



Completion Report

Project Number: 31243
Loan Number: 1907-MON (SF)
October 2010

Mongolia: Integrated Development of Basic Urban Services in Provincial Towns Project

Asian Development Bank

CURRENCY EQUIVALENTS

Currency Unit – Togrog (MNT)

		At Appraisal (5 April 2002)	At Project Completion (31 December 2008)
MNT1.00	=	\$ 0.00091	\$ 0.00078
\$1.00	=	MNT 1,104	MNT 1,277

ABBREVIATIONS

ADB	–	Asian Development Bank
GIACUDPU	–	Government Implementing Agency for Construction, Urban Development, and Public Utilities
IDC	–	interest during construction
MCUD	–	Ministry of Construction and Urban Development
MOF	–	Ministry of Finance
MOFE	–	Ministry of Finance and Economy
MOI	–	Ministry of Infrastructure
MRTCUD	–	Ministry of Road, Transportation, Construction, and Urban Development
O&M	–	operation and maintenance
PIU	–	project implementation unit
PMO	–	project management office
PPME	–	project performance monitoring and evaluation
PSC	–	project steering committee
PUSO	–	public urban service organization
SDR	–	special drawing rights

WEIGHTS AND MEASURES

km	–	kilometer
lpcd	–	liters per capita per day
m	–	meter
m ²	–	square meter
m ³	–	cubic meter

GLOSSARY

<i>aimag</i>	–	provincial administrative unit in Mongolia
<i>aimag center</i>	–	<i>aimag</i> capital
<i>ger</i>	–	traditional felt tent
<i>soum</i>	–	administrative subunit of <i>aimag</i>
<i>soum center</i>	–	<i>soum</i> center

NOTES

- (i) The fiscal year (FY) of the Government and its agencies ends on 31 December.
- (ii) In this report, "\$" refers to US dollars.

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BASIC DATA

A. Loan Identification

1.	Country:	Mongolia
2.	Loan Number:	1907- MON (SF)
3.	Project Title:	Integrated Development of Basic Urban Services in Provincial Towns Project
4.	Borrower	Government of Mongolia
5.	Executing Agency	Ministry of Infrastructure/Ministry of Road, Transportation, Construction, and Urban Development (formerly Ministry of Construction and Urban Development)
6.	Original Loan Amount	SDR15,515,000 (\$20.1 million)
	Net Loan amount	SDR10,886,283 (\$16.54 million)
7.	Project Completion Report Number	MON 1180

B. Loan Data

1.	Appraisal	
	– Date Started	16 March 2002
	– Date Completed	5 April 2002
2.	Loan Negotiations	
	– Date Started	27 June 2002
	– Date Completed	28 June 2002
3.	Date of Board Approval	6 August 2002
4.	Date of Loan Agreement	5 September 2002
5.	Date of Loan Effectiveness	
	– In Loan Agreement	5 December 2002
	– Actual	25 November 2002
	– Number of Extensions	0
6.	Closing Date	
	– In Loan Agreement	30 June 2008
	– Actual	18 November 2009
	– Number of Extensions	1
7.	Terms of Loan	
	– Interest Rate	1% per year (grace period); and 1.5% thereafter
	– Maturity	32 years
	– Grace Period	8 years
8.	Terms of Relending	
	– Interest Rate	4.5%
	– Maturity	22 years
	– Grace Period	4 years
	– Second-Step Borrower	Public urban service organizations in each of the project towns

9. Disbursements
a. Dates

Initial Disbursement 08 January 2003	Final Disbursement 18 May 2009	Time Interval 6.5 years
Effective Date 25 November 2002	Actual Closing Date 18 November 2009	Time Interval 7 years

b. Project Loan Amount (\$'000)^a

Cat No	Category	Original Allocation	Last Revised Allocation^b	Amount Disbursed	Undisbursed Balance
1	2	3	4	5	6=4-5
01	Civil works	3,705.0	3,705.0	3,418.1	286.9
02	Equipment	7,179.0	7,179.0	6,219.5	959.5
03	Consulting services	1,006.0	1,006.0	871.3	134.7
04	Training	107.0	107.0	80.2	26.8
05	Design and survey	42.0	42.0	15.7	26.7
06	Project management	105.0	105.0	104.0	1.0
07	Interest charge	1,119.0	1,119.0	177.4	941.6
08	Unallocated	2,252.0	2,252.0	0.0	2,252.0
	Total (SDR)	15,515.0	15,515.0	10,886.2	4,629.2
	Total (\$ equivalent)	20,100.0	23,937.7	16,539.7	7,398.0

^a Conversion rate of special drawing rights to US dollar was SDR1.2955 at appraisal and SDR1.5478 at completion (31 December 2008).

