluation method* is used for selecting an individual consultant. The qualification evaluation is based on the consultant's knowledge, expertise, professional level, and other professional skills. In selecting a consulting firm either the *quality evaluation method* or *combined evaluation method* is used. Where a contract involving simultaneous execution of a number of services requiring comprehensive qualification expertise and technical qualification or having interdependence, a consulting firm is selected using the *quality evaluation method*. Financial proposals of the consultants whose tenders were scored at the minimum, or higher, are opened publicly at the fixed time. Scores for technical and financial proposals are added in the proportion set out in the RFP to obtain a total score of quality and price evaluation. The procuring entity negotiates with the highest-rated consultant. During negotiations some requirements to a given service such as required work duration (person-months) for the consultant to work at the field or office, and office supplies may be modified.

If *Quality Evaluation Method* is used, proposals shall be analyzed for comparison taking into account operating practice and work schedule of the proposed consulting services, personnel's expertise and capabilities, and quality of the service and technical equipment. Technical proposals shall be assigned a score on the basis of the requirements and criteria set out in Articles 14-16 of PPL (General Evaluation Criteria for all tenders). Procuring entity shall then open the financial proposal submitted by the consultant who was ranked first in terms of technical proposal and undertake negotiations to agree on financial and other conditions with the given consultant. When using the *combined evaluation method*, the procuring entity shall indicate the appropriate minimum score for a technical proposal in the RFP. Technical proposals shall be evaluated and scored subject to the requirements and criteria set out in Articles 14-16 PPL (General Evaluation criteria)

10. The Law requires establishing an ad-hoc evaluation committee for every single tender process. Evaluation decision of the committee is final, but approval is required from the procuring agency. The normal length of time between the issuance of the invitation for bids and contact commencement has been less than two months.

11. The assessment of MUB Procurement Agency has identified the following strengths and weakness:

- (i) *Strengths:* Existence of a functioning Procurement Unit with adequate and qualified human resources and independence. The capacity assessment also shows that the MUB Procurement Agency has a record keeping system for procurement activities, and will maintain records for 15 years—in accordance to the Archive Law—for audit purposes and institutional memory.
- (ii) *Weaknesses:* Because of its limited period of existence (just 4 months), the Agency has not yet acquired significant practice in procurement procedures. Capacity to undertake international procurement is rated weak. There is no system of reporting on negotiations.

12. **Table 1** summarizes the recommendations.

Table 1: Recommendations to Improve Procurement

Capacity Constraints	Recommended action	Responsibility and Comment
Specific Recommendations, Project Implementation		
<p>Although the MUB procurement agency has adequate human resources for their internal regular procurement process; there is capacity gap for additional adequate and trained human resources for the PCO.</p> <p>In general, the MUB procurement staff is not properly trained on general procurement processes nor ADB procurement procedures.</p> <p>There is a need to make amendments to the PPL taking control on issues of auditing and the black listing register.</p>	<p>Consultants familiar with PPL—but not with all the regulations issued by the Ministry of Finance, regulations, and international practices—will be recruited to assist MUB Procurement Agency.</p> <p>After setting up the PMO at the MUB, a training program is required for the procurement of goods, works, and services under ADB financed projects.</p> <p>There is a need for training on the development of technical requirements of the bidding documents.</p> <p>There is a need to assist in drafting contents of bidding documents, particularly technical specifications.</p> <p>There is a need to set up evaluation system for selection of consultancy services.</p> <p>There is a need to enhance capacity of the MUB procurement agency.</p> <p>There is a need to assist in setting up system of monitoring the implementation of service contracts.</p>	<p>The MUB procurement agency, with financial assistance from ADB, should recruit a consultant to provide technical support in procurement process since initial stage of program implementation.</p> <p>The PMO, in coordination with the MUB and ADB, needs to organize a training program on procurement works in the PMO. The PPL obligates the MOF to maintain a register of black listed companies, but in practice this seldom happens.</p>
General Recommendations, Executing Agency Capacity		
<p>The number of staff working on MUB procurement agency is sufficient to carry out procurement works for additional projects but the municipal staff are not trained to carry out procurement according to the ADB Guidelines.</p>	<p>Provide procurement training to the PMO staff to carry out procurement works and accounting according to ADB guidelines.</p> <p>Hire a procurement consultant to provide necessary support, especially in the beginning of the program.</p> <p>Heads of the Divisions should be trained and certified by specialized training institutions: ISO 9001, ISO 9002, ISO 9003, ISO 10845.</p>	<p>The MUB procurement agency has to hire experienced staff involved in procurement works and should hire a consultant to provide technical support especially in the beginning of the program.</p>
General Recommendations, Procurement Environment		
<p>Absence of procurement accreditation program</p>	<p>Prepare a national procurement operation manual.</p> <p>Provide procurement training, professional support, and develop procurement capacity by establishing a procurement accreditation program.</p>	<p>The MUB procurement agency is responsible to develop and facilitate the implementation this manual.</p> <p>The Government of Mongolia/MUB should initiate a procurement accreditation program.</p>

APPENDIX 4

ENVIRONMENTAL MANAGEMENT PLAN FOR PROJECT 1 (P1-EMP)

1. This Project 1 Environmental Management Plan (P1-EMP) is part of the Initial Environmental Examination (IEE) Report for the Project 1 of the proposed Ulaanbaatar Urban Services and Ger Areas Development Investment Program, a multitranche financing facility (MFF). It will serve as the framework for the environmental management of Project 1, commencing from detailed design phase through to operation.
2. The P1-EMP identifies all potential impacts of the Project 1 components and recommends the mitigation and protection measures with the objective of avoiding or reducing these impacts to acceptable levels, meeting international and Mongolian standards. It defines the institutional arrangements and mechanisms, the roles and responsibilities of relevant institutions, procedures and budgets for its implementation. It seeks to ensure continuously improving environmental protection activities prior to construction, during construction and during operation in order to prevent, reduce or mitigate adverse impacts and risks. It draws on the findings of the IEE, PPTA and ADB review mission discussions and agreements with the relevant government agencies.
3. **The environmental management plan** (i) defines the environmental management objectives; (ii) outlines the responsibilities of relevant institutions in EMP implementation; (iii) summarizes the potential impacts and recommends measures to mitigate them; (iv) sets out the environmental monitoring and inspection plan; (v) presents the institutional strengthening and training plan; (vi) specifies the reporting requirements; and (vii) presents the mechanism for feedback and adjustment.
4. The P1-EMP will be updated based on the detailed design, as necessary, and disclosed on the project website.

A. Implementing Organizations and Their Responsibilities

5. The institutions that will have major and minor roles in environmental management include the: (i) Municipality of Ulaanbaatar (MUB) as the executing agency and implementing agency of the Program; (ii) the proposed Subcenter Redevelopment Authority (SRA), to be set up under the jurisdiction of the Vice Mayor for Urban Development and Investment within MUB as a city owned enterprise; (iii) Ulaanbaatar Water and Sewerage Authority (USUG) as a sub-implementing agency; (iv) Project Steering Committee (PSC); (v) Program Management Office (PMO); (vi) Project Implementation Support (PIS) Team and its Environmental Specialist; (vii) the Asian Development Bank (ADB); (viii) Design Consultant; (ix) Civil Works Contractors; (x) Ministry of Environment and Green Development (MEGD); and (xi) Concerned Khoroo Government Units. Main responsibilities are defined below, and in **Table E-1**.

6. **Implementing organizations and their responsibilities.** The institutions that will have major and minor roles in environmental management are defined below.

7. **The Municipality of Ulaanbaatar (MUB),** as the executing agency and implementing agency

of the program, will be responsible for firming up the necessary collaboration with MEGD for environmental impact monitoring.

8. **Project steering committee** responsible for (i) deciding on environmental management matters that will require action from the senior-management level; and (ii) ensuring the allocation and timely disbursement of adequate resources for the monitoring of EMP implementation and conduct of environmental monitoring activities required from the implementing agency in the Environmental Monitoring Plan.

9. **Subcenter redevelopment authority.** The proposed SRA will be set up under the jurisdiction of the Vice Mayor for Urban Development and Investment within the MUB. This special purpose delivery vehicle will facilitate, coordinate and manage the redevelopment and densification process. More specifically, it will assist in realizing Subcenter Development Plans (SDPs) and ensure the strict application of the development plan, principles, land use ratios, and construction standards; and supervise private sector participation in the construction of residential units/compounds, in accordance with community needs and expectations, and private sector interests. SRA will also (i) facilitate obtaining the necessary inputs and/or assistance from the subproject *khoroos*, communities and concerned private sector to meet environmental safeguard obligations; and (iii) firm up collaboration with subproject *khoroos* in consultations and information disclosure, environmental monitoring, and implementation/observance of the grievance redress mechanism.

10. **Ulaanbaatar Water and Sewerage Authority (USUG)** as a sub-implementing agency, responsible for: (i) providing technical assistance and support to the PMO in EMP implementation; (ii) as operator for the completed water and sewerage structures, observing the Program's GRM and implementing environmental mitigation and monitoring measures that will address as minimum the requirements of the project EMP.

11. **Program Management Office (PMO)**, which will be established by the Mayor and be under the Vice Mayor for Urban Planning and Investment , will be responsible for undertaking and managing the day-to-day activities of Project 1. Its Environmental Safeguard Staff (ESS) shall coordinate and supervise the EMP implementation, including but not limited to: (a) update the P1-EMP after detail project design; (b) oversee incorporation of EMP recommendations into the design/bid documents; (c) ensure the procurement of environmentally responsible contractors; (d) ensure that an DEIA approval has been secured prior to the awarding of civil works contract; (e) set up baseline ambient air quality, noise & vibration levels, ground- & surface water quality & baseline statistics on incidence of diseases, road accidents and crimes occurring at night in the unlit roads in concerned *khoroos*; (f) set up and coordinate grievance redress mechanism (GRM); (g) review and clear C-EMPs of the selected Contractors; (h) monitor contractors to ensure adherence to the EMP; (i) prepare monthly reports on EMP implementation to the PMO; (j) conduct consultation meetings with local stakeholders as required, informing them of imminent construction works, updating them on the latest project development activities, GRM, etc.; and (k) support the PIS-ES in conducting training, EMP compliance reviews, annual reporting, etc.

12. **Contractors** will develop, implement and (internally) monitor Contractor EMPS, fully responding to the P1-EMP. To ensure that the contractors comply with the P1-EMP provisions, the PMO with the help and technical support of PIS-ES, will prepare and provide the following

specification clauses for incorporation into the bidding procedures: (a) a list of environmental management requirements to be budgeted by the bidders in their proposals; (b) environmental clauses for contractual terms and conditions; and (c) the full P1-EMP in Mongolian.

13. **Concerned khoroos** (through their designated counterpart for the PMO's ESS) will actively participate in (a) public disclosure of Project 1 IEE, EMP & EMRs, and in the community awareness program on health and safety impacts of Project 1 implementation; (b) the establishment of health and safety baseline data prior to construction; (c) review EMRs & results of environmental monitoring by Contractors, and ensure that necessary corrective actions are taken for reported exceedance that will be confirmed as caused by Contractor's negligence;

14. **Licensed institute.** A licensed institute will be engaged to conduct baseline monitoring prior to construction, and quarterly environmental monitoring during project construction and operation, following the monitoring plan presented in **Table E-3**. The licensed institute will comply with Mongolian Quality Assurance/Control procedures and regulations for sampling and monitoring of environmental media, and assess compliance with Mongolian environmental quality standards for ambient air, water and noise quality. The laboratory, to be contracted by the PMO, will submit quarterly environmental impact monitoring reports to the PMO.

15. **Project Implementation Support (PIS) Team**, its Environmental Specialist (PIS-ES), responsible for imparting technical advice, guidance support and "hands-on training" to the PMO, particularly its ESS, in EMP implementation of Project 1 implementation. The PIS-ES will provide support to the PMO, the PMO-ESS, and USUG with (a) project preparation; (b) training, (c) yearly environmental progress and EMP compliance monitoring; (d) annual EMP monitoring and progress reporting; (e) identifying environment-related implementation issues and necessary corrective actions; and (f) undertaking site visits as required.

16. **Asian Development Bank (ADB)**, responsible for undertaking reviews of relevant documents for clearance purposes and carry out periodic review missions to review (amongst others) the environmental aspects of Project 1.

Table E-1: Environmental Responsibilities

Phase	Responsible Agencies	Environmental Responsibilities
Project Preparation	MEGD	Conduct General EIA following MON procedures Review and approved DEIAs
	Executing agency, PMO	Request MEGD to conduct General EIA, comply with MEGD instructions Conduct IEE in accordance with ADB SPS 2009, and DEIAs in accordance with MON Law on EIA 2012
	PPTA Consultants	Support the executing agency in preparing request to MEGD and IEE
	ADB	Review and approve IEE, including EMP, disclose on ADB website
Detailed Design	Design institutes	Incorporation of environmental mitigation measures in detailed designs, and bidding documents.
	PMO, PIS-ES	Update EMP based on detailed design, as necessary Provide updated EMP to Design Institutes
	ADB	Approve updated EMP, if necessary
Tendering	PMO, tendering company, design institute(s)	Incorporate mitigation measures and the EMP clauses in tendering documents, civil contracts and contractors' construction management plans.
	PIS, ADB	Review tendering documents; confirm project's readiness

Phase	Responsible Agencies	Environmental Responsibilities
Construction	executing and implementing agency	Advise on implementation of mitigation measures
	Contractors	Prepare and submit Contractor EMP, fully responsive to P1-EMP; Implement mitigation measures and conduct internal monitoring/supervision
	PMO-ESS	Coordinate GRM; supervise EMP implementation; conduct regular site inspections; prepare monthly EMP progress reports; conduct training; support PIS in preparing annual environmental progress report
	Licensed laboratory	Conduct quarterly environmental monitoring, prepare monitoring report
	PIS (PIS-ES)	Advise on the mitigation measures; provide comprehensive technical support to PMO, IAs and IUs for environmental management; conduct training; conduct annual EMP compliance review; prepare annual EMP monitoring and progress reports.
	ADB	Conduct review missions; review and approve annual environmental progress reports, including disclosure
Operation	PMO	Conduct EMP compliance review, instruct implementing agencies on environmental management requirements; prepare EMP monitoring and progress reports until PCR is issued; and implementation of mitigation measures as defined in EMP
	Licensed laboratory	Conduct environmental monitoring following approved monitoring plan
	ADB	Review and approve EMP monitoring and progress reports, disclose on ADB project website

ADB = Asia Development Bank; PCR = project completion report; PIS = project implementation support, PMO = project management office; PMO-ESS = project management office environmental safeguard staff, MEGD = Ministry of Environment and Green Development; DEIA = detailed environmental impact assessment; IEE = initial environmental examination; EMP = environmental management plan.

