FINANCIAL ANALYSIS OF THE WATER SUPPLY AND SEWERAGE AUTHORITY OF ULAANBAATAR CITY

A. BACKGROUND

1. The Water Supply and Sewerage Authority of Ulaanbaatar City (USUG) is a fully owned subsidiary of the Municipality of Ulaanbaatar and tasked with the provision of water supply and sanitation services in the city. The city's population growth and expansion and development of new businesses and industries have increased the level of service demand prompting USUG to restructure its organization, enhance financial oversight, control, monitoring, expand service delivery into newly developed residential and industrial areas and provide safe, reliable and affordable water services to the entire population of Ulaanbaatar, including the ger areas. Reports[1] indicate that 60% of Ulaanbaatar's total population has access to safe and sustainable facilities. Individual household connections, both metered and non-metered, comprising 40% provide: (a) water and sewerage services to approximately 4,147 direct metered customers, (b) bulk water and sewerage services to the private and OSNAAG[2] *kantors*—who redistribute water to apartment residents. An estimated 20% are pipeline-connected kiosks, and nearly 30% of the population is served by truck-supplied kiosks. As of 2011, USUG operated a total of 567 kiosks, each serving approximately 1,000 residents.

B. KEY ISSUES

1. Weak Financial Position

2. USUG's financial position and management have been periodically assessed over the past years by: (a) the World Bank under the USIP2 project; (b) Vitens Evidens Inc (VEI) for the Water Operators Partnership (WOP).[3] All the analyses undertaken to date conclude that USUG's financial position is weak with its income generation inadequate for full cost recovery. An operating loss of MNT6.9 billion has been estimated for 2012 (Table 1).

Table 1: Estimated Earnings and Expenditures (2012)

Item	Amount
Revenue (billion MNT)	25,5
Expenditure (billion MNT)	32.4

Source: USUG Unaudited Financial Report 2012

3. The significant highlights of USUG's annual balance sheets and income statements for the period 2008-2011 and projections for 2012-2016 are summarized in Table 2.[4] Average growth rates calculated from the period 2008-2011 were estimated as follows: (i) gross

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[1] Reports on USUG Operations, Vitens Evidens Inc (VEI), 2011.
[2] OSNAAG is the MUB authority responsible for all government-owned housing and communal services.
[3] The staff of USUG's Financial Department has received extensive training, both in Mongolia and in the Netherlands, and is now fully capable of preparing these financial analyses by themselves. Through the Water Operators Partnership USUG's capacity to undertake their own internal financial analysis has been considerably strengthened through the provision of assistance to USUG's financial department. USUG and VEI have jointly analyzed USUG´s financial position, including USUG's financial accounting systems and procedures, and have formulated recommendations that are aimed at improving USUG's fragile financial condition.
[4] Secondary data sourced from VEI and USUG reports have been used for this assessment.

revenues at 15%, (ii) gross expenditures at 13%, (iii) operating revenues at 12%, (iv) operation and maintenance at 9%, and (v) accounts receivable for direct customers at 7%. These rates were subsequently used to prepare the highlights of USUG's projected financial statements for 2012–2016 (Table 5).

4. In 2011, approximately 78% of USUG's overdue accounts receivable (MNT3.41 billion) belongs to OSNAAG and its privatized ex-kantors[5] which serviced old and unmetered apartment buildings. These aged and growing levels of receivables from OSNAAG negatively impact the high collection efficiency of USUG from its direct clients, the residents of metered apartment residential units.

Table 2: Highlights of USUG Audited Financial Statements for 2008-2011

Item	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total gross revenues	18.03	18.88	30.21	24.53	28.21	32.34	37.31	42.91	49.35
Total expenses	23.14	28.77	23.93	31.33	35.41	40.0	45.20	51.08	57.72
Total gross margin/(loss)	(5.11)	(9.89)	6.28	(6.80)	(7.19)	(7.56)	(7.90)	(8,18)	(8.38)
Revenue from main operation	17.10	18.43	20.72	24.05	26.93	30.17	33.78	37.84	42.38
Operations and management expenses	19.53	21.32	23.72	25.54	27.84	30.34	33.07	36.05	39.29
Operating profit /loss	(2.43)	(2.90)	(3.00)	(1.49)	(0.91)	(0.18)	0.71	1.79	3.09
Accounts receivable	3.58	3.50	3.93	4.37	4.68	5.00	5.35	5.73	6.13
Long term debt–Loans from WB and Government of Spain:[6]	49.24	58.48	49.57	76.68	88.01	101.02	115.95	133.09	152.76

Source: USUG Financial Reports and Final Report –ADB RETA 7918 Water and Wastewater Operation Improvement Project, December 2012.

5. The financial analysis shows that a higher collection efficiency of 90% will contribute significantly to the company's more profitable operations. The level of accounts receivables will be greatly reduced resulting in higher operating revenues. However, although improved collections will allow USUG to cover its total operation and maintenance costs as well as depreciation costs, it will remain incapable of generating sufficient financial returns to fulfill its debt obligations if its tariff rates are not restructured to cover its increased administrative and organizational costs, operating costs expansion, and additional interest expenses on its externally-funded investments. The Municipality of Ulaanbaatar (MUB) is currently servicing the long term loans of USUG, estimated at MNT88.01 billion as of December 31, 2012 inclusive of unpaid interests.