^b Latest date of category reallocation is 31 January 2003.

10. Local Costs (Financed)	
- Local cost financing ceiling (\$'000)	8,100.0
- Utilized local financing amount (\$'000)	4,400.0
- Percent of eligible financing	54.3%
- Percent of total cost	26.7%

C. Project Data

1. Project Cost

Cost (\$ million)	Appraisal Estimate	Actual
Foreign exchange cost	13.3	12.7
Local currency cost	13.2	6.3
Total	26.5	19.0

2. Financing Plan

Cost (\$ million)	Appraisal Estimate	Actual
Implementation Costs		
Borrower financed	6.4	2.5
ADB financed	18.0	16.2
Subtotal	24.4	18.7
IDC Costs		
Borrower financed	0.0	0.0
ADB financed	2.1	0.3
Total	26.5	19.0

ADB = Asian Development Bank, IDC = interest during construction.

3. Cost Breakdown by Project Component (\$ million)

Component	Appraisal			Actual		
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost
A. Urban Infrastructure and Equipment	9.30	7.50	16.80	11.00	5.92	16.92
Civil works	0.00	5.60	5.60	1.57	4.30	5.87
Equipment	9.30	1.90	11.20	9.43	1.62	11.05
B. Project Implementation and Institutional Development	0.80	1.40	2.20	1.45	0.37	1.81
Project implementation	0.60	1.00	1.60	0.90	0.34	1.24
Institutional development	0.20	0.40	0.60	0.55	0.03	0.58
Total Base Cost (A+B)	10.10	8.90	19.00	12.45	6.28	18.73
Contingencies	1.70	2.20	3.90	0.00	0.00	0.00
Physical	1.50	1.20	2.70	0.00	0.00	0.00
Price	0.20	1.00	1.20	0.00	0.00	0.00
Fees and Charges	1.50	2.10	3.60	0.27	0.00	0.27
Service charge on ADB Loan	1.50	0.00	1.50	0.27	0.00	0.27
Interest during construction	0.00	2.10	2.10	0.00	0.00	0.00
Total	13.30	13.20	26.50	12.72	6.28	19.00

4. Project Schedule

Item	Appraisal Estimate	Actual
Date of contract with consultants	01 Jan 03	26 Feb 03
Completion of engineering designs	30 Dec 03	02 Dec 04
Civil works contract		
Date of award	01 Apr 04	11 Nov 04
Completion of work	30 Sep 07	31 Dec 08
Equipment and supplies		
Dates		
First procurement	01 Jul 03	07 May 04
Last procurement	30 Sep 06	30 Sep 08
Completion of equipment installation	30 Sep 07	31 Dec 08
Start of operations		
Completion of tests and commissioning	30 Sep 07	30 Mar 09
Beginning of start-up	01 Oct 07	01 Apr 09

5. Project Performance Report Ratings

Implementation Period	Ratings	
	Development Objectives	Implementation Progress
From 25 Nov 2002 to 30 March 2004	Satisfactory	Satisfactory
From 31 Mar 2004 to 30 June 2004	Satisfactory	Partly Satisfactory
From 1 July 2004 to 31 Dec 2008	Satisfactory	Satisfactory