B. Summary of Potential Impacts and Mitigation Measures

17. This section describes the potential environmental issues and impacts during the detailed design, pre-construction, construction and operation phases of Project 1, as identified during the Initial Environmental Examination (IEE), as well as corresponding mitigation measures designed to minimize the impacts. The recommended mitigation measures consist of actions, activities, plans and documents (including resettlement/compensation plan, environmental approval documents, Contractor's EMP) that need to be undertaken, observed, obtained, prepared to prevent, mitigate, or compensate for, the salient adverse impacts enumerated in Chapter VII. The broad measures are outlined below; while the specific measures are presented in the Environmental Mitigation Plan (**Table E-2**):

- (i) Incorporating in detailed design adequate considerations and conditions relative climate change and seismicity to sustain the structural integrity and effective operations of completed works;
- (ii) Prompt compensation for losses associated with ROW acquisition according to the approved Resettlement/Compensation Plan;
- (iii) Ensuring the engagement of an environment-responsible Contractor by incorporating the SPS-compliant P1-EMP into the bidding documents, for use as basis in the preparation of the Contractor's C-EMP by the selected Contractors, addressing as minimum the requirements of the T1- EMP. C-EMP to be quantitatively and qualitatively evaluated against the P1-EMP and cleared by PMO-ESS and PIS-ES prior to the

commencement of any work on site. The contract for civil works to explicitly stipulate the obligation to institute the mitigation measures properly and carry out environmental monitoring according to the P1-EMP. The Contract to stipulate some tie-up of progress payment and collection of performance bond with the performance in the implementation of the CEMP/P1-EMP;

- (iv) A C-EMP that ensures good and environment-friendly engineering practices that avoid first, and (if unavoidable) mitigate, adverse impacts; and commitment from Contractor to fully implement the C-EMP/P1-EMP;
- (v) Quality construction supervision and environmental monitoring by the PMO (environmental monitoring to be outsourced to licensed laboratory);
- (vi) Conduct of engineering investigations of built structures after every seismic and extreme weather events during construction and during operation and full disclosure of investigation reports;
- (vii) Sufficient funds for sustained quality of operation and maintenance;
- (viii) Observance of the grievance redress mechanism and prompt action/ resolution of lodged grievances.

18. The Environmental Mitigation Plan points out that most measures are the usual good engineering practices. The effectiveness of the measures will be evaluated based on the results of the environmental monitoring and inspection to determine whether they should be continued or improvements should be made. Improvements need to be confirmed through stipulated environmental management procedures.

C. Environmental Monitoring and Inspection

19. Environmental monitoring and inspection will consist of: (i) environmental impact monitoring; and (ii) EMP performance verification. Environmental impact monitoring will cover ambient air quality, noise, groundwater quality, surface water quality and community health and safety prior to construction and during construction; and workers health and safety during construction. EMP performance verification will monitor and verify the performance of the Design Consultant, Contractor, Operator, and PMO in complying with, or adhering to, the C-EMP/P1-EMP. The Environmental Monitoring and Inspection Plan is presented as **Table E-3** and **Table E-4**.

Table E-2: Environmental Mitigation Plan

A. Prior to Construction Phase

A.1 Detailed Engineering Design

Potential Environmental Concerns/Impacts	Recommended Mitigation Measures	Location	Estimated Cost ^a (USD)	Institutional Responsibilities	
				Implement	Supervise & monitor
1 Unsustainable supply of gravel, sand, soil or unsustainable extraction of these materials to meet construction demand	1.1 Prepare a Sub-project Aggregates Mgmt Plan (AMP), confirming location of sources, estimating supply of, & demand for, aggregates during construction. This will serve as framework for Contractor's Aggregates Management Plan.	Not applicable	c/o Design Cost	Design Consultant	PMO PIS Envi Sp/ ADB*
	1.2 Specify in bidding documents Contractor's obligation to obtain aggregates only from quarries & crushing plants still operating within allowed extraction threshold per permit to operate.				
2 Non-sustainability of completed works due to inadequate consideration in design the following: --- seismicity, water scarcity stress associated with climate change	2.1 Design to incorporate the following, as appropriate: - seismicity in UB & vulnerability to damages during earthquakes - climate change induced dry spell/drought, rise in temperature & resulting water scarcity stress, rapid thawing of permafrost, decreasing depth of frozen soil.	Not applicable	-		
3 Inadequate consideration of the significance of sustaining hydrology of crossing & adjacent creeks/river.	3.1 Consult relevant government institution for the appropriate hydrological & hydraulic factors to take into account (factors that reflect influence of climate change-induced impacts).	Not applicable	-		
4 Lack of coordination with other projects in/or close to the Subcenters & component sites	4.1 Undertake adequate consultations with other ongoing, proposed, currently prepared projects to synchronize implementation time frame & appropriate details to avoid adverse cumulative impacts.	Not applicable	c/o Design Cost		

A.2 ROW Acquisition, Obtaining Approvals, and Community Preparation

Potential Environmental Concerns/Impacts	Recommended Mitigation Measures	Location	Estimated Cost ^a (USD)	Institutional Responsibilities	
				Implement	Monitor
5 Displacement of HH, loss of land, & parts of structures, crops/trees, income	5.1 Finalize Resettlement/Compensation Plan, after Detailed Detailed Measurement Surveys, through highly consultative & participatory process.	All affected villages	-	Design Consultant	PMO & PIS Envi Sp/ ADB*
	5.2 At least 30 days before awarding of contract for civil works, losses shall have been fully compensated for.	All affected villages	c/o resettlement cost		
6 DEIA requirements & approvals	6.1 Conduct/Prepare EIA report and obtain approval from MEGD.	Not applicable	c/o PMO's counter-part obligations	PMO	PIS Envi Sp/ ADB*
7 Potential communicable/transmittable diseases brought with entry of workers & overall health/safety hazards during construction & potential grievances	7.1 Intensive IEC campaign on communicable/transmittable diseases, e.g., SARS, H1N1, STD, HIV/AIDS, tuberculosis, that may be brought with entry of workers, on health/safety hazards during construction, & on the grievance redress mechanism.	All affected villages	c/o PMO's counter-part obligations		

* ADB will monitor compliance with EMP in the framework of review missions and review of annual EMP monitoring and progress reports.

A.3 Procurement & Prior to Mobilization

Potential Environmental Concerns/Impacts		Recommended Mitigation Measures	Location	Estimated Cost ^a (USD)	Institutional Responsibilities	
					Implement	Review & Evaluate
8	Engagement of environmentally irresponsible contractor for civil works	8.1 An ADB-cleared Project 1 EMP (P1-EMP), as part of bidding documents. 8.2 P1-EMP to be appended to the Contract for basis of preparation of Contractor's EMP (C-EMP) that will address as minimum the requirements of the ADB-cleared P1-EMP & for compliance. 8.3 Contract to require Contractor's submission of monthly env'l monitoring report, outline appended in Contract. 8.4 Contract to also stipulate some tie up of progress payment & collection of performance bond with the performance in C-EMP/P1-EMP implementation. 8.5 C-EMP to be quantitatively & qualitatively evaluated against P1-EMP. 8.6 PMO to clear C-EMP before start of any work on site or establishment of project construction-related facilities.	Not applicable	-	PMO	PIS Envi Sp/ ADB*

B. Construction Phase

Potential Environmental Concerns/Impacts		Recommended Mitigation Measures	Location	Estimated Cost ^a (USD)	Institutional Responsibilities		
					Implement	Monitor	
PHYSICAL / CHEMICAL ENVIRONMENT							
9	Dust/suspended particles from:	- earthworks - dry exposed areas - stockpile of dry soil, sand, cement - transport of aggregates, cement, residual soil for disposal, & wastes - loading/unloading of fine aggregates, cement and other materials - movements of construction vehicles	9.1 Segmentation of works, as appropriate, to minimize having more loose surfaces/stockpiles than necessary. 9.2 Appropriately watering dry exposed surfaces, stockpiles of sand &, if applicable, excavated materials, at least twice daily. 9.3 Tarpaulin or similar cover on trucks carrying aggregates, cement residual soils, & wastes. Maintain min. 2 feet freeboard. 9.4 Minimize drop heights when loading/unloading soil onto trucks/ground. Spray water on soil being loaded/unloaded. 9.5 Clean up work surfaces at the end of each day's work. 9.6 Speed limit for construction vehicles to max. of 30 kph in sites. 9.7 For works within 30 m from houses set up a temporary wall between receptor & work area. Wall to be at least 2.5 m high & at least 10 m beyond each end of the work area.	All sites All applicable sites Entire hauling route All sites All sites All sites	- c/o Construction running cost c/o Supplier's cost - - c/o Construction safety cost (preliminaries)	Contractor Supplier & Contractor Contractor	PMO & PIS Envi Sp/ ADB*

Potential Environmental Concerns/Impacts	Recommended Mitigation Measures	Location	Estimated Cost ^a (USD)	Institutional Responsibilities	
				Implement	Monitor
10 Gas emissions from: - exhaust of operating construction equipment/vehicles, including generator sets - burning of solid/hazardous wastes - overall power/energy use in construction - use of high VOC emitting specialty applications	10.1 Reduced vehicular movements through: - coordinated transport of materials, spoils & waste - worker's accommodations at walking distances, or providing mass transport for workers - bigger capacity trucks for hauling of wastes/spoils, where access roads allow 10.2 Turn off equipment/vehicle when not in use. Limit engine idling to a max. of 5 minutes. 10.3 Use clean-fuelled generators 10.4 No burning of wastes. No indiscriminate dumping of waste, especially organic wastes, left to decompose. 10.5 Use low VOC-emitting asphalt processing & other materials, e.g., adhesives, sealants, paints, etc. 10.6 Use only well maintained construction vehicles/equipment, with emission test certificate.	All sites	-	Contractor	PMO & PIS Envi Sp/ ADB*
11 Odor from: - gas emission sources - use of high VOC emitting specialty applications - poorly managed solid & hazardous wastes - poor sanitation practices of workers	11.1 Application of gas emission mitigation measures. (No. 10 above) 11.2 Properly store, promptly dispose of, organic & hazardous wastes. 11.3 Require enclosed trucks for, or effective cover when, hauling wastes to the landfill & chemicals to construction sites. 11.4 Schedule as much activities that generate odor as possible to specific times of the day (non-peak hours of public presence) and consider weather conditions (wind & temperature). 11.5 When there is high odor release from activities, slow down/adjust, or suspend, some odor releasing activities. 11.6 Where applicable, install barriers around potential odor generators, located against prevailing wind directions. 11.7 Provide adequate sanitation facilities, adequate water supply. Strictly enforce observance of sanitation practices.	All sites All sites	- c/o Construction mobiliz'n cost (preliminaries)		
12 Noise from: - operating equipment/vehicles (especially those diesel-fed & without efficient mufflers), - processes such as drilling/pavement breaking, excavation, concrete mixing, earthmoving, demolition of existing structures - unloading of aggregates	12.1 Set up noise barriers, for example: - temporary fence around active work area, 2.5 m high - sound-absorbing enclosure around generator sets 12.2 Restrict use of noisy equipment from 8 AM-5 PM. Overtime work should not go past 10 PM, observe reduced noise level, not use noisy equipment, be coordinated with W/CPC. Inform affected communities at least 3 days in advance. 12.3 Use only equipment that emit least noise, e.g. electrically powered equipment, hydraulic tools, those with efficient mufflers. Allow only well-maintained equipment/vehicles, with certificates of compliance to noise standards, to be used in construction. 12.4 Locate noise generators at max. distance from nearest receptors. 12.5 Turn off equipment/vehicles when not in use. 12.6 Spread out schedule of material, spoil & waste transport, in the day (off-peak traffic hours), or early evening.	Applicable sites All sites	c/o Construction mobiliz'n cost (preliminaries) -		

Potential Environmental Concerns/Impacts	Recommended Mitigation Measures	Location	Estimated Cost ^a (USD)	Institutional Responsibilities			
				Implement	Monitor		
13 Vibration generated from: <ul style="list-style-type: none"> - operation of equipment/vehicles & movement of trucks to & from sites - construction activities, e.g., drilling, excavation 	13.1 Restrict use of equipment emitting vibrations, 8 AM-5 PM.	All sites	-				
	13.2 Prior to start, identify vibration-sensitive areas & structures in the construction influence area to plan for the appropriate technology, equipment/ tools & procedure level to apply or use.						
	13.3 Schedule separately ground-impacting activities as necessary to reduce the intensity of impact.						
	13.4 Limit engine idling to a max. of 5 minutes.	En route to and in, Subproject sites	-				
	13.5 Limit speed to max. 40 kph en route to sites, 30 kph in access road and sites.						
	13.6 Use available equipment & tools that emit least vibrations per manufacturer's specifications, or equipped with shock absorber, & has a handbook for user's safety & specifies requirements on vibration. Maintain equipment/tools to specifications.	All sites	c/o Construction mobiliz'n cost (preliminaries)				
14 Impacts from extracting (quarrying/borrowing) materials to meet construction needs <ul style="list-style-type: none"> - dust, noise, vibration during quarrying/borrowing, during transport, during loading/unloading, from wind-blown stockpiles in quarry - siltation/sedimentation of water body in surface drainage path, in quarry/borrow areas & while stored in sites - visual impact on the landscape in quarry/borrow areas - traffic & smoke generated during transport - potential accidents, especially during transport of aggregates, cement, construction and deconstruction waste, etc 	14.1 Implement Contractor's Aggregates Management Plan (CAMP)	All sites	-				
	14.2 Source aggregate only from quarry/borrow areas with environmental clearance & license to operate, & that still have high ratio of extraction capacity over loss of natural state.						
	14.3 If Contractor/Sub-contractor shall operate its own quarry/borrow operations: <ul style="list-style-type: none"> - Contractor to obtain environmental certificate & license to operate prior to extraction & implement site restoration after. - Verify Contractor's license to, environmental clearance for, quarry. - Ensure site restoration plan is implemented by Contractor after completion of borrowing for Project 1 subproject. 	Contractor's quarry/borrow area	c/o Contractor's Project Cost				
	14.4 Aggregate trucks to: <ul style="list-style-type: none"> - observe max speed limit of 40 kph en route to sub-component sites; 30 kph in access roads to, & in, sub-component sites - maintain min. of 2 feet freeboard & provide tight cover - visibly display in their bodies the required speed limit, Subproject info & contact details - minimize drop heights during loading/unloading; spray water on aggregates being loaded/unloaded - be well-maintained, with up-to-date emission test certificate 	Contractor's quarry/borrow area to sites	-				
	14.5 Manage aggregate stockpiles in quarry sites, e.g. stockpiling only enough, providing wind barrier, regularly wetting stockpiles.						
	14.6 Sub-contract for aggregates supply to stipulate the obligation to comply to all of the above and all applicable mitigation measures stipulated in C-EMP/P1-EMP.						