6. In two recent ADB-funded studies, the conversion to equity participation of USUG's existing debts which were paid by MUB has been recommended. Such a reclassification in the books of USUG will result in a stronger financial position for the water and sanitation operator of the city. The working, operating, and full cost recovery ratios of USUG were calculated based on average growth rates calculated from the period 2008-2011 as follows: (i) gross revenues at

[5] *Kantors* are financially autonomous housing and communal services units.

[6] The long-term debt/loans were projected at an interest rate of 14.78% per annum for the period 2013-2016. It was noted that these same long term liabilities are carried in the financial statements of MUB as part of a proposal to convert these loans into MUB's equity with USUG.

15%, (ii) gross expenditures at 13%, (iii) operating revenues at 12%, (iv) operation and maintenance at 9%, and (v) accounts receivable for direct customers at 7%.

7. The analysis shows that additional financing mechanisms, inclusive of subsidies from the government or municipality, further tariff rate restructuring, and reduction in costs are needed by USUG in order to (i) ensure financial viability of investments, (ii) make further investments in water and sanitation justifiable, and (iii) ensure redemption by concerned financiers of the company's previously availed loans.

Table 3: Financial Indicators of USUG

Indicator	2008	2009	2010	2011	2012	2013	2014	2015	2016
Working ratio[7]	0.91	1.16	0.54	0.98	1.25	1.23	1.21	1.19	1.17
Operating ratio[8]	1.14	1.16	1.14	1.06	1.03	1.01	0.98	0.95	0.93
Full cost recovery ratio[9]	0.74	0.64	0.87	0.77	0.70	0.75	0.75	0.74	0.73

Source: Asian Development Bank estimates.

2. Water Supply in the Ger Areas

8. Analysis of the operating revenues and costs of USUG for 2008-2011 for its water supply in the *ger* areas as well as estimates for 2012 showed that company's revenues were inadequate to cover even its operational costs and depreciation expenses (Table 4).

Table 4: Operation Cost for Water Supply in Ger Areas for 2008-2012 (in billion MNT)

Item	2008	2009	2010	2011	2012
Water supply in kiosks by truck delivery					
Operating and management costs	3.05	3.38	3.63	3.66	4.66
Operating Revenues	0.69	0.67	0.67	0.59	0.59
Losses	(2.36)	(2.71)	(2.96)	(3.07)	(4.07)
Water supply in kiosks through connection to pipes					
Operation cost	1.84	2.41	3.10	3.71	5.81
Revenues	0.41	0.49	0.60	0.65	0.70
Losses	**(1.43)**	**(1.92)**	**(2.51)**	**(3.06)**	**(5.11)**

Source: Asian Development Bank estimates.

9. The operating costs of USUG to supply the kiosks servicing the demand from the *ger* areas have been very costly, causing the tariff rate to increase to MNT909/m^3 of water which is much higher than the MNT286.2/ m^3 rate for metered apartments. This may also be a primary reason for the average water consumption in *ger* areas of 8 liters per capita per day (lpcd) or 0.01 m^3 per day which is relatively much lower compared to the estimated water consumption of metered apartments at 205 lpcd.

10. The proposed investment of MUB in water supply and sanitation in the ger areas under the investment program is expected to expand the operations of USUG while achieving greater

[7] Working ratio = (total annual expenses-(depreciation + interest expenses))/annual revenues; when working ratio= or > than 1, then the gross revenues are inadequate to recover operating costs.

[8] Operating ratio = total operating expenses/total operating revenues; the smaller the ratio (less than 1), the greater the ability of the entity to generate profits when revenues decrease—an indicator of operational efficiency.

[9] Full cost recovery ratio = (operating revenues/operating and non-operating expenses); ratio >1 will indicate that operating revenues are adequate for the operating and non-operating expenses.

operational efficiency and higher collection efficiency. A proposed technical assistance under the investment program will help restructure the tariff rates charged by USUG. This will help reduce the burden of debt service requirements considerably for USUG's past loans and ensure its financial gains to adequately cover operating and non-operating expenses, as well as loan repayments.

11. The weak financial position of USUG is the single deterring factor to its ability to access more capital which is critical to its ability to expand operations. The proposed additional investment in water and sanitation in the ger areas through the investment program to be undertaken by MUB's loan from the investment program's cofinancier, the European Investment Bank (EIB), will be supplemented by the proposed Urban Environmental Infrastructure Fund (UEIP) grant to be administered by ADB since it is geared towards helping to increase the revenues and cut the operating costs of USUG.

3. Tariff Structure

12. There is presently no independent system of tariff setting. Tariffs were set by the Municipality Tariff Committee but given the politically sensitivity of this issue, tariffs were not increased between 2005 and August 2010, while operational costs and inflation increased significantly. The tariffs for the domestic customers, i.e., those residing in the apartments and *ger* areas, were finally increased by 50% in August 2010 but only after tremendous pressures from USUG. Although the increase had a positive effect on USUG s financial position, the tariff increase has not been sufficient for USUG to recover the full costs of its service delivery.