D. Data on Asian Development Bank Missions

Name of Mission	Date	No. of Persons	No. of Person-Days	Specialization of Members ^a
Fact-Finding Mission	16 Mar–5 Apr 2002	4	35	a, d, e, f
Inception Mission	17–21 Feb 2003	2	9	a, b
Review Mission 1	27–30 May 2003	1	4	a
Review Mission 2	18–22 Nov 2003	1	5	a
Review Mission 3	22 Mar–6 Apr 2004	2	12	a, b
Review Mission 4	30 Aug–8 Sep 2004	1	10	a
Review Mission 5	18–22 Jan 2005	1	5	a
Review Mission 6	8–17 Feb 2006	1	10	a
Review Mission 7	10–12 Oct 2006	2	6	b
Midterm Review Mission	2–19 Oct 2007	2	36	a, c
Review Mission 8	17–21 Nov 2008	2	10	a, c
Completion Review Mission	21–24 Jun 2010	2	10	a, c

^a a = professional staff, b = administrative staff, c = national officer, d = economist, e = procurement consultant or specialist, f = programs officer.

I. PROJECT DESCRIPTION

1. In August 2002 the Asian Development Bank (ADB) approved a loan equivalent to US\$20.1 million to the Government of Mongolia for the Integrated Development of Basic Urban Services in Provincial Towns Project.¹ ADB classified the loan as a core poverty intervention and the theme as human development. An initial environmental examination classified the project as Category B, with the major investment focus on the rehabilitation and development of municipal infrastructure and on management support to provide service improvements in provincial towns.

A. Project Objectives

2. The project objectives were (i) to support balanced and equitable regional development by promoting viable provincial urban centers that could provide support and services for their rural hinterlands and (ii) to reduce urban poverty and improve living conditions for urban residents in the project towns.² This was to be achieved by (i) improving basic urban infrastructure and services in these towns, (ii) reducing inequality in access to urban services between residents of formal and informal areas, and (iii) strengthening the operation and management capacities of the local public urban service organizations (PUSOs) to sustain urban and regional development. The project aimed to make better basic urban services more accessible to the poor. About 88,000 people were expected to benefit directly from the rehabilitation and extension of urban services in informal areas. Many rural migrants have settled in these *ger* areas, which are named after the *ger*, Mongolia's traditional circular felt tent. Poverty and disease levels are high in the *ger* areas, which lack water supply and sewerage infrastructure and other basic needs.

B. Project Components and Scope

3. The project supported investments in the capitals of eight *aimags* and comprised two components.³ Part A, which dealt with urban infrastructure and equipment, covered (i) rehabilitation of the centralized water supply systems and improvement of water distribution for the residents of informal *ger* areas; (ii) improvement and extension of sanitation facilities, including sewage treatment works; (iii) refurbishment and replacement of heating and hot water supply systems, including boilers and heating distribution lines; (iv) provision of solid waste collection and management equipment; and (v) rehabilitation of public bathhouses and the provision of new bathhouses to serve informal areas. Part B dealt with project implementation and institutional development and covered (i) project management, detailed engineering design, construction supervision, and implementation support; and (ii) institutional capacity-building programs for the public urban service organizations (PUSOs), including: (a) a community participation and health education program; (b) a water-loss reduction program and training in operation and maintenance (O&M); (c) training in financial management and corporate planning for the PUSOs; (d) land use planning and management; and (e) solid waste management planning and training.

¹ ADB. 2002. *Report and Recommendation of the President to the Board of Directors on Proposed Loan to Mongolia for the Integrated Development of Basic Urban Services in Provincial Towns Project*. Manila (Loan 1907-MON, for \$20.1 million).

² These were Baruun-Urt, Bulgan, Choibalsan, Dalandzadgad, Mandalgobi, Undurkhaan, Sainshand, and Tsetserleg.

³ The project *aimag* centers were Arhangay, Bulgan, Dornod, Dornogovi, Dundgovi, Hentiy, Omnogovi, and Sukhbaatar.

4. The project scope changed in 2005 when a pilot component was added at the request of the then executing agency (the EA), the Ministry of Construction and Urban Development (MCUD), which was later renamed the Ministry of Road, Transportation, Construction, and Urban Development (MRTCUD). The pilot component was to (i) provide individual water connections in *ger* area settlements; (ii) develop new housing areas with basic services installed and auction plots with network connections; and (iii) install electric hot water heaters in apartment buildings. The cost, estimated at the time at \$2.1 million, was to be covered by savings for civil works under Part A.