Potential Environmental Concerns/Impacts	Recommended Mitigation Measures	Location	Estimated Cost ^a (USD)	Institutional Responsibilities	
				Implement	Monitor
15 Depletion of water resources in Subcenter due to workers getting water from kiosks for their potable water supply.	15.1 Meet construction water demand using water from permitted sources outside Subcenter, delivered to sites by water trucks & stored on site in tanks. Ensure potable water is stored clean & safe.	All sites	c/o Construction running cost (preliminaries)	Contractor	PMO & PIS Envi Sp/ ADB*
16 Deterioration of surface & ground water resources (crossing & adjacent water bodies & existing wells) from inadequate management of the following in workers camp & subproject sites: - sewage/wastewater - solid & hazardous wastes - sediments, silts - hazardous construction materials - Construction and demolition waste	16.1 Provide adequate sanitation facilities, adequate water supply. Strictly enforce observance of sanitation practices. 16.2 Implement an eco-friendly waste management that: <ul style="list-style-type: none">- practices waste minimization, reuse and segregation- has adequate covered storage bins/containers, color-coded clearly marked to avoid mixing, especially hazardous wastes- has separate enclosed storage areas for solid & hazardous wastes, that can contain spills, clearly marked/labelled- networks with private individuals/entities that are into waste recovery & recycling to reduce wastes brought to landfills- implements prompt disposal at the City landfill- coordinate with authority for the disposal of hazardous wastes- workers & hazardous waste contractors to observe safety measures/system when handling hazardous wastes- requires waste contractors to promptly submit a manifest from City landfill for every disposal, from recyclers/junkshops for every delivery of re-usable construction spoils/refuse. 16.3 Implement measures to mitigate sedimentation/siltation. <ul style="list-style-type: none">- Use any combination of silt fences, sandbags barrier nets, speed stilling humps, diversion of offsite runoff around site appropriately.- Stockpile on flat grounds & away from, not obstructing, main surface drainage routes, limit to max height of 2 m, dispose of unsuitable & excess soils as soon as possible program stockpiling on site. 16.4 Implement measures to mitigate potential adverse impact from use and storage of hazardous substances <ul style="list-style-type: none">- have safe storage, with visible caution signage, secure from unauthorized entry or use & can contain spillage.- safe storage<ul style="list-style-type: none">- if using stationary ground storage, it should be at least 30 m from water bodies or nearest groundwater resource, at least 1 foot above highest flood level; or- use mobile storage for easy transfer during potential flooding, as appropriate- should always be in good condition, color-coded, with clear labels- have equipment clearly leaking oil repaired at once, but off site.- no vehicle maintenance & refuelling in Component sites.- use less hazardous substances- store no more hazardous substances on site than needed- spill clean up materials for all types of hazardous substances present in the sites to be readily available in the sites.	All construction sites &/or field offices & workers accommodations All sites	c/o Construction mobiliz'n & running costs (preliminaries)		

Potential Environmental Concerns/Impacts	Recommended Mitigation Measures	Location	Estimated Cost ^a (USD)	Institutional Responsibilities	
				Implement	Monitor
	16.4 Limit engine idling to a max. of 5 minutes. 16.5 Limit speed to max. 40 kph en route to sites, 30 kph in access road and sites. 16.6 Use available equipment & tools that emit least vibrations per manufacturer's specifications, or equipped with shock absorber, & has a handbook for user's safety & specifies requirements on vibration. Maintain equipment/tools to specifications.	All sites En route to and in, Subproject sites All sites	- c/o Construction mobiliz'n cost (preliminaries)	Contractor	PMO & PIS Envi Sp/ ADB*
SOCIO-ECONOMIC & CULTURAL ENVIRONMENT					
17 Traffic and road blocking due to: - movements of construction vehicles/equipment in narrow access roads - roadside parking of construction vehicles and equipment - stockpiling of aggregates, excavated soils, spoils within access road ROW	17.1 Prepare traffic management scheme, & coordinate implementation with the local traffic authorities & affected communities. 17.2 Post billboards on road/lane closure, traffic rerouting plan at strategic places, min. 1 week prior to effectivity. 17.3 Post traffic (flag) persons during entire working hours. 17.4 Provide safe pedestrian access. 17.5 Spread out schedule for materials delivery in non-peak hours. 17.6 Coordinate with khoroos for parking of construction trucks. 17.7 Manage arrivals/departures of trucks. 17.8 Store excavated materials without obstructing traffic flow & safe access by affected communities.	Concerned local traffic authorities, khoroos All affected sites Access roads All sites	- c/o Construction safety cost (preliminaries) -	PMO with local traffic authorities & khoroos	PIS Envi Sp/ ADB*
18 Blocking of access to properties	18.1 During IEC, prior to mobilization, inform communities regarding work phasing & schedules, anticipated access blocking, provisions for safe access for blocked properties & temporary parking for blocked garages/driveways. 18.2 At least one week prior to access blocking, notify the affected properties. Work together and agree with property owners and khoroos authorities for the alternative access and parking areas. 18.3 Provide safe access to blocked properties, e.g., steel planks of adequate grade, width and length, &, if needed, with guide rail.	Affected khoroos Affected properties Affected properties	c/o PMO's counter-part obligations - c/o Construction safety cost (preliminaries)	PMO with khoroos	PIS Envi Sp/ ADB*
19 Accidental damage to utility & service infrastructures, & adjacent structures	19.1 During mobilization, coordinate with relevant utility companies Verify exact locations of underground utility lines, & set contact arrangements in case of damage. 19.2 Prepare a schedule of crossing of all existing utility lines and ensure that a copy is available on site for reference by workers. 19.3 In case of accidental damage, advise concerned utility company and/ or PMO at once	Not applicable All sites	-	Contractor	PMO & PIS Envi Sp/ ADB*

Potential Environmental Concerns/Impacts	Recommended Mitigation Measures	Location	Estimated Cost ^a (USD)	Institutional Responsibilities	
				Implement	Monitor
SOCIO-ECONOMIC & CULTURAL ENVIRONMENT					
17 Traffic and road blocking due to: - movements of construction vehicles/equipment in narrow access roads - roadside parking of construction vehicles and equipment - stockpiling of aggregates, excavated soils, spoils within access road ROW	17.1 Prepare traffic management scheme, & coordinate implementation with the local traffic authorities & affected communities. 17.2 Post billboards on road/lane closure, traffic rerouting plan at strategic places, min. 1 week prior to effectivity. 17.3 Post traffic (flag) persons during entire working hours. 17.4 Provide safe pedestrian access. 17.5 Spread out schedule for materials delivery in non-peak hours. 17.6 Coordinate with khoroos for parking of construction trucks. 17.7 Manage arrivals/departures of trucks. 17.8 Store excavated materials without obstructing traffic flow & safe access by affected communities.	Concerned local traffic authorities, khoroos All affected sites Access roads All sites	- c/o Construction safety cost (preliminaries) -	PMO with local traffic authorities & khoroos	PIS Envi Sp/ ADB*
18 Blocking of access to properties	18.1 During IEC, prior to mobilization, inform communities regarding work phasing & schedules, anticipated access blocking, provisions for safe access for blocked properties & temporary parking for blocked garages/driveways. 18.2 At least one week prior to access blocking, notify the affected properties. Work together and agree with property owners and khoroo authorities for the alternative access and parking areas. 18.3 Provide safe access to blocked properties, e.g., steel planks of adequate grade, width and length, &, if needed, with guide rail.	Affected khoroos Affected properties Affected properties	c/o PMO's counter-part obligations - c/o Construction safety cost (preliminaries)	PMO with khoroos Contractor	PIS Envi Sp/ ADB* PMO & PIS Envi Sp/ ADB*
19 Accidental damage to utility & service infrastructures, resulting in service interruptions, e.g., water pipes, power poles, telephone lines	19.1 During mobilization, coordinate with relevant utility companies Verify exact locations of underground utility lines, & set contact arrangements in case of damage. 19.2 Prepare a schedule of crossing of all existing utility lines and ensure that a copy is available on site for reference by workers. 19.3 In case of accidental damage, advise concerned utility company at once. Facilitate quick restoration by clearing obstructions & lending assistance (workers, equipment, tools) in the repair. 19.4 Give at least 1 week prior notice on planned service interruption due to relocation of existing utilities, power supply poles, water lines, &/or for interconnection/streamlining.	Not applicable All sites All khoroos concerned	-		
20 Disruption of socio-economic activities due to interruption of infrastructure services, access and road blocking	20.1 Provide safe alternative access for blocked properties. 20.2 Issue prior notice on scheduled service interruption, 1 week before effectivity. interruption should not go beyond 2 hours. 20.3 Immediately advise utility companies on any accidental damages to existing utility for quick restoration of service.	All sites All sites	c/o Construction safety cost -		

Potential Environmental Concerns/Impacts	Recommended Mitigation Measures	Location	Estimated Cost ^a (USD)	Institutional Responsibilities	
				Implement	Monitor
21 Community health/safety hazard from, among others: - dust, noise, gas emissions, odor, vibration - water resource depletion & deterioration - inadequate waste/wastewater mgmt - spillage of hazardous substances - haphazard movement & parking of construction vehicles/equipment - increased traffic - open excavations - unsafe alternative access provided - rise of communicable/transmittable diseases with entry of workers - Deconstruction and demolition waste	21.1 Implement a C-EMP that addresses the measures in the P1-EMP as minimum requirements to mitigate dust, gas emissions, noise, odor, vibration, water depletion and deterioration, traffic, road & access blocking. In addition, to ensure that such safety measures as the following are implemented/in place: - Adequate/appropriate lighting, reflectorized barrier (or temporary fences, where applicable) around active work sites - Safe access for pedestrians/residents - Emergency response preparedness (procedures, trained staff, equipment, tools & supplies), including for fire-fighting. - Posting of billboards about the Subcomponents, informing on the dates of start & finish, names & contact details of contractor, supervising person on site, PMO, route of trucks, layout of subproject, etc. - Coordination with authorities of nearby schools & hospitals for safety measures. - Adequate social preparation regarding construction activities, & associated health & safety risks, grievance redress mechanism, to be conducted at least one month prior to award of Contract.	All sites	c/o Construction mobiliz'n & running costs (preliminaries) &/or Project cost	Contractor	SRA, PMO & PIS Envi Sp/ ADB*
		All sites	-		
		All khoros within construction area of influence	c/o PMO counterpart fund		
22 Workers' health/safety hazard from, among others: - dust, noise, gas emissions, odor, vibration - inadequate waste/wastewater management - poor sanitation practices - exposure to hazardous substances - operating equipment/handling of tools - haphazard movement of construction vehicles/equipment - increased traffic - open excavations - rise of communicable/transmittable diseases in Subproject communities - exposure to extreme weather	22.1 Orient workers, prior to mobilization, on occupational health & safety hazard and strict observance of safety measures. 22.2 Strictly enforce use of protective wears, e.g., eye masks, nose masks, ear muffs, helmets gloves, appropriate footwear. 22.3 Implement recommended measures to mitigate dust, gas emission, odor, noise, vibration, traffic. 22.4 Install adequate lighting, safe accesses to & from work areas. 22.5 Provide safe accommodations with reliable supply of potable water, adequate sanitation facilities. 22.6 Provide adequate water for washing & safe drinking, and adequate sanitation facilities, in construction sites. - Ensuring that workers' daily exposure limit value (ELV) is kept within standard limit, as specified by manufacturer: Break up of continuous use of equipment by individual worker, introduce 3 shifts/day in use of the equipment - Pre-construction orientation & training on safe operation/ handling of hazardous equipment/tools - Strict enforcement of wearing protective clothing/gear prescribed when using vibrating equipment. 22.7 Require workers to submit health certificates for employment & for worker's health baseline data. 22.8 Arrange with nearest primary & tertiary health institutions for health & emergency care of workers. 22.9 Set up emergency response team equipped with adequate staff, equipment, tools & supplies, including for fire-fighting.	All sites	c/o Construction mobiliz'n & running costs (preliminaries)	Contractor	SRA, PMO & PIS Envi Sp/ ADB*
		Not applicable			
		All sites			
		Not applicable			
23 Damage to temples (or parts of), during religious rites & ceremonies	23.1 Prior consultations & adequate coordination with temple authorities. 23.2 Apply protection measures as agreed. 23.3 Contractor to compensate damage (actual value) if damage is due to lack of/inadequate protection measures.	Bayankhoshuu Subcenter	c/o Construction safety cost	Contractor	SRA, PMO & PIS Envi Sp/ ADB*
SUSTAINABILITY CONTRIBUTION					
24 Damages during seismic or extreme weather event	24.1 After every seismic or extreme weather event, conduct engineering investigation of built structures & implement corrective measures without delay.	All sites	c/o Construction insurance cost	Contractor	PMO & PIS Envi Sp/ ADB*

C. Operation Phase

Potential Environmental Impacts	Recommended Mitigation Measures	Location	Estimated Cost ^a (USD)	Institutional Responsibilities Per Phase												
				Pre-Operation Phases			Operation Phase									
				Det. Design Consultant	PMO	PIS Envi Sp / ADB*	Operator	PMO & ADB*								
25 Air emissions (PM, SO ₂ , NO _x)	25.1 Use the least emitting, high efficiency technology			Not applicable	-	Implement	Monitor	Monitor								
	25.2 Install the appropriate efficient emission controls such as, as appropriate (to mention some) - wet, semi-dry or dry scrubber (desulfurization) - selective catalytic reduction (denitration) - fabric filter, cyclone separator (PM)															
	25.3 Physical layout plan of plant site to include provision for coal, ash, slag. Storage and handling that will effectively eliminate neighborhood exposure to dust emissions & minimize exposure of plant workers to the extent possible.															
	25.4 Enforce strict use of protective wear by plant workers/staff.			HOB plant site	-	-	-	-								
	25.5 Prompt maintenance and repair			HOB site	c/o Operations env'l mgt cost			Implement								
	25.6 Perform air quality monitoring according to the ADB-cleared T1-EMP															
26 Noise	26.1 Prompt maintenance and repair			HOB site	c/o Operations running & env'l mgt cost											
	26.2 Perform environmental monitoring according to the ADB-cleared T1-EMP															
27 Ash, slag, FGD residue	27.1 Apply dust suppression when handling coal and ash															
	27.2 Prompt disposal of ash to interested re-users. But Operator must ensure ash is safe before disposing to re-users. Consult experts or conduct a lab analysis.															
28 Unsustained effectiveness of operation/services due inefficient O&M/R	25.1 Sufficient budget and technical capacity for operation, maintenance and repair.			Not applicable	c/o Operations running cost	-	-	-								
	25.2 Fast track implementation of the Institutional Strengthening & Capacity Development - Reforms in WSS and Heating Sectors to strengthen USUG and heating agency.			Not applicable	c/o UUSGDIP Tranche 1	-	-	-								
29 Traffic safety	29.1 Design structural measures to protect the community, e.g., - bollards to prevent vehicles in pedestrian ways - road humps to control speed - Since carriageways are only 5.5 m wide, institute one-way traffic system							Implement								
30 Damages during seismic or extreme weather events	30.1 After every seismic or extreme weather event, conduct engineering investigation of built structures & implement corrective measures without delay.		All sites	c/o Operations emergency or contingency cost	-	-										