13. In 06 October 2011, the Parliament of Mongolia approved amendments to the law on Utilization of Water and Sewerage in Cities and Provincial Towns of Mongolia and established the Tariff Regulation Board for Water and Sanitation Services in cities and provincial towns. The Board is authorized to perform various tariff-related regulations including: (i) setting tariff structure of sales to consumers; (ii) implementing tariff indexation; (iii) to establishing a pricing and tariff system that enables supply of water at the lowest possible cost and allows an adequate rate of return; and (iv) reviewing investment plan of licensees on expanding networks. However, no tariff adjustments have been made since 2010.

4. Toward a More Positive Financial Outlook

14. The financial statements and performance of USUG reflect the losses that have been carried through the years by the water provider. At this stage, USUG will be unable to absorb additional loans unless reforms are instituted in tariff setting, bulk sale and collection mechanism, specifically with the OSNAAG, and in its operational efficiency and financial management capacity.

15. The proposed reforms in the tariff structure as well as operational systems of USUG to be undertaken through output 4 of the proposed project 1 of the investment program—strengthening service providers—and the ADB-administered grant from the UEIP will help bring about the following: (i) calculating tariffs on a volumetric basis (for metered households) and a flat rate for (those without meter) which shows lack of standard policy on service charges; (ii) addressing defective piping network within the old apartment buildings to reduce non-revenue water losses; and (iii) Settlement of OSNAAG past due receivables with a prescribed schedule. Basic assumptions adopted for the project was a 5% annual increase in tariff rate and a collection efficiency of 90% on total collections inclusive of the accounts receivable from

OSNAAG, wholesale buyer of USUG. Assumptions for the projections are based on historical averages as described in paras. 3 and 6.

15. The UEIP trust funds are targeted to enhance operational efficiencies which are expected to reduce costs and boost monitoring and collection activities. Anticipated improvements include:[10] (i) an estimated savings of 25-32% in energy consumption with USUG's acceptance of changes in pumps at the industrial and meat stations; (ii) operational improvements in water supply systems through installation of equipment for operational control and enhancements at the operational control center; (iii) improvements in the operation of the centralized wastewater treatment plant through the enhancement of the supervisory control and data acquisition (SCADA) system and strengthening of the plant with additional and replacement parts; and (iv) reduction of non-revenue water. Total estimated savings in energy consumption was calculated at an annual level of $370,000. The ADB-funded loan and grant will also help to strengthen the financial condition of USUG by evaluating and helping to implement, if necessary, the possible conversion into MUB equity of the existing long term loans passed on by MUB to USUG under subloan agreements.

16. Table 5 summarizes the with- and without–project scenarios for USUG's projected financial performance. The analysis demonstrates how the project can potentially improve its revenues, expenditures, operating and maintenance expenses, accounts receivable, and long term debt equity.

Table 5: Financial Projections for USUG, 2012-2016 (in billion MNT)

Item	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total gross revenues									
Without project	18.03	18.88	30.21	24.53	28.21	32.34	37.31	42.91	49.35
With project (5% increase)							39.18	45.06	51.82
Total expenses									
Without project	23.14	28.77	23.93	31.33	35.41	40.0	45.20	51.08	57.72
With project (w/energy savings)							44.68	50.55	57.18
Total gross margin/(loss)									
Without project	(5.11)	(9.89)	(6.28)	(6.80)	(7.19)	(7.56)	(7.90)	(8,18)	(8.38)
With project							(5.50)	(5.49)	(5.35)
Revenue from main operation									
Without project	17.10	18.43	20.72	24.05	26.93	30.17	33.78	37.84	42.38
With project (5% increase)							35.47	39.73	44.50
Operations and management expenses									
Without project	19.53	21.32	23.72	25.54	27.84	30.34	33.07	36.05	39.29
With project (w/energy savings)							32.53	35.53	38.75
Operating profit /loss									
Without project	(2.43)	(2.90)	(3.00)	(1.49)	(0.91)	(0.18)	0.71	1.79	3.09
With project							2.94	4.20	5.75
Accounts receivable	3.58	3.50	3.93	4.37	4.68	5.00	5.35	5.73	6.13

[10] Final Report, RETA 7918: MON-Water and Wastewater Operation Improvement Project, February 2013.

Item	2008	2009	2010	2011	2012	2013	2014	2015	2016
Improved accounts receivable (level reduced with collection efficiency of 90%)						0.50	0.54	0.57	0.61
Improved Operating Revenues with project and 90% collection efficiency							40.28	44.89	50.02
Conversion to MUB equity of Long term debt– Loans from World Bank and Government of Spain[11]	49.24	58.48	49.57	76.68	88.01	101.02			

[11] The long term debt/loans were projected at an interest rate of 14.78% per annum for the period 2013-2016. The financial analysis showed that these same long term liabilities are carried in the financial statements of MUB as part of a proposal to convert these loans into MUB's equity with USUG.