C. Project Execution and Implementation Arrangements

5. At project inception, the EA was the Ministry of Infrastructure (MOI) and the implementing agency was the Government Implementing Agency for Construction, Urban Development, and Public Utilities (GIACUDPU), under the MOI. A project management office (PMO) was established under the MOI to manage project execution. In 2004, the MCUD became the EA. The GIACUDPU, renamed the Center for Construction, Urban Development, and Public Utilities, ceased to be involved and from then on the PMO reported directly to the state secretary of the MCUD.

6. A project steering committee (PSC) comprising senior government officials from the ministries concerned provided policy guidance and coordination during implementation. It was chaired by a senior official from MCUD (former MOI). Project implementation units (PIUs) managed implementation at the *aimag* level. They were headed by the PUSO director, who was supported by the PUSO chief engineer, accountant and construction supervision engineer.

II. EVALUATION OF DESIGN AND IMPLEMENTATION

A. Relevance of Design and Formulation

7. The project was consistent with ADB's country assistance strategy and program. Ulaanbaatar's position as a primate city grew in the period before Mongolia began the transition to a market economy and was reinforced afterwards.⁴ This led to urban development imbalances between the capital and provincial towns. Although 40% of the urban population lived in the provincial centers, service delivery was poor, unreliable, and limited in reach due to a lack of investment, inadequate O&M, and low cost recovery. This constrained investment and economic growth. The project intended to address service and infrastructure deficiencies and strengthen service delivery institutions to help the eight project towns function better as regional economic and service centers and provide a basis for sustainable socioeconomic growth.

8. The design incorporated lessons learned in the implementation of the Provincial Towns Basic Urban Services Project in five western provincial capitals.⁵ The earlier project aimed to give direction to urban management policy and coherence in institutional, technical, and financial support in these regional urban centers. The lessons included the need (i) to focus on developing the PUSOs as more independent, financially sustainable institutions; and (ii) to include a component for district heating, which was a service delivery responsibility of most PUSOs. The design also recognized that adjusting tariffs within consumers' ability and willingness to pay was critical to enable the PUSOs to recover the full costs of service delivery.

⁴ A primate city is significantly larger than other urban centres and dominates the nation's urban economy.

⁵ ADB. 1997. *Report and Recommendation of the President to the Board of Directors on Proposed Loan and Technical Assistance Grant to Mongolia for the Provincial Towns Basic Urban Services Project*. Manila (Loan 1560-MON, for \$6.8 million).

9. Two design elements were well matched with the sector demands and ADB's urban sector strategy and program in Mongolia: (i) the rehabilitation and extension of urban services in project towns, and (ii) the corporatization and strengthening of the PUSOs and tariff enhancement. The design was weakened by the addition of the pilot component in 2005 (para. 4). The original project design had recognized that large plot sizes and the limited ability of residents to pay imposed constraints on the provision of greater levels of service in informal *ger* areas. This restricted service in *ger* areas to (i) water supply through water kiosks and (ii) on-plot sanitation. The pilot component aimed to introduce household connections for both water supply and sewerage in *ger* areas. The preparatory work failed to examine the issues of affordability and subsidies adequately and to assess the technical feasibility of providing water supply connections to households in *ger* areas without corresponding sewer connections.

10. The pilot component apart, the project was both relevant and well designed. It responded to the needs of the local community. However, its highly centralized execution and implementation arrangements for design, contract documentation, and procurement eliminated local involvement and severely compromised local ownership of project outputs. The project's 10-year design horizon was short and the 1% population growth assumptions were low. Population in most of the project towns has grown at between 3% and 4%, which has rendered project facilities inadequate and meant that by the time the project ended further investment was required to maintain adequate level of service.

11. The project was *highly relevant* at appraisal and the original project design was *relevant* at project completion. The design of the pilot component was not appraised and was *not relevant* at completion. This impacted negatively on the overall project rating. An evaluation of accomplishments based on the project framework is in Appendix 1.