Table E-3: Environmental Impact Monitoring (Pre-Construction Phase)

I. ENVIRONMENTAL IMPACT MONITORING

Aspects/Parameters to be Monitored	Location	Means of Monitoring	Frequency	Estimated Cost (USD)	Responsibility	
					Implement	Compliance Monitoring
A. Prior to Construction Phase						
1 <u>Ambient air quality</u> SO ₂ , NO ₂ , CO, PM ₁₀ , PM _{2.5} Review results against GOM standard MNS 4585:2007 Results as baseline data before mobilization	7 in Bayankhoshuu 8 in Selbe	Analytical methods outlined in MNS 0017-2-3-16:1998	Once	595.00 680.00	Licensed Laboratory for PMO	PIS Envi Sp/ADB*
2 <u>Ambient noise levels</u> Review results against GOM standard MNS 4585:2007 Results as baseline data before mobilization	7 in Bayankhoshuu 8 in Selbe	Analytical methods outlined in MNS OIML R 102:2001	Once	70.00 80.00		
3 <u>Groundwater quality</u> pH, DO, EC, BOD, Hardness, NH ₄ , NO ₂ , NO ₃ , Pmineral, Fe, SO ₄ , F, Cr ⁶⁺ , E-coli, coliform Review results against MNS 900:2005 & WHO Guidelines for Drinking-water Quality Results as baseline data before mobilization.	3 in Bayankhoshuu 3 in Selbe	Analytical methods outlined in MNS (ISO) 5667-11:2000	Once	135.00 135.00		
4 <u>Surface water quality</u> pH, DO, EC, BOD, COD, Hardness, NH ₄ , NO ₂ , NO ₃ , Pmineral, Fe, SO ₄ , F, Cr ⁶⁺ , E-coli, coliform Review results against MNS 4586-98 Results as baseline data before mobilization.	2 Bayankhoshuu Creek 2 Chingeltei Creek 2 Selbe River 2 Khailast Creek (if appropriate, if they have waters)	Analytical methods outlined in MNS 4047:1988	Once	90.00 90.00 90.00 90.00		
5 <u>Community health & safety conditions</u> - Incidence of diseases associated with respiratory, nervous circulatory & digestive systems, skin, cancer, communicable/transmissible diseases - incidence of accidents (vehicular, fire, etc) & crime Information as baseline data before mobilization.	Concerned khoroos	Information from & close coordination with khoroos health centers & Department of Health (district level), with khoroos government	Once	-		
Sub-Total (Prior to Construction for baseline data)				2,055.00		

1) Applied unit costs of NAMHEM and Central Laboratory of MEGD

2) The minimum set of parameters to be monitored after establishing the baseline will be that observed quarterly by the NAMHEM

Table E-3: Environmental Impact Monitoring (Construction and Operation Phase)

Aspects/Parameters to be Monitored		Location	Means of Monitoring	Frequency	Estimated Cost (USD)	Responsibility	
						Implement	Compliance Monitoring
B. Construction Phase							
6	Ambient air quality SO ₂ , NO ₂ , CO, PM ₁₀ , PM _{2.5} Review results against GOM standard MNS 4585:2007	7 in Bayankhoshuu 8 in Selbe	Analytical methods outlined in MNS 0017-2-3-16:1998	Once quarterly	4,760.00 5,440.00	Licensed Laboratory for Contractor	PMO / PIS Envi Sp/ADB* GASI
7	Ambient noise level Review noise levels against GOM standard MNS 4585:2007	6 in Bayankhoshuu 6 in Selbe	Analytical methods outlined in MNS OIML R 102:2001	Once quarterly	480.00 480.00		
8	Groundwater quality pH, DO, EC, BOD, COD, Hardness, NH ₄ , NO ₂ , NO ₃ , Pmineral, Fe, SO ₄ , F, Cr ⁺⁺ , E-coli, coliform Review results against MNS 900:2005 & WHO Guidelines for Drinking-water Quality	2 in Bayankhoshuu 2 in Selbe	Analytical methods outlined in MNS (ISO) 5667-11:2000	Once quarterly	720.00 720.00		
9	Surface water quality pH, DO, EC, BOD, COD, Hardness, NH ₄ , NO ₂ , NO ₃ , Pmineral, Fe, SO ₄ , F, Cr ⁺⁺ , E-coli, coliform Review results against MNS 4586-98	2 Bayankhoshuu Creek 2 Chingeltei Creek 2 Selbe River 2 Khailast Creek (if appropriate, if they have waters)	Analytical methods outlined in MNS 4047:1988	Once quarterly	720.00 720.00 720.00 720.00		
10	Community health & safety conditions - Incidence of diseases associated with respiratory, nervous circulatory & digestive systems, skin, cancer, communicable/transmissible diseases - incidence of accident, fire & crime	Concerned khoroos	Information from & close coordination with khoroo health centers & Department of Health (district level), with khoroo government	Once quarterly	-		
11	Workers' health & safety - Incidences of illness due to work - Incidences of work-related accident, injuries/deaths to emergencies, crime involving workers	Construction sites	Records of Safety Engineer	Once quarterly	-		
12	Construction and demolition waste - Presence/absence of illegal dumping - Environment safeguards at dumping site(s)	Construction sites, waste disposal site	Visual inspections	Once quarterly	-		
Sub-Total (Construction)					USD 15,480.00		
TOTAL (Prior to Construction and During Construction)					USD 17,535.00		
C. Operation Phase							
13	Ambient air quality SO ₂ , NO ₂ , CO, PM ₁₀ , PM _{2.5} Review results against GOM standard MNS 4585:2007	4 in Bayankhoshuu 4 in Selbe	Analytical methods outlined in MNs MNS 0017-2-3-16:1998	Once quarterly	1,360.00 1,360.00	Licensed Laboratory for Operator	PMO / PIS Envi Sp/ADB* GASI
14	Ambient noise levels Review results against GOM standard MNS 4585:2007	4 in Bayankhoshuu 4 in Selbe	Analytical methods outlined in MNS OIML R 102:2001	Once quarterly	160.00 160.00		
15	HOB stack emissions SO ₂ , NO ₂ , CO, PM ₁₀ , PM _{2.5} Review results against GOM standard MNS 6298:2011 and EHS Guidelines	2 in Bayankhoshuu 3 in Selbe	Analytical methods outlined in MNS OIML R 102:2001	Monthly during heating season (6 times per year)	120.00 180.00		
TOTAL Annually (During Operation)					USD 3,340.00		

Table E-4: EMP Performance Monitoring

II. EMP PERFORMANCE MONITORING

Aspects/Parameters to be Monitored	Location	Means of Monitoring	Frequency	Responsibility	
				Implement	Compliance Monitoring
A. Prior to Construction Phase					
A.1 Detailed Design Preparation					
1 Climate Change and seismicity factors considered in detailed designs.	Not applicable	Review of detailed design documents.	Once, prior to finalization Once, prior to approval	Design Consultants	PMO & PIS Envi Sp/ADB*
2 DEIA Report approval obtained	For Project 1	Presence of approved DEIA document.	Once, at least 30 days prior to contract award	PMO	PIS Envi Sp/ADB*
3 Intensive awareness program on health and safety hazards, communicable/transmittable diseases, on the grievance redress mechanism	Bayankhoshuu Subcenter Selbe Subcenter	Review of relevant report of the PMO's Social, Environmental & Communication Teams.	Once, at least 30 days prior to contract award		
A.3 Procurement					
4 Procurement process complied with EMP requirements: ADB-cleared EMP part of bidding documents.	Not applicable	Verifying EMP in bidding document.	Once, prior to procurement		
C-EMP/EMP compliance stipulated in Contract	Not applicable	Review of Draft & Final Contract.	Once, during draft Once, prior to signing		
Contract stipulates some tie up of progress payment & collection of performance bond with performance in C-EMP/EMP implementation.					
5 Affected HHs resettled and compensated according to the ADB cleared RP.	Bayankhoshuu Subcenter Selbe Subcenter Sewerage network extension areas	Records of Resettlement Safeguard staff of of PMO	Once a week until all done.	PMO	PIS Envi Sp/ADB*
A.4 Post-Procurement Prior to Mobilization					
6 Preparation by selected Contractor its C-EMP, addressing P1-EMP requirements as minimum, & includes (but not limited to) plans for: aggregated mgmt; excavation mgmt (linked to removed soil mgmt); dust, noise & vibration controls; gas emission mitigation; solid & hazardous waste mgmt; traffic mgmt (to be coordinated with authorities); occupational health & safety; grievance redress; emergency response; environmental monitoring & reporting.	Not applicable	Verifying existence of C-EMP. Evaluating C-EMP against P1-EMP.	Once prior to mobilization	Contractor	PMO/ PIS Envi Sp/ADB*
7 C-EMP cleared by PMO	Not applicable	Verifying existence of PMO clearance.	Once prior to mobilization	PIS Envi Sp	ADB
8 Environmental impact monitoring for baseline data	As prescribed in the P1-EMP.	As prescribed in the P1-EMP.	Once prior to mobilization		
B. Construction Phase					
9 Environmental mitigation implemented according to the C-EMP/P1-EMP.	All sites	Field observations. Consulting affected residents. Review of lodged grievances. Review of records of workers accidents & sick leave.	Regular bi-weekly & random Random At least once a week. Once a month	Contractor GASI, IUs	PMO/ PIS Envi Sp/ADB*
10 Environmental impact monitoring	As prescribed in the P1- EMP.	Monthly EMR of Contractor & Annual EMR.	Monthly & annually	Contractor PMO	PMO/ PIS Envi Sp/ADB*
11 Monthly EMR submitted promptly following prescribed content as minimum.	All sites	Review of Contractor's monthly EMR.	Once a month	Contractor	PMO/ PIS Envi Sp/ADB*
12 Informally & formally lodged grievances acted on promptly, successfully &/or Grievance Redress Mechanism observed.	All sites	Review of lodged grievances. Consult Khoros.	Regular bi-weekly & random At least once a week	Contractor & PMO	PIS Envi Sp/ADB*
13 Engineering investigation after each seismic &/or extreme weather event, and, if applicable, remediation works taken.	All sites	Review of investigation & remediation works report.	At the latest 1 week after each event		
14 Monthly Progress Report on Environmental Monitoring following prescribed content as minimum.	Project 1	Review of the MPREM.	Monthly	PMO	
15 Annual EMR submitted promptly following prescribed outline.	All sites	Review of the annual EMR.	Annually		
C. Operation Phase					
16 Monthly EMR submitted promptly following prescribed content as minimum.	All sites	Review of Contractor's monthly EMR.	Once a month	Operator	PMO/ PIS Envi Sp/ADB*
17 Informally & formally lodged grievances acted on promptly, successfully &/or Grievance Redress Mechanism observed.	Subproject	Review of lodged grievances. Consulting village authorities.	Regular and random At least once a week		
18 Engineering investigation after each seismic &/or extreme weather event, and, if applicable, remediation works taken.	All sites	Review of investigation & remediation works report.	At least 1 week after each event	PMO	
19 Monthly Progress Report on Environmental Monitoring following prescribed content as minimum.	Project 1	Review of the MPREM.	Monthly		
20 Annual EMR submitted promptly following prescribed outline.	For the Subproject	Review of the annual EMR.	Annually		

D. Institutional Strengthening and Training

20. Considering the limited skills and experience of the Program's key players, technical assistance from environmental specialists and capacity development during initial project implementation will be needed for institutional strengthening. Capacity development will put emphasis on hands-on training in implementing their responsibilities in environmental management of Project 1, particularly in EMP implementation.

21. Capacity building related to environment safeguards will be implemented through: (i) the environmental specialists that will be engaged under the Program Implementation Support (PIS); and (ii) Capacity Development Program under the Institutional Strengthening and Capacity Development Component. While carrying out technical assistance, the PIS environmental specialists will conduct lectures/seminars on topics relevant to EMP implementation and will ensure that the EMP implementation will be a "hands-on" training for the PMO, particularly its environmental safeguard staff, as well as the MUB, USUG, and the concerned Khoroos. The Capacity Development Program shall invite external experts to conduct lectures/seminars on other environmental management topics such as those suggested in **Table E-5** and/or other topics that would be requested later on by the PMO, MUB and/or USUG.

22. The cost requirement for the conduct of the courses and seminars by external experts is included in the overall budget for Capacity Development Program.

Table E-5: Proposed Topics for Capacity Building/Training

Topic	Target Participants	Timing	Duration / Cost
1. By PIS Environmental Specialists <ul style="list-style-type: none"> 1.1 Legal Framework <ul style="list-style-type: none"> a Relevant GoM laws, regulations & standards on environmental assessment & management b ADB SPS 2009 c EA procedure under the Program - Harmonizing the GoM & ADB safeguard Requirements 1.2 Some Aspects of EA Process & Environmental Management <ul style="list-style-type: none"> a Meaningful consultation & information Disclosure b Grievance redress mechanism c Environmentally responsible procurement d Occupational & community health and safety 1.3 EMP Implementation <ul style="list-style-type: none"> a Implementation arrangements <ul style="list-style-type: none"> -Institutional responsibilities -Environmental monitoring and reporting b Emergency response c Performance indicators 	MUB-DEP, USUG PMO, Concerned khoroos	Early stage of PIS	½ day c/o PIS-TA
2. By External Experts <ul style="list-style-type: none"> 2.1 Other relevant topics <ul style="list-style-type: none"> a Climate change and adaptation (applicable to eligible projects under the Program) b Good engineering and construction practices as mitigation measures c Other relevant topics that may be requested by MUB &/or PMO 	MUB-DEP, USUG PMO, Concerned khoroos	During Program's Capacity Building	2-3 days 3,000

Note: Best practices relevant to each topic to be presented, where applicable.