B. Project Outputs

12. Outputs were set out at appraisal for the eight project towns under two components.

13. **Infrastructure and equipment.** Part A outputs were to be:

- (i) rehabilitated centralized water supply system and water kiosks connected to the network in *ger* areas;
- (ii) rehabilitated and expanded sewerage networks and improved and rehabilitated wastewater treatment plant;
- (iii) rehabilitated and expanded heating supply networks and hot water supply systems through the supply and installation of boilers and appurtenances;
- (iv) improved solid waste collection, management, and disposal; and
- (v) rehabilitated and new public bathhouses to serve informal *ger* areas.

14. **Project implementation and institutional development.** The Part B outputs at appraisal were to be:

- (i) production of detailed engineering design, provision of construction supervision and implementation support, and effective project management;
- (ii) reform and development of institutional capacity in *aimag* governments and particularly the PUSOs, through
 - (a) water loss reduction,
 - (b) enhanced O&M capability,
 - (c) improved capacity for financial management and corporate planning,
 - (d) enhanced land use planning and management capability, and

- (e) improved solid waste management and planning capacity;
- (iii) improved community participation and understanding of health and hygiene.

15. **Pilot component.** The planned pilot outputs were

- (i) on-plot water and sewerage connections in selected *ger* areas;
- (ii) water and sewerage systems extended and on-plot connections; and
- (iii) individual electric water heaters supplied, installed and operational in some apartments.

16. The project outputs set at appraisal were *partially achieved*. The physical outputs, the focus of Part A, were largely achieved although poor designs that failed to include requisite items in equipment contracts caused delays. New water kiosks, bathhouses and improved water and sewerage connections are benefiting about 88,000 residents in the project towns. Some boilers that were financed in Bulgan, Undurkhaan, Baruun-Urt and Mandalgobi towns are not producing sufficient heat due to low quality fuel which is not matched correctly with boilers. The solid waste management component failed to fully deliver its outputs because of institutional restructuring and the transfer of responsibilities from the PUSOs to *soum* governments. The outputs of the pilot component were not achieved. Appendix 2 provides a detailed comparison of the outputs anticipated at appraisal versus those achieved.

17. Output performance was mixed in the project implementation and institutional development component. Consultancy, technical assistance, and training were provided but ADB has not measured the achievements in the intended outputs of (i) enhanced land use planning and management capability, (ii) improved solid waste management and planning capacity, and (iii) improved community participation and enhanced understanding of health and hygiene. Water losses and the amount of water unaccounted for were reduced where meters were installed and the system was rehabilitated. The PUSOs' management capacity and operational and maintenance capability have been upgraded. Better management and accounting systems have been installed and are in use. The project did not attain its objective of making PUSO operations more sustainable because the PUSOs have been prevented by provincial authorities from raising tariffs sufficiently to cover their costs.

18. In October 2007 the mid-term review mission and EA thoroughly discussed implementation of the pilot component and institutional reforms. ADB and the EA noted that the pilot component was not resulting in individual connections, probably due to insufficient demand, and had little potential to be scaled up on a sustainable basis. ADB mobilized consultants in November 2008 to (i) review the current institutional structure for ownership and service provision; (ii) assess potential for corporatization, delegated management using performance based contracting, and divestiture; and (iii) recommend options for private sector participation and describe each one's advantages and disadvantages.⁶

19. The project suffered long delays and technical problems because project management, design, contract specification and supervision were poor. The initial EA took 1 year to select a

⁶ Based on outcomes of the consultants' work, a framework for reform in public utility services was developed and is being supported under ADB. 2006. *Report and Recommendation of the President to the Board of Directors on Proposed Loan to Mongolia for the Urban Development Sector Project*. Manila (Loan 2301-MON, for \$35.0 million); and ADB. 2010. *Report and Recommendation of the President to the Board of Directors on Proposed Grant to Mongolia for the Southeast Gobi Urban and Border Town Development Project*. Manila (Grant 0204-MON, for \$15.0 million).

consultant for project management support and detailed design.⁷ Some international consultancy positions proposed at appraisal were cut and others were shortened. This contributed to project delays and instances of substandard or inappropriate designs and specifications. A comparison of appraisal and actual project implementation schedules is provided in Appendix 3.

20. Changes in scope included (i) additional water meters; (ii) the deletion of the Sainshand boiler installation due to contractor and supplier failure; and (iii) the addition of the pilot component, which held project execution up when the government elected to halt implementation during a protracted dialogue with ADB over its inclusion.

C. Project Costs

21. The project incurred no significant cost overruns and total expenditure was 71.7% of the total planned at appraisal. Loan utilization amounted to 78.5%. The cost reductions were due to the cancellation of some components, changes in scope, and appreciation of special drawing rights (SDRs) against the dollar and the local currency. The undisbursed balance of the loan was equivalent to \$7.1 million as appreciation of the SDR against the dollar meant the dollar value of the loan at loan closing had increased to \$23.6 million. Project costs are in Appendix 4.

22. The cost overruns and underruns do not make an important difference in the financial or economic feasibility of the project. Where project components were removed (notably the Sainshand boiler supply and installation project), both costs and benefits were adjusted and thus there was no net impact on financial or economic rates of return.

D. Disbursements

23. There was no schedule of disbursements prepared at appraisal. The actual schedule of disbursements for civil works and equipment by project town and year is shown in Tables 1 and 2 below.

Table 1: Yearly Disbursement for Civil Works by Town
(\$'000)

Project Towns	Type	Contract Amount	Utilization						Total
			2004	2005	2006	2007	2008	2009	
Dalandzadgad	DP; IF	480.1	0.0	46.2	0.0	336.5	5.0	62.0	449.7
Mandalgobi	DP; IF	488.0	19.5	412.0	0.0	264.3	113.9	63.0	461.3
Undurkhaan	DP; IF	678.0	12.8	0.0	0.0	358.8	226.4	54.4	652.5
Baruun-Urt	DP; IF	1,033.6	12.4	34.9	0.0	635.5	201.7	109.3	993.7
Choibalsan	DP; IF	997.0	49.8	40.5	136.4	515.2	218.1	7.8	967.7
Tsetserleg	DP; IF	399.3	18.8	40.9	60.0	170.1	63.3	30.0	383.1
Sainshand	DP; IF	677.6	0.0	0.0	0.0	297.2	275.2	73.2	645.6
Bulgan	DP; IF	759.6	0.0	0.0	0.0	555.4	93.9	26.8	676.2
Total		5,513.3	113.6	162.9	196.4	3,133.0	1,197.7	426.4	5,230.0

DP = direct payment procedure, IF = imprest fund procedure.

Source: Project Management Office financial data.

Table 2: Yearly Disbursement for Equipment by Town
(\$'000)

⁷ The delay was primarily due to differences between the MCUD and Ministry of Finance (MOF) on evaluations of consultant proposals that took almost 12 months to resolve.

Project Towns	Type	Contract amount	Utilization						
			2004	2005	2006	2007	2008	2009	Total
Dalandzadgad	DP,CP,IF	499.4	49.6	17.1	104.6	219.0	119.0	62.1	452.5
Mandalgobi	DP,CP,IF	1,477.0	49.6	17.1	407.9	602.0	252.2	52.3	1,381.2
Undurkhaan	DP,CP,IF RP (FA)	1,197.1	49.6	17.1	342.7	554.0	27.6	70.0	1,061.0
Baruun-Urt	DP,CP,IF RP(FA)	1,919.0	49.6	17.1	357.0	822.9	153.3	153.8	1,553.7
Choibalsan	DP,CP,IF	1,952.8	87.1	33.2	794.4	878.4	135.2	4.1	1,932.5
Tsetserleg	DP,CP,IF RP(FA)	1,478.1	49.6	17.1	363.4	671.8	262.0	32.0	1,396.0
Sainshand	DP,CP,IF	919.1	12.2	1.0	230.2	608.2	38.2	14.5	904.4
Bulgan	DP,CP,IF RP(FA)	930.7	49.6	17.1	98.7	528.9	31.6	54.1	780.1
Total		10,373.4	397.1	137.0	2,699.0	4,885.2	900.3	442.5	9,461.6

CP = commitment procedure; DP = direct payment procedure; FA = force account works procedure; IF = imprest fund procedure; RP = reimbursement procedure

Source: Project Management Office financial data.