E. Environmental Reporting

23. Environmental monitoring and inspection activities and findings shall be documented for purposes of reporting, recording, verifying, referring on and evaluating the environmental performance of Project 1. The documentation shall also be used as basis in correcting and enhancing further environmental mitigation and monitoring. Environmental monitoring reports (EMRs) shall be prepared as follows:

- (i) Monthly internal progress reports by the Contractors during construction and by the Operator during operation, submitted to the PMO. These monthly reports will include; (i) physical progress of the component; (ii) mitigation measures implemented; (iii) grievances received, resolved, closed and/or directed to other mechanisms; (iv) emergencies responded to; and (v) corrective actions taken.
- (ii) The monthly EMP progress report by the PMO's ESS will incorporate the monthly reports of Contractors or Operators. The report will include: (i) physical progress of T1 components; (ii) mitigation measures implemented; (iii) non-compliance with EMP; (iv) progress of capacity development; (v) unforeseen issues and concerns and status of corrective actions; (vi) findings of informal public consultations; (v) grievances received, resolved, closed and/or directed to other mechanisms; and (vi) performance evaluations of Contractors/Operators.
- (iii) Quarterly environmental impact monitoring report by the licensed laboratory to report on the results of environmental quality monitoring as specified in the EMP. Report will include the analysis results and assessment of compliance/non-compliance with Mongolian and international standards. The 3rd, 6th, 9th, 12th Monthly Progress Report on EMP Implementation will incorporate the quarterly report of the licensed laboratory.
- (iv) Annual EMP monitoring and progress reports, by the PMO's ESS to be submitted to the ADB to comply with environmental agreement in the loan. The Annual EMP monitoring and progress report will not only report on the progress and results of environmental monitoring and compliance of C-EMP/P1-EMP implementation but will also briefly: (i) assess the effectiveness, of instituted 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. It shall also feature possible innovative mitigation measures applied by the Contractor, Operator or affected residents themselves, and other lessons learned in C-EMP/P1-EMP implementation. These will be useful in adjusting the C-EMP/P1-EMP to adapt to real ground situations. (Proposed adjustments/enhancement of the C-EMP/P1-EMP must have prior ADB.)

F. Mechanisms for Feedback and Adjustment

24. Based on environmental monitoring and reporting systems in place, the PMO shall assess whether further mitigation measures are required as corrective actions, or improvement in environmental management practices are required. The effectiveness of mitigation measures and monitoring plans will be evaluated by a feedback reporting system. The PMO will play a critical role in the feedback and adjustment mechanism. If the PMO identifies a substantial deviation from the EMP,

or if any changes are made to the scope of Project 1 that may cause significant adverse environmental impacts or increase the number of affected people, then the PMO shall immediately consult MEGD and ADB to get their approval and identify EMP adjustment requirements.

G. Performance Indicators

25. This Section presents the preliminary set of environmental performance indicators to evaluate the effect of Project 1 implementation on the environment, i.e., whether or not Project 1 is enhancing, sustaining or deteriorating the state of the environment. The indicators are directed on two environmental areas that will be impacted by Component implementation: (i) health and safety of the concerned people and (ii) Selbe River. The selected indicators are limited to only those that can be measured or gauged from activities during sub-project implementation and that can be tracked over a defined period (**Table E-6**). These will be finalized during the update of the EMP based on detailed designs.

Table E-6: Environmental Performance Indicators (1/3)

Parameter	Indicator	Target	Data Source
During Construction			
1 Emission of dust/particulates			
1.1 Ambient concentrations PM10, PM2.5, CO, SO ₂ , NO ₂	<ul style="list-style-type: none"> - % excess of level over GOM standard MNS 4585:2007 - % excess of level over the pre-construction ambient level (if latter has exceeded MNS 4585:2007) - % of the total HHs in construction influence area that lodged complaint on health impact &/or nuisance due to severe dust, gas emissions 	<ul style="list-style-type: none"> - Level should comply with MNS 4585:2007 - If pre-construction ambient level has exceeded the MNS 4585:2007, level during construction should not exceed pre-construction level. - No community complaint lodged regarding health impact or nuisance from severe dust 	<ul style="list-style-type: none"> - Result of air quality monitoring by Contractor - Result of pre-construction air quality monitoring by PMO
2 Emission of noise			
2.1 Ambient noise level	<ul style="list-style-type: none"> - % excess of level over GOM standard MNS 4585:2007 - % excess of level over the pre-construction ambient level (if latter has exceeded MNS 4585:2007) - % of the total HHs in construction influence area that lodged complaint on health impacts &/or nuisance due to severe noise 	<ul style="list-style-type: none"> - Level should comply with MNS 4585:2007 - If pre-construction ambient noise level has exceeded MNS 4585:2007, increase in ambient noise level should not be more than 3 dB at the nearest reception location off-site. - No community complaint lodged on health impact or nuisance from severe noise. 	<ul style="list-style-type: none"> - Result of noise monitoring by Contractor - Result of pre-construction noise monitoring by PMO

Table E-6: Environmental Performance Indicators (2/3)

Parameter	Indicator	Target	Data Source
3 Generation of solid waste, wastewater, hazardous waste, sediments			
3.1 Concentrations of pollutants in groundwater resources	<ul style="list-style-type: none"> - % excess of levels over the pre-construction ambient levels 	<ul style="list-style-type: none"> - For parameters with pre-construction levels equal to or exceeding MON standard & WHO guidelines for drinking water quality, their levels during construction should not be higher than pre-construction levels. - For parameters with pre-construction levels below the MON standard & WHO guidelines for drinking water quality, their levels during construction should not be more than 3% higher than pre-construction levels AND should be below the more stringent guideline limits. 	<ul style="list-style-type: none"> - Results of ground water quality monitoring by Contractor - Results of pre-construction ground water quality monitoring by PMO
	<ul style="list-style-type: none"> - % of the total HHs in construction influence area that lodged complaint on health impacts due to deteriorating ground water quality 	<ul style="list-style-type: none"> - No community complaint lodged regarding health impacts due to deteriorating ground water quality 	<ul style="list-style-type: none"> - Grievance Redress Mechanism Record & Report
3.2 Concentrations of pollutants in Selbe River	<ul style="list-style-type: none"> - % excess of levels over the pre-construction levels 	<ul style="list-style-type: none"> - For parameters with pre-construction levels equal to or exceeding MNS 4586-98, their levels during construction should not be higher than pre-construction levels. - For parameters with pre-construction levels below MNS 4586-98, their levels during construction should not be more than 3% higher than pre-construction levels AND should be below MNS 4586-98. 	<ul style="list-style-type: none"> - Results of surface water quality monitoring by Contractor - Results of pre-construction surface water quality monitoring by PMO
4 Generation of safety hazards			
4.1 Accidents, injuries, fire, explosion, landslide caused by earthworks, social conflicts involving workers, crimes involving workers	<ul style="list-style-type: none"> - % of total construction days when construction-associated trucks encountered road accidents - % of total construction days with accident or emergency (fire, explosion, landslide caused by earthworks) - % of total construction days with accident or emergency that caused injuries &/or fatalities. - % of total construction days with worker/s involved in social conflicts or crime 	<ul style="list-style-type: none"> - None or 0%. - None or 0%. - None or 0%. - None or 0%. 	<ul style="list-style-type: none"> - Progress & monitoring reports of PMO & Contractor's Safety Team - Grievance Redress Mechanism Record or Report - Record & report of the Contractor's Safety Team - Record & report of khoroo & district police &/or traffic authorities - Hospital records

Table E-6: Environmental Performance Indicators (3/3)

Parameter	Indicator Performance	Target	Data Source
During Operation			
5 Direct access to safe potable water & direct access to wastewater collection services			
5.1 Reduced incidence of water-borne diseases	<ul style="list-style-type: none"> - Number of incidence proven caused by water 	<ul style="list-style-type: none"> - No such incidence from among those connected 	<ul style="list-style-type: none"> - Khoroo family clinic/health center records prior to operation and during operation
6 Direct access to district heating	<ul style="list-style-type: none"> - Number of incidence of illnesses from exposure to cold - Number of incidence of respiratory illnesses 	<ul style="list-style-type: none"> - No such incidence from among those connected - Decreased incidence from among those connected 	<ul style="list-style-type: none"> - Khoroo family clinic/health center records prior to operation and during operation
7 Emissions from HOBs			
7.1 Ambient concentrations PM10, PM2.5, SO ₂ , NOx	<ul style="list-style-type: none"> - % excess of level over GOM standard MNS 4585:2007 - % excess of level over the pre-project ambient level (if latter has exceeded MNS 4585:2007) 	<ul style="list-style-type: none"> - Level should comply with MNS 4585:2007 - If pre-construction ambient level has exceeded the 	<ul style="list-style-type: none"> - Result of air quality monitoring by Operator - Result of pre-construction air quality monitoring by PMO
7.2 HOB stack emissions of PM10, PM2.5, SO ₂ , NOx	- % excess of level over GOM standard	- Level should comply with MNS 6298:2011	- Result of air quality monitoring by Operator and monitoring agency

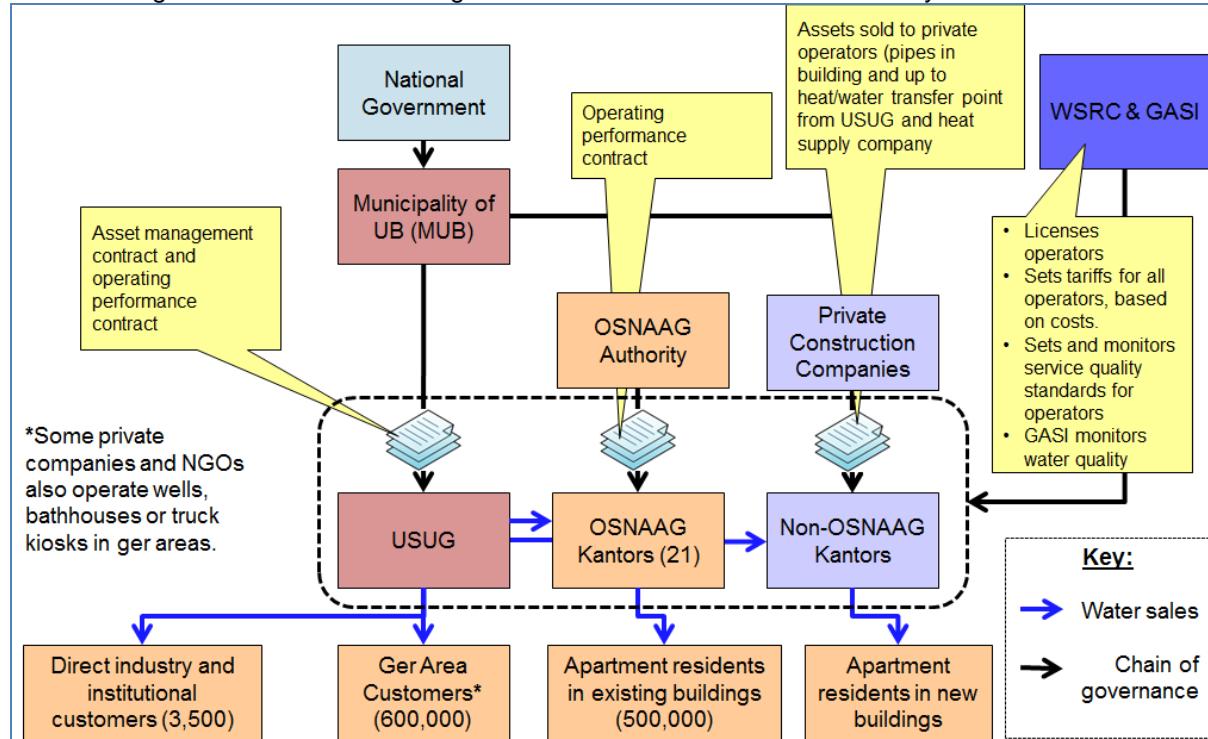
APPENDIX 5

WATER AND SANITATION SECTOR DESCRIPTION

A. Current Institutional and Regulatory Arrangements in the Water and Sanitation Sector and Key Problems

- Figure 1 illustrates the current institutional arrangements for provision of water and sanitation services in Ulaanbaatar.³⁶

Figure 1: Institutional Arrangement for Water and Sanitation Delivery in Ulaanbaatar³⁷



- Customers in Ulaanbaatar receive water and sanitation service through:
 - The Ulaanbaatar Water and Sewerage Authority (USUG). The USUG extracts water from aquifers in the Tuul River basin, and provides the following services:
 - Direct WSS services to industrial customers.
 - Water services to customers in ger areas, through water kiosks. The water kiosks are supplied piped connections or tanker trucks.
 - Emptying some pit latrines in ger areas—sanitation services in ger areas consist entirely of pit latrines.

³⁶ We focus in this paper on the institutions most directly responsible for service delivery and regulation in the water and sanitation sectors. In addition to the institutions described here, there are a number of important national institutions which participate in policymaking and coordination of government activities in the water and sanitation sectors. These include, for example, the Ministry of Construction and Urban Development (responsible for planning water supply and sanitation networks); the Ministry of Health and Ministry of Environment (responsible for various aspects of policy on water resource use and water quality); and the National Water Committee (responsible for coordinating water sector activities between line ministries).

³⁷ A small number of private companies and non-government organizations also operate wells, bathhouses, or truck kiosks in some ger areas.

d. Bulk water supply to the kantors, a collection of retail suppliers serving customers in Ulaanbaatar's apartment buildings.

3. The USUG is a corporatized public entity, wholly owned by the Municipal government. The director of the USUG has a two-year performance contract with the municipality. The USUG also has an asset management contract with the municipality.

4. The housing and public service company (OSNAAG) *kantors*. The OSNAAG *kantors* are private operating companies created from the communist-era Housing and Public Service Authority. In addition to the water and sanitation services, they also provide apartments with heating, hot water and internal plumbing and other building maintenance services. The USUG's responsibilities for operations end, and the OSNAAG's begin at heat and water distribution nodes called CTPs, which serve several apartment buildings in an area.

5. The OSNAAG's different operating areas, called kantors, were opened up to management privatization in 2003. Under this, existing managers and staff were dropped from municipal payrolls, and their directors given rights to revenues earned from any services the company provided. The Municipality retained ownership of the assets. Directors were given three-year performance contracts with the municipal property department. The performance contracts were opened for competitive bidding in 2007, but most of the incumbent management stayed in place.³⁸ These contracts are now re-tendered on an annual basis.