24. Late disbursements resulted primarily from (i) delays in the engagement of detailed design consultants, (ii) changes in project management personnel, (iii) delays in preparation of detailed designs and bid evaluations; and (iv) delays caused by the government's implementation pause during discussions regarding the addition of the pilot component. The late engagement of the detailed design consultant set back disbursements about 12 months. Civil works disbursement delays were between 24 and 36 months, with implementation in 2007 and 2008 rather than the planned 2004–2006 period. Imprest account and statements of expenditure procedures were properly applied and facilitated timely disbursements. Adequate documentation was maintained to support claims to ADB for replenishment of expenditures incurred.⁸

E. Project Schedule

25. Part A implementation was slow to start and little progress was made in the first 3 years (2002–2005). The main reasons were the delayed consultant recruitment, ineffective initial project management and three changes in project manager, and the lengthy discussions of the pilot component request. Civil works were to start in 2004. Most civil works were contracted in 2006 and construction began in 2007.

26. Low management skills in the EA and a lack of availability of suitable Mongolian consultants delayed project implementation. Considering the size and nature of the physical works, the 6-year implementation period including 4 years of construction was greater than would normally be required for works of this nature. Once civil works started, most were completed within a 2-year period. Given that the construction season lasts only 6 months in Mongolia due to its harsh winters, the bulk of the civil works took a total of about 12 months.

27. Pilot component implementation was slow and individual household connections have been extremely limited because of the design's failure to properly examine the technical and affordability challenges to providing water connections to the informal *ger* areas. Housing development has been limited on greenfield plots that were provided with electricity, water, sewerage and heating services under the project. It also appears that many of the plots have

⁸ Confidence Audit LLC. 2007 and 2009. *Auditor's Report on the Project Financial Statements*. Mongolia.

been allocated at the discretion of *aimag* officials, seriously compromising the project's poverty reduction objective.

28. The delays in consultant recruitment postponed detailed design work almost 12 months, which then set implementation back. The failure of the EA's evaluation committee to agree for more than 10 months on the evaluation of the consultant's proposals for detailed engineering design suggests problems with due process in the tender committee proceedings.

F. Implementation Arrangements

29. The project implementation arrangements were established as set out at design. A PMO was established initially within the GIACUDPU under the MOI, and then, after the restructuring in 2004, under the MCUD, with the PMO reporting directly to the state secretary of the MCUD. Three different project managers were in charge between the project's start in 2002 and its completion, with none in place between June 2005 and January 2006. This made the PMO less effective in project management and timely implementation.

30. Implementation from 2006 onward was characterized by a stronger PMO which, supported by consultants, was responsible for the preparation of detailed designs and contract documents, tendering, tender evaluation and contracting. Although the PUSOs were the ultimate and sole beneficiaries of the project outputs under Part A, their involvement was restricted to a minor role in contract supervision through the PIUs. These implementation arrangements reinforced an already centralized structure where all decisions on design and procurement are made at the central level with no involvement from the ultimate beneficiaries, borrowers and owners of the project assets.

31. Because the procurement procedures were centralized but the project sites dispersed, many winning contractors subcontracted their work to local contractors. The skills, abilities, and quality of work of these subcontractors were so poor in some locations that the PIUs and PUSO officers had to supervise construction themselves to ensure compliance with design and specifications.

32. The disconnect between having design, procurement, and contracting carried out at the PMO level and leaving the management of civil works to the PIUs at the sites caused considerable dissatisfaction on the part of the PUSOs which, though given no part in the project's design and contracting, are obliged to take receipt of the assets and repay the subloan.

G. Conditions and Covenants

33. There were no major delays in achieving the conditions for effectiveness.

34. The covenants were relevant. While many of the standard covenants were complied with, specific covenants that were vital to ensure long-term project sustainability (particularly those relating to tariff reform) were not. Status of loan covenants compliance is in Appendix 5.