6. The contracts are overseen by the OSNAAG authority, which effectively functions as an asset holding company for the municipality. The OSNAAG authority is responsible for:

- (i) Strategic decisions affecting the network.
- (ii) Consolidation of the 21 companies' financial statements.
- (iii) Appointment of the managers of each company, under the management contracts.
- (iv) Setting of the water tariff for each company.
- (v) Setting of a minimum wage for the employees of each company.
- (vi) Sewerage network cleaning.

7. The non-OSNAAG *kantors*. 18 non-OSNAAG kantors serve new apartment buildings in Ulaanbaatar. These are private companies, which own and operate the water and heating infrastructure in the areas they serve. They were selected by the developers of new apartment complexes to provide water, sanitation, heating and building maintenance services to residents. They do so under the same tariffs and regulatory regime as the non-OSNAAG kantors.

8. Regulation of the water and sanitation service is undertaken by:

- (i) **The water services regulatory commission (WSRC)**, established in June 2012 as the economic regulator for the sector, under the Law on Utilization of Urban Settlements' Water Supply and Sanitation, adopted in March 2012. The WSRC sets tariffs and service quality standards for the PUSOs, and is responsible for licensing operators. It also has responsibility for resolving disputes between customers and service providers, and for proposing changes to laws governing water sector operations in Mongolia.

³⁸ These contracts are referred to as "management contracts" in Mongolia, but the contracts are relatively cursory documents, and closer to what are referred to internationally as statements of corporate intent or contract plans. Also unlike management contracts, they make the operator responsible for some capital expenditure, a practice more common in concession contracts or lease contracts.

- (ii) **The general agency for specialized inspection (GASI)** is responsible for monitoring and enforcement of standards established by the Center for Standardization and Measurement. Both agencies fall under the responsibility of the Deputy Prime Minister, instead of a line ministry. There are many standards relevant to the water and sanitation sector. The most important standards for residential and commercial water and sanitation service are the Water Quality Standard (MNS 4586-98) and the Wastewater Treatment Standard (MNS 4943-2000). Other standards relate to the location and technologies of wastewater treatment plants, industrial effluents, and standards for pre-treated industrial effluents
- (iii) **Municipality of ulaanbaatar.** The USUG director has a performance contract with the Municipality of Ulaanbaatar, which specifies a number of targets, and terms of remuneration. The OSNAAGs also have management contracts with the municipality. Responsibility for the USUG and OSNAAGs lies with the General Manager of Ulaanbaatar City. The GM's responsibilities relevant to water supply and sanitation are to plan and secure financing for capital expenditure (in a way that is consistent with the Action Plan of the Mayor of Ulaanbaatar City and the Capital City Governor), and to oversee performance of the service providers.

B. Shortcomings with the Current Arrangements

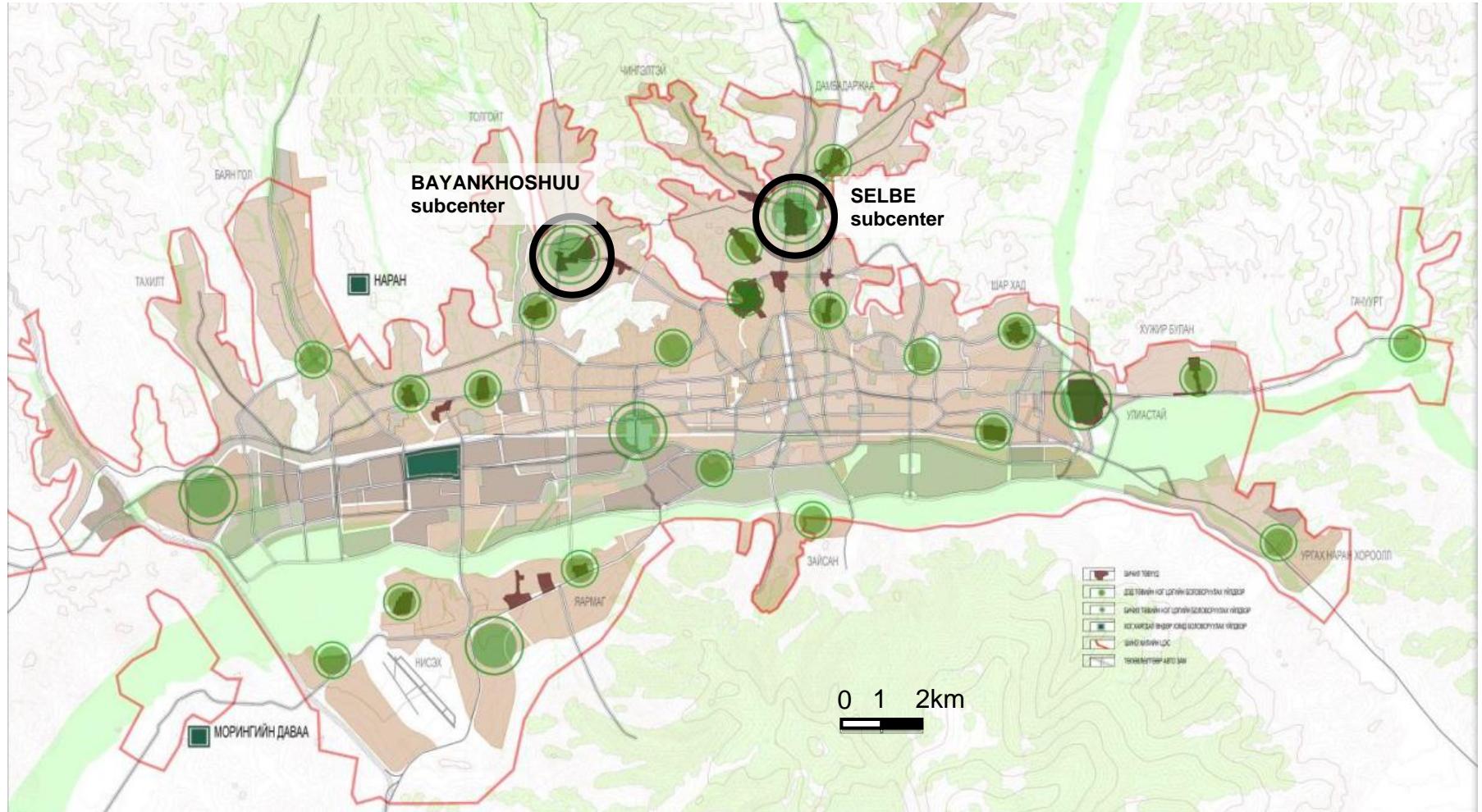
- 9. From the perspective of international good practice, there are a number of shortcomings:
 - (i) The management contracts are relatively weak. The weaknesses prevent the service providers from achieving better results. The contract weaknesses are
 - a. Targets in the management contracts bear little relation to performance problems in system. The performance indicators were mostly related to inputs, not outputs. Moreover, some of the indicators risk creating perverse incentives, in other words, incentives that could worsen financial and operating efficiency. For example, one indicator used in some of the contracts relates to the volume of water produced—not an appropriate indicator for a system with such substantial losses.
 - b. The management contracts provide no financial certainty. If directors are held to certain performance standards, they must have the revenue required for proper operations and maintenance and funding for new capital expenditure. Non-revenue water, in particular, is difficult to reduce through management changes alone. Substantial capital expenditure is required.
 - (ii) The regulatory commission lacks sufficient capacity and resources. The WSRC needs extensive training in tariff setting, service quality monitoring and enforcement, licensing, and public communications and outreach. This includes a need for hands-on training as well as more formal, classroom training.

C. Recommended Reform Path

- 10. Reforms will focus on strengthening existing institutional arrangements, by improving the contracts which support them, and the institutions responsible for regulation. This means:
 - (i) Improving and organizationally difficult, and must be well informed. Detailed studies are needed on the potential for economies of scope and scale as well as an assessment of investor interest in a single, vertically integrated WSS provider in Ulaanbaatar.

- (ii) Eventually, considering opportunities (once some consolidation has occurred) for public-private partnerships of the entire water supply and sanitation system.
- (iii) Providing technical support to WSRC in the areas of tariff-setting, service quality monitoring and enforcement, licensing, and public outreach and communications.

APPENDIX 6



APPENDIX 7

ESTIMATED DEMAND FOR GER DISTRICTS RESIDENTIAL HOUSING AND LAND REDEVELOPMENT CONSIDERATION

1. For the past 20 years, the city of Ulaanbaatar has invested very little in maintaining and improving the infrastructure of the city (heating, electricity, water and waste disposal).
2. It is estimated that current levels of “ready demand” (with sufficient financing) properties have an average of 65 square meters (m^2) with cost/ m^2 in a bracket of \$1,100 to 1,400 numbers, approximately 50,000 units while the “potential demand” for the same products require financing of approximately 110,000 units. The levels of “ready demand” originate primarily from the young adults within urban households who wish to move away from the cramped living conditions and build their own family units. They are supported financially in this endeavor by their family as they are not financially ready to make their own purchase. The “potential demand” levels are primarily composed of residents of the ger districts who are keen to upgrade their lifestyle and have access to running hot water, regular electricity, and indoor plumbing.
3. These demand levels are expected to grow over the coming decade and the supply levels will struggle to keep up. Surely, the demand will outpace all possible construction efforts. New demands will be generated from secondary property purchases as investments as well as households that are moving away from their current multigenerational setup to more independent nuclear units. The total estimated demand for residential units in Ulaanbaatar today is of 300,000 units, rising to 400,000 units by 2020.
4. These estimated demand levels stem from the following elements:
 - (i) **High population growth: pressure from a young middle-class demographic.** With an estimated total population of between more than 1.3 million inhabitants, Ulaanbaatar represents over 50% of the total population of Mongolia. Within Ulaanbaatar, nearly 180,000 households live in the ger districts, amounting to over half of the city’s total population. The urban population is made up of an unusually young demographic with nearly 60% of the population below the age of 27. The city is expected to grow in population at a rate of approximately 8% per annum over the following 5 years with a majority of that growth stemming from the ger districts as the rural to urban migration continues and this young urban population experiences a “baby boom”.
 - (ii) **Low existing housing stock: demand from first time buyers.** With a total of approximately a 135,000 residential units of all sizes and value currently built across the Ulaanbaatar city limits, there would be an average household size of close to 10 inhabitants per apartment. While this is not the case due to the majority of the Ulaanbaatar urban population living in the ger district, the average household size is nevertheless high with an average of 4.9 people in ready-built apartments and 4.5 in gers. The registered average size of a ready-built apartment in Ulaanbaatar is of $63 m^2$.
 - (iii) **Low levels of supply: slow to adapt.** The 7–8 months of harsh winters every year, in addition to the various constraints placed on the construction industry lead to a supply, which is slow to come on the market, adaptive to rapidly changing market conditions. This phenomenon is eminently evident today with an oversupply of office, luxury residential, and soon grade B retail in the city center of Ulaanbaatar, while there is a considerable level of unsatisfied demand in the

low income housing sector, small office space, and market type retail developments. The total current supply of new residential units/year stands at 10,000 to 15,000 units.

A. Increasing Purchasing Power and Access to Financing

5. The gross domestic product/capita today is at \$2,500, and is estimated to grow to \$20,000 by 2025, with a predicted 20% growth/annum over the coming 5 years. The economy itself is expected to double every 4 years for the next 20 years.

6. With the average combined middle class income per household today at a stable \$3,000/month, the financial elements are in place to allow such households to apply for an affordable long-term mortgage to allow them to invest up to \$200,000 in a property. The mortgages would carry a 10-year term at no more than 8% with a 25% downpayment. While this middle class is still a relatively small part of the total Ulaanbaatar population, it is a growing segment and will only get bigger as the Mongolian economy continues its high pace of growth on the back of its mining resources.

7. As the population obtains access to financing, demand for residential housing will grow considerably over the next two decades and will eventually lead not only to new levels of demand from first (or second) time buyers but also from residents of the current housing stock that wish to move into more modern, better built, and better designed housing.

B. Emerging Rental Market: Creating an Investment Product

8. As the Mongolian economy further matures and real estate prices across the city continue their growth, we will start to witness the emergence of a rental market, which is today constrained to expats or poor students from the countryside. Once middle class professional Mongolians start to rent as a first choice, there will be an emphasis on property as a viable investment product, both stemming from individual investors who will purchase a secondary property to let out as well as from institutional investors purchasing entire blocks of residential units. This can only further drive demand in the coming decade for small and affordable housing in the capital.

C. Demonstrating Proven Demand

9. The “stadium area” of Ulaanbaatar is a clear example of this demand being proven. The area is rapidly becoming home to “dormitory cities” type of developments, which are being built in this area due to the availability of both land and infrastructure. Those apartment blocks consist of thousands of small, identical housing units which today are being sold off-plan within a few months of going on the market. Developments such as Bayanmongol, Viva City, and Crystal Town—each with over a 1,500 units were entirely sold off within 6 months and are today fully occupied. A number of new developments (such as the Orgil compound, the Olympic Village, and Dujingarav) are currently running secondary market sales as initial buyers sell off their contracts at a profit to new buyers. The Viva City development in Yarmag (previously Shin Ger) has been a resounding success and is the first development to offer “micro-units” in that the units measure an average of 26 to 42 m² and were sold at an average price of \$1,200/m². This placed the units in an affordable range for a vast portion of the young urban population keen to create their own nest and step on the first step of the property ownership ladder. The entire development of 1,800 units was sold out within 6 months of the start of sales, a full 2 years prior to completion of the development.

D. Further Considerations

10. It is clear that the market currently lacks maturity and that while an enormous potential demand does exist, only a small percentage of this demand is being converted into actual sales of real estate. All the actors in the market are aware of this situation and are working towards resolving this situation. The ADB ger redevelopment project is one of many cogs currently turning towards making access to real estate an accessible dream for a majority of the population. The Government of Mongolia has launched a number of programs to simplify the permit and authorization process for developers as well as put in place systems to provide essential support to developers in the form of financing, labor, and access to land.

11. As the market matures, so do the property developers. Up until a few years ago, many amateur small cap companies launched themselves into the construction game. Today, due to the financing crunch as well as increased oversight from the Government of Mongolia, most of those amateur developers have exited the market or consolidated with professional companies. As those developers structure themselves into national players with multiple projects, they bring economies of scale and an ability to raise financing as well as control the supply chain of materials. This is an essential element in the potential to develop multi thousand unit compounds that are essential for the growth of the Ulaanbaatar residential market.

12. While the demand for low-to-mid income housing does exist today within the ger districts targeted by this project, it will only grow over the coming years for all the reasons highlighted above. As the pace of construction is relatively slow, it is unlikely that the first housing units will be ready for occupation prior to 2016 at the earliest. This still leaves a considerable amount of time for financing, mortgages, growth in the economy, purchasing power increases, and other market dynamics to come into play, which will only strengthen the potential demand.

13. An essential element for the success of this project, will be the provision of retail and/or commercial properties within the area allowing for a localized economy to develop as well as a much improved access to public transport placing the administrative heart of the city (Chinggis Square) within 30 minutes door to door of both subcenters. This will allow for demand for residential units in the subcenters to be driven not only by proximity buyers (from existing or nearby communities) but also from communities further afield that find the areas in question to be truly desirable. Considerate urban planning, which includes not only the creation of economic opportunities but also a pleasant and safe environment in which to live and invest, would be exceedingly beneficial in attracting both professional developers and the end-client to purchase the property.

14. Last but not least, the scale of the market is still relatively minuscule with only a few thousand units currently planned for construction in each of the subdistricts, amounting to a maximum total of about 10,000 units in each or 20,000 units in total. This represents a very small percentage of the current demand levels, which will only increase over time, and will be spread in construction over a decade at a minimum and well over that in all likelihood. This essentially would signify that the total likely supply per year in each subdistrict would not exceed 1,500 units, a relative drop in the ocean of potential demand.

E. Preliminary subcenter redevelopment schemes

1. Outline Development Plans

15. Outline development plans (ODPs) of Bayankhoshuu and Selbe subcenters have been prepared, taking into account current conditions including (i) current population, and projected demographic growth to 2020 and 2030; (ii) current social and economic infrastructure, including kindergartens, schools, health clinics, hospitals, and bus stations; (iii) physical infrastructure, mainly water supply by kiosks, heating services to public buildings, and bridges and/or culverts; (iv) topography, and natural drainage; (v) disaster risk factors; and (vi) the spatial and economic linkages between these two subcenters, and between the two subcenters and the built city-core of Ulaanbaatar.

16. Improved road network to enhance mobility within the subcenters and will be accompanied by network improvements for (i) water supply, sewerage, and heating services; (ii) priority social and economic infrastructure; and (iii) other physical and environmental improvements related to flood control, embankments, and bridges.

17. Within the framework of Bayankhoshuu and Selbe subcenter ODPs, priority areas have been identified where project 1 investments will be targeted. The geographic coverage of priority areas is defined mainly by (i) low resettlement involved, (ii) the community involvement, (iii) engineering constraint, and (iv) optimal coverage to allow residential development. **Table 1** provides overview key features of both ODPs.

Table 1: Overview of Bayankhoshuu and Selbe Subcenters Outline Development Plans

Item	Bayankhoshuu Subcenter	Selbe Subcenter
Overall subcenter area	162 hectares	156 hectares
Total number of plots	2,114 plots	1,970 plots
Current population of subcenter	7,500	7,800
Projected population of subcenter in 2020	12,800	13,900
Projected population of subcenter in 2030	19,100	23,500
Geographical coverage under project 1	91 hectares	114 hectares

Source: PPTA consultant draft final report

2. Indicative Redevelopment Options

18. To encourage increased population densities and provide better public services and utilities, the MUB, with the support of the loan consultant will develop a mechanism and regulations for land redevelopment, through the participation of the communities and the private sector. The three method below are indicative and could be applied to each district according to zoning requirements, private sector interest, proximity to trunk infrastructure developments, and wishes of the community:

- (i) **Paid connections method**, which allows for ger district residents to pay directly for connections to water, sewer, and heating networks. Residents will only lose whatever section of land for road and infrastructure developments. It allows for an organic, if slower, development of the subdistrict. Technically this is complicated to achieve and financing can only be justified if the private sector is involved in a macro level to offer solution (ii)—direct trading method—to a

- majority of residents. It will not lead to better land use and will not free up land for the provision of public facilities.
- (ii) **Direct trading method.** It would allow landowners to trade a sizeable portion of their land to the private sector who would then finance the connection costs and redevelop the surrendered portion of land at their own cost, by building a multi-unit residential building, which could be sold on the open market. This allows for low- to mid-density residential construction to be built, freeing up some land for public facilities. Because of the relative small size of the developments, innovative construction techniques can be used, which would reduce costs and duration of construction. This approach allows for the community to remain connected, and staying on their hashaa,³⁹ as well as retain the investment they have made in their own permanent buildings.
- (iii) **Neighborhood land pooling method,** which involves an entire neighborhood—10 to 24 hashaa's on average—to pool their land holdings so that the neighborhood can be redeveloped into a multi-use compound that could include retail, office, garage, residential and public utility buildings in the developments. All plot owners will be guaranteed a unit, the size which will be in proportion to the compensation they receive. The residents will also receive an annual stipend from the private sector developer that can be used either to rent subsidized temporary accommodation in the *khoroo*⁴⁰ residential tower, or move to relatives for the expected duration of the construction period—3 to 4 years. The hashaa owners will be compensated according to the market value of their land, including material improvements, plus an estimated 50% premium, to purchase a residential unit in the newly developed compound. Residents will be given the choice of supplementing that credit with cash to purchase a larger unit.
- (iv) Voluntary compensation amounts for the assets surrendered will be calculated using a mix of market value—for land alone—and replacement cost for built structures. This final amount will see a multiple added to it so that the majority of residents will be able to afford, through compensation, a decent sized apartment—approximately 80 m². Compensation could be paid through one of three methods:
- a. A “**purchasing voucher**” scheme to buy the apartment unit. This would compensate legal land owners with a predefined “market value credit + 50%⁴¹ (estimated)”. This requires a third party, independent authority (the State) to carry out a “fair market value” appraisal of both land and property on a single plot, adjusting that estimation by 50% or an appropriate proportion and giving this amount as “vouchers” towards a purchase in the new building. This voucher would act as a promissory note convertible into property. The community would then be free to use that “vouchers” towards the purchase of whatever type of property they choose, be it to buy a small shop, an apartment. They could add to it with their own cash and purchase a townhouse, larger apartment or garages. This would also give the option for households to “pool together” their purchasing credits to buy larger apartments or retail locations. It is proposed that these vouchers are transferable and tradable. However,

³⁹ Name for a plot of land

⁴⁰ A *khoroo* is an administrative subdivision of Ulaanbaatar, subdistrict or microdistrict.

⁴¹ This figure is not fixed and is variable. Changes will reflect individual situations and provide the mechanism to ensure participants are able to relocate into the new development.

such a situation may present legal complications in terms of appropriate recognition of a property right, and ensuring appropriate safe guards and grievance mechanisms are in place. The role of the proposed subcenter redevelopment authority (SRA) is central and appropriate guidance and enforcement of these is required. This model assumes that the validity of these vouchers are only until such time as the private sector developers are in a position to sign pre-sale agreements with the communities, at which point the vouchers will become invalid. The contract, along with its proof of payment (the voucher itself), then will take legal precedence.

- b. **Aggregating all landowners into a “homeowners association”** that would own the title to the land and ultimately commission the private sector for the construction. Shares in the association or company would be in proportion to the value of or compensation for the plots and buildings surrendered. If all the plots of land within a neighborhood decide to go through the land pooling option, the plots of land could be pooled together into a single “right of use” license whose landlord would technically be the homeowner’s association itself. The various landlords would in turn become shareholders of the homeowners association in the same ratio as the market value of the land and assets they have given up. The homeowner’s association—the landlord of the aggregate plot of land—would then commission a private sector tender, through the SRA, to build on the land. This would simply take the form of an initial tender resulting in a contract, drafted by the SRA, giving a private sector developer the rights to use the land for a specific development. Compensation for land could then be made in square meters of residential space to the homeowner’s association who would transfer those to the various shareholders. While this method is simple, legally feasible and technically pleasing, it would rely on the community coming together and making joint decisions through a majority rule.
- c. **Through the award of certificates of ownership to the future assets**—the apartment units. The process requires the following: approval of a redevelopment plan by the zoning authorities; issuance of construction licenses; negotiations with land owners concluded based on the approved plan; land owners surrender their property rights and vacant their homes; land owners obtain certificates of ownership on their future property from the state registrar; and the holder of the new certificate receives incentives to settle in the future premises.

19. The exact method of delivery of the compensation system will in all likelihood use the homeowners’ association laws—corporate laws—to form a cooperative and/or company that would own the land and then tender out the construction to the private sector who will compensate in built square meters.

20. The Mongolian Housing Finance Corporation, which is 51% owned by the MUB and operates as its arm for housing development, could also be involved as a developer and landowner for the program should there prove to be insufficient interest of private developers. Furthermore, where individual plot owners wish to surrender their lots, but cannot for some reason be involved in a land pooling scheme, then the Mongolian Housing Finance Corporation could act as an intermediary, and purchase the land and pay compensation to the owner. This would enable them to purchase one of the open market apartments within a land pooled neighborhood development scheme of their choice.

21. Regardless of the option chosen, the community, private sector, and city administration will have a single point of contact that will manage all aspects of the project. The control and supervision mechanism could be the proposed SRA, which will manage the tender for the private sector, establish appropriate zoning requirements, ascertain financial viability of the developer, verify construction progress, and report to the community at all times.

3. Urban Planning Zones

22. Each subcenter will be further subdivided into three “urban development zones”—zones A, B, & C, depending on the traffic in the area. Zone A will have high density construction with a high proportion of retail and office space and a relatively smaller ratio of residential units. This zone will be made up almost exclusively of “neighborhood land pooling” types of development. Zone B will be termed as a mid-traffic zone with mid-density housing, a small proportion of retail, no office, and a more important mix of larger residential units. This zone will be mostly made up of a mix of all three development options. Zone C will consist entirely of low density residential developments with limited retail or office uses. This zone will be developed using the first two approaches of development—paid connections and direct trading. Such development will gradually take place over the course of a few decades. It is as of yet unsure if city zoning will force certain development methods on certain zones or if it will be left up to the communities to decide.

4. Financing Development

23. Financing this program will not be provided under the multitranche financing facility and its implementation will depend upon sufficient resources being available in the private development and banking sectors, especially financing construction for private developers, and mortgage financing for potential apartment and/or town house purchasers.

URBAN SERVICES SECTOR ROADMAP (2013–2024)

Strategic Objectives and Targets/ Milestones	Actions/Investments	Responsible Agency	Time Frame	Supporting ADB Project, Parallel Programs
STRATEGIC OBJECTIVE 1: ROADS AND URBAN SERVICES ARE EXPANDED WITHIN SUBCENTERS AND CONNECTIVITY IS IMPROVED				
1. Expand and improve the road network, street lights, bridges, and drainage in and between nine subcenters.	<ul style="list-style-type: none"> Design, rehabilitate, and construct roads, sidewalks, drainage culverts, river embankment improvements, and landscaping in Bayankhoshuu and Selbe subcenters. Design and construct roads in market area and Khaniin Material subcenters, extension of Bayankhoshuu 3–cemetery–Denjin road, and connection Selbe–Chingeltei–Khailaast. Design and construct roads in Amgalan and Ulyastai subcenters. Design and rehabilitate existing roads, Selbe and/or Buudal-Dari-Ekh 1–Dari-Ekh 2, District 15 – Ulyastai, Amgalan road; new roads BRT Station to Dari-Ekh 1, and Dari-Ekh 2 to District 15, and those in Amgalan subcenter. 	MUB	2014–2017	MFF tranche 1, street project
	<ul style="list-style-type: none"> Design and construct water distribution, internal sewerage network, and collector mains networks in Bayankhoshuu and Selbe subcenters. 	MUB	2014–2017	MFF tranche 1
	<ul style="list-style-type: none"> Design and construct water supply networks and water supply, sewerage mains, and sewerage collector networks in Khaniin Material and market area subcenters and a water reservoir in market area subcenter. 	MUB	2016–2019	MFF tranche 2
	<ul style="list-style-type: none"> Design and construct water supply and sewerage network in Amgalan and Ulyastai subcenters, and a reservoir in Ulyastai subcenter. 	MUB	2019–2023	MFF tranche 3
	<ul style="list-style-type: none"> Design and construct internal heating network, heating facilities and heating service connections in Bayankhoshuu and Selbe subcenters. 	MUB	2014–2017	MFF tranche 1
	<ul style="list-style-type: none"> Design and construct the extension of the internal heating network, heating facilities in Bayankhoshuu and Selbe subcenters, and introduce in market area and Khaniin material subcenters. 	MUB	2016–2019	MFF tranche 2
	<ul style="list-style-type: none"> Design and construct internal heating network in Ulyastai and Amgalan subcenters. 	MUB	2019–2023	MFF tranche 3
	<ul style="list-style-type: none"> Consultative meetings and gender-specific design features integrated in the design of the utility services. Women participation in information, education, and communication programs on improved urban and environmental infrastructure and services, and land registration and ownership. 	CDCs, khoroos ⁴² and kheseg leaders, USUG, NGOs Community residents	2013–2023	MFF tranches 1, 2, and 3

⁴² A khoroos is an administrative subdivision of Ulaanbaatar, the capital of Mongolia. The term is often translated as subdistrict or microdistrict.

Strategic Objectives and Targets/ Milestones	Actions/Investments	Responsible Agency	Time Frame	Supporting ADB Project, Parallel Programs
STRATEGIC OBJECTIVE 2: ECONOMIC AND PUBLIC SERVICES ARE IMPROVED				
1. Improve socioeconomic facilities in five subcenters	<ul style="list-style-type: none"> Design and rehabilitate <i>khoroo</i> building, and design and construct 40 transit apartments in Selbe and Bayankhoshuu subcenters. Design and construct kindergartens and playgrounds in Bayankhoshuu and Selbe subcenters. Design and construct socioeconomic infrastructure in market area, Khailaast, and Chingeltei subcenters. Design and construct socioeconomic infrastructure in Amgalan and Ulyastai subcenters. 	MUB	2014–2017	Financed by the MUB
2. Support for SMEs	<ul style="list-style-type: none"> Design and implement SME development plan for Bayankhoshuu and Selbe Link into existing programs of microfinance 	<ul style="list-style-type: none"> MUB MUB, Commercial bank MUB-PMO SRA and/or commercial bank 	<ul style="list-style-type: none"> 2014–2017 2015–2019 2018–2023 2013–2015 2013–2014 2013–2018 2013 onwards 	<ul style="list-style-type: none"> MFF Tranche 1 MFF Tranche 2 MFF Tranche 3 Proposed ADB-PSOD loan to XAC-Bank Tranche 1 Proposed ADB-PSOD loan to commercial bank MFF Tranches 2 and 3
3. Mainstream gender considerations in the planning and implementation of social and economic services in the subcenters	<ul style="list-style-type: none"> Women participated in the consultative meetings on the planning and design of subcenters. Gender-specific and accessibility design features for women, children, elderly, and persons with disabilities are integrated in the design. Women, youth, and persons with disabilities benefit from vocational training. 	CDCs, <i>khoroo</i> and <i>kheseg</i> leaders, MUB NGO, residents	2015–2022	MFF Tranches 2 and 3
STRATEGIC OBJECTIVE 3: SERVICE PROVIDERS BECOME MORE EFFICIENT				
3.1 Water and sanitation regulatory and institutional reforms				
1. Better governance and regulation of WSS service providers:	<ul style="list-style-type: none"> Appoint consultants to assist in improving contracts of OSNAAG <i>kantors</i> and USUG to include targets in OSNAAG management contracts and USUG director performance contract. Appoint consultants to establish data baseline for determining performance targets Set 3–5-year term for contracts. 	MUB, USUG, OSNAAG, WSRC, MCUD, MED (IPPP department)	2014	MFF Tranche 1
• Management contracts	<ul style="list-style-type: none"> In revised contracts, tie compensation of USUG director to achievement of targets in performance 	MUB, USUG, OSNAAG	2014	MFF Tranche 1

⁴³ Traditional tents for housing, there are three types of *ger* areas: (i) central *ger* areas (located near the built-up core of the city), (ii) mid-*ger* areas, and (iii) fringe *ger* areas. The population in Ulaanbaatar's mid-*ger* areas is estimated at 400,000 people.

Strategic Objectives and Targets/ Milestones	Actions/Investments	Responsible Agency	Time Frame	Supporting ADB Project, Parallel Programs
<ul style="list-style-type: none"> Give service providers the resources needed 	<p>contracts.</p> <ul style="list-style-type: none"> Develop tariff path and conduct consultations with consumers on tariff paths. In revised contracts, include a tariff path for full costs recovery—if tariffs are not full-cost recovery, include provisions for subsidies from the MUB. Include in contracts commitments from the MUB and the MOF on CAPEX, tied to 5-year CAPEX plans. 	kantors, WSRC, MCUD, MED (IPPP department)	2014	MFF Tranche 1
<ul style="list-style-type: none"> Re-tender contracts competitively <p>2. Consolidate OSNAAG <i>kantors</i> and integrate with bulk supplier</p>	<ul style="list-style-type: none"> Re-tender contracts competitively, according to requirements in Concessions Law and PPP Policy. Study benefits and feasibility of consolidating some <i>kantors</i> into a single service area. Where feasible, merge <i>kantors</i>. Where feasible, integrate <i>kantors</i> into USUG. 	MUB, USUG, OSNAAG Authority, OSNAAG <i>kantors</i> , WSRC, MCUD, MED (IPPP department)	2017–2019	MFF Tranche 2
<p>3. Consider opportunities for PPPs</p>	<ul style="list-style-type: none"> Appoint consultants to review PPP arrangements for entire system, once OSNAAG <i>kantors</i> are merged and integrated into USUG. 	WSRC, MCUD	2019–2021	MFF Tranches 2 and 3
<p>4. Capacity building and/or institutional strengthening of WSRC</p>	<ul style="list-style-type: none"> Appoint consultants to provide capacity building on tariffs, service quality, licensing, public communications and outreach. 	USUG	2014–2017	MFF Tranche 1
<p>5. Operational improvements within USUG</p>	<ul style="list-style-type: none"> Installation of equipment for operational control; enhancements at the operational control center; and operational improvements at the central waste water treatment plant. Shift wastewater charges from water consumption to pollution based; and implement a nonrevenue water reduction program. Introduce tariffs over time that fully covers all costs. Institutionalize business planning. Review and revise organizational staffing structure and reporting. Review competencies of USUG staff and develop program of capacity development. 	USUG	2014–2017	MFF Tranche 1
<p>6. Capacity building and/or institutional strengthening of USUG</p>				
3.2 Heating services regulatory and institutional reform				
<p>1. Procure new heating facilities operators through competitive international tender—on DBFO basis</p>	<ul style="list-style-type: none"> Appoint transaction advisor for competitive tender for lease contractor to operate new heating facilities. Include in contracts targets for service quality and reliability, a tariff path which, in combination with subsidy commitments from MUB, allow for full cost recovery. Set tariffs on basis of metered consumption- based on buildings. Include in contracts provision for easements and rights of way. 	MUB (including Heating facilities Department), ERC, MED (IPPP department)	2014–2017	MFF Tranche 1
<p>2. Better governance and regulation of heating service for existing heating facilities in Bayankhoshuu and Selbe:</p> <ul style="list-style-type: none"> Management contracts 	<ul style="list-style-type: none"> Appoint legal and/or regulatory consultants to assist in improving contracts of heating facilities to include service targets related to service quality. Appoint engineering and/or accounting consultants to establish data baseline for determining performance targets. Set 3–5 year term for contracts. 	MUB (including Heating facilities Department), ERC, MED (IPPP department)	2014	MFF Tranche 1

Strategic Objectives and Targets/ Milestones	Actions/Investments	Responsible Agency	Time Frame	Supporting ADB Project, Parallel Programs
<ul style="list-style-type: none"> Allow service providers to access resources needed Re-tender contracts 	<ul style="list-style-type: none"> In revised contracts, include a tariff path where such tariff allows for full recovery of costs. If tariffs are not full-cost recovery, include in contract provisions for subsidies from the MUB. Include in contracts commitments from the MUB on CAPEX, tied to 5-year CAPEX plans Re-tender contracts competitively, according to requirements in Concessions Law and PPP Policy. 	MUB (including heating facilities Department), ERC, MED (IPPP department) MUB ERC, MED	2014 2017–2019	MFF Tranche 1 MFF Tranche 2
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STRATEGIC OBJECTIVE 4: INSTITUTIONAL STRENGTHENING AND CAPACITY BUILDING

4.1 Improved subcenter development and Community engagement

1. Establishing the SRA	<ul style="list-style-type: none"> Resolution of the City Council to set up SRA Appoint and/or recruit staff to SRA. 	MUB	2013–2014	MFF Tranche 1
2. Improve subcenter planning and development process, institutionalize ger area redevelopment process and build capacity of GADA and SRA	<ul style="list-style-type: none"> Hire consultants to implement a program of capacity development for GADA, Housing Project, and SRA. Merge GADA and/or Housing Project and SRA into one city-owned enterprise responsible for ger area development. Hire consultants to build capacity at GADA and SRA. Institutionalize the subcenter redevelopment design and implementation process. 	MUB	2013–2016	MFF Tranche 1
3. Finalize subcenter selection and undertake feasibility studies for investments under tranches 2 and 3	<ul style="list-style-type: none"> Finalize subcenters for inclusion in tranche 2; and hire consultants to prepare feasibility studies for financing under tranche 2. Finalize subcenters for inclusion in tranche 3; and hire consultants to prepare feasibility studies for financing under tranche 3. 	PMO	2015–2017 2018–2019	MFF Tranche 1 and 2
4. Urban planning capacity improvement	<ul style="list-style-type: none"> Hire consultants for urban planning capacity improvement. Assess institutional arrangement and develop a road map for organizational restructuring Install GIS and/or geospatial center within municipal departments/agencies. Ensure planning activities are prepared according to common base map. Harmonization of geospatial tools in use by different agencies in one integrated system. 	MUB	2013–2015	Proposed JFPR-financed capacity development technical assistance, approved May 2013
5. Integrate gender considerations in community-driven urban planning particularly in subcenter redevelopment	<ul style="list-style-type: none"> Collect sex-disaggregated baseline data. Community action planning for subcenters integrated in the development plans. Develop a gender action plan for projects 2 and 3. 	CDCs, khoroos and kheseg leaders, MUB, NGOs, Residents	2013 onwards	MFF Tranches 1 and 2
6. Community awareness and participation in subcenter development improved	<ul style="list-style-type: none"> Capacity building of CDCs and/or SDCs. Train staff of CDCs and/or SDCs. Prepare guidelines for CDCs to engage into community contracts. Formation of a manpower association and provide training. Legal registration of the CDCs and/or SDCs. CDCs and SDCs mobilizing funds. 	CDCs, khoroos and kheseg leaders, MUB—PMO	2014–2018	MFF Tranche 1

Strategic Objectives and Targets/ Milestones	Actions/Investments	Responsible Agency	Time Frame	Supporting ADB Project, Parallel Programs
7. Land management improvements	<ul style="list-style-type: none"> • Develop appropriate methodology and regulations for land and property valuation in ger areas. • Design and/or develop compensation packages for those land pooling. • Develop arrangement for land pooling. • Draft urban zoning regulations for ger areas—urban use zones, including land use ratios. • Draft new Urban Redevelopment Law, a law governing new town construction, and a Law on Land Acquisition with Compensation Based on Public Need. ▪ Approve legislative changes for land management. 	MUB—PMO, Mayor's Office, Chief Architect, Ministry of Justice, MCUD	2013–2014	MFF Tranche 1
8. Development and financing of affordable housing in Ulaanbaatar	<ul style="list-style-type: none"> • Consultants complete review, revision and implementation of recommendations of the study and/or technical assistance on developing an affordable housing strategy for Ulaanbaatar. • Access microfinance for ger area housing improvements, utility connections and technical rooms through proposed program of a large. • Establish and manage savings for loans programs within subcenters. • Initiate and complete a program of plot registration in all subcenters. 	MUB, MIK, MCUD, MED	2015 onwards	World Bank-funded TA under Clean Air Project ADB-PSOD loan to XacBank MCC Plot Registration Project
4.2 Strengthened Program Implementation Capacity				
1. PMO Institutional strengthening	<ul style="list-style-type: none"> • Hire consultants to strengthen the PMO in program management, implementation and monitoring. 	MUB	2013	MFF Tranche 1
2. Staff the PMO	<ul style="list-style-type: none"> • Job descriptions for PMO staff. • Appoint local staff to the PMO. 	MUB	2013–2014	Pre-loan activity
3. Training to PMO and SRA staff	<ul style="list-style-type: none"> • Develop on the job training programs. • Develop formal training programs. • Select staff for participation in formal training programs. 	MUB-PMO, Training Institutes	2014–2018	MFF Tranche 1, possibly MFF Tranche 2
4. Strengthened participation of women	<ul style="list-style-type: none"> • 50% of PMO professional staff are women. 	MUB	2015 onwards	MFF Tranche 2

ADB = Asian Development Bank, CDC = community development councils, GADA = Ger Area Development Agency , JFPR = Japan Fund for Poverty Reduction, MCUD = Ministry of Construction and Urban Development , MED = Ministry of Economic Development, MFF = multitranche financing facility, MOF = Ministry of Finance, MUB = Municipality of Ulaanbaatar, NGO = nongovernment organizations, PMO = program management office, PPP = public-private partnerships, SDC = small- and medium-sized enterprise development councils, SRA = subcenter redevelopment authority, USUG = Ulaanbaatar Water Supply and Sewerage Authority

Sources: Relevant agencies of the Municipality of Ulaanbaatar and national government agencies.

POLICY FRAMEWORK

No	Proposed Policy Actions	Policy Implementation Steps	Timeframe	Observations
1. Improved Urban Planning & Subcenter Development				
1.1	Establish dedicated subcenter redevelopment agency as key body responsible for subcenter redevelopment.	Consulting services will provide advice on establishing such agency.	2013–2014 2013–2014 2013–2015 2015 onwards	
1.2	Prepare policy to improve urban and land management.	The program will in consultation with the community prepare urban and land management policy to guide development through land use zoning, land use ratios, and methodology for land readjustment.		Consultants to be appointed under the loan to assist with policy formulation and work with community to develop land use plans.
1.3	Develop capacity development program for agencies responsible for fulfilling urban planning functions.	Prepare a road map for organizational restructuring of urban planning functions to encourage cross sector integration and harmonization of geospatial tools.		Proposed JFPR-financed capacity development technical assistance, approved May 2013.
1.4	Development and financing of affordable housing in Ulaanbaatar.	Review the outputs of the World Bank-funded preparation of Affordable Housing Strategy for Ulaanbaatar, and integrate key findings within <i>ger</i> area redevelopment policy.		
2. Water and Sanitation Regulatory and Institutional Reform				
2.1	Develop international best practice performance criteria for contract management.	The program will support reform of OSNAAG <i>kantors</i> and USUG through introduction by the MUB of director performance contracts that relate to service quality, reliability, nonrevenue water, collections, and other operational and financial challenges.	2014–2019 2017–2019 2019–2021 2014–2017	Consultants to be appointed under the loan to assist with policy reforms and establish the baseline data for performance targets. Support provided to improve the capacity of WSRC.
2.2	Consolidate OSNAAG <i>kantors</i> , and integrate with bulk supplier.	The MUB will study benefits and feasibility of consolidating <i>kantors</i> into one service area, and consider merging <i>kantors</i> , and/or integration into USUG.		MUB to be assisted by consultants under the loan to strengthen capacity of USUG and OSNAAG. This will lead to improved operating performance.
2.3	Develop approaches for PPP of entire water and sanitation system.	The MUB will study and develop PPP opportunities for the system, once OSNAAG <i>kantors</i> are merged and integrated into USUG.		
2.4	Develop a program and implement institutional and tariff policy reforms.	The MUB will introduce tariffs that fully cover costs, and institutionalize business planning. Review organizational/staffing structures, reporting lines, and competencies of USUG staff, and develop program of capacity development.		
2.5	Implement operational improvements within USUG.	The MUB management and USUG staff will implement performance based operational improvements within the central wastewater treatment plant and the operational control center. Changing wastewater charges from water	2014–2017	

No	Proposed Policy Actions	Policy Implementation Steps	Timeframe	Observations
		consumption to pollution based, and implementing a nonrevenue water reduction program.		
3. Heating Services Regulatory and Institutional Reform				
3.1	Procure new heating facilities operators for <i>ger</i> areas not connected to the central, networked system.	The MUB will adopt a competitive tender process to select the operator/s and involve contracts that set targets for service quality and reliability, and a tariff path which, in combination with subsidies from MUB, allows full cost recovery.	2014	Transaction advisors and consultants to be hired under the loan. Support provided to improve the capacity of ERC.
3.2	Better governance and regulation of heating service for existing heating facilities in Bayankhoshuu and Selbe through improved management contracts	MUB will prepare and retender contracts that reflect international best practice standards, giving service providers the resources needed to achieve targets. The contracts will involve targets based on service quality, and a tariff path that, with subsidies from MUB, enables full cost recovery.	2017–2019	

ERC = Energy Regulatory Commission, JFPR = Japan Fund for Poverty Reduction, MUB = Municipality of Ulaanbaatar, PPP = private-public partnership, SRA = subcenter redevelopment authority, USUG = Ulaanbaatar Water Supply and Sewerage Authority, WSRC = Water Supply Regulatory Commission.