H. Institutional Development and Reform

35. The project aimed to build the capacity of local PUSO staff and to make the PUSOs sustainable service institutions. Structural issues make this almost impossible without significant reform in the urban services sector, which was not addressed by the project. The PUSOs do not have the power to set their own tariffs and so cannot increase these tariffs to ensure that they fully recover their costs. Because the PUSO met only limited success in winning provincial government approval for higher tariffs, O&M is underfunded. The project focused on helping the

government rebuild assets in urban subsectors but not on building the systems needed to efficiently use and maintain them. Given the acute need for the infrastructure at the time, this emphasis was probably justified. However, Mongolia now lags behind other former socialist countries in institutional reform and risks wasting resources on infrastructure that it cannot maintain or manage properly.

I. Consultant Recruitment and Procurement

36. The project provided for advance recruitment of consultants with the aim of starting subproject design in the first quarter of 2003. Proposals were requested, a tender issued, and bid documents were received on 12 February 2003. The consultant selection committee could not agree on the ranking of the proposals. ADB requested a reevaluation and resubmission of the evaluation report, which was submitted to ADB only on 11 November 2003. The contract with the selected national consulting firm for package A of Part B was signed on 2 December 2003, which delayed the start of design work by 1 year. The package was also changed. During contract negotiations, the EA deleted an allocation of 13 person-months for a national engineering contract and procurement specialist. This work was assigned to the other consultants in the team.

37. The project implementation assistance and institutional development component engaged individual consultants as international specialists and a firm for national consultancy. Less use was made of consultants under these components than anticipated at appraisal. Only 16.3 person-months of international and 143 person-months of national consultancy were used for project implementation assistance out of the original estimates of 24.5 person-months and 156 person-months, respectively. For institutional development, 8.9 person-months of international inputs and 236 person-months of national consultancy were used out of projections of 11.5 months and 285 months, respectively. The design consultancy contracted 249 person-months, compared with 236 agreed at appraisal, but only 211 person-months (85%) were used. A full list of procurement contracts is in Appendix 6.

J. Performance of Consultants, Contractors and Suppliers

38. The performance of the design consultants was mixed, with the beneficiary local governments dissatisfied with many of the international and national consultants. Consultant mistakes or omissions, including missing items, poor designs and inadequate specifications, led to problems during and after construction or installation of equipment.

39. Contractors reported difficulties in executing works due to poor or inaccurate designs and insufficient field investigation. This affected (i) the water supply component, with items missed from the materials procurement contract; and (ii) the district heating component due to designs that failed to assess compatibility with the fuel available in most of the rural district centers. The latter problem was compounded by the fact that it did not become evident until the subcomponent was already under construction. The design consultants lacked the necessary skills for the work and did not do the requisite field work or consult with the *aimag* and PUSO end users, working instead with the EA alone.

40. Contractor performance was frequently seen as inadequate, often requiring local governments to advise and assist on the ground to ensure that infrastructure was built correctly and functioned well. Many contract awardees subcontracted works to small local contractors in breach of procurement guidelines and these subcontractors delivered substandard work. Either the PUSOs or the PIUs did not follow up these accusations with reports to the PMO, which was the contracting agency, or the PMO was informed but did not see fit to sanction the prime

contractors involved. No record exists of the PMO taking appropriate action—debarment proceedings, for example—against the prime contractors reportedly involved.

41. Cost considerations led to the engagement of individual international consultants rather than a firm, and to a reduction in the use of consultants. It is unclear whether a different modality for consultant procurement or use of the unutilized inputs would have improved the project outcome. What is clear is that (i) the value of the consultancy input should have been articulated to the government more carefully, (ii) more attention should have been given to ensuring that consultant procurement took place in a timely and transparent fashion, and (iii) there were sufficient highly skilled and experienced international and domestic consultants available to deliver quality-assured design and contract outputs.

K. Performance of the Borrower and the Executing Agency

42. Three weaknesses in the project implementation arrangements affected project performance. The first was the absence of *aimag* government and PUSO involvement, or even consultation, in the conception, preparation and design of project investments. The EA made all the decisions without consulting the agencies that would have to help implement these plans at the local level and live with the results. The *aimag* governments and the PUSOs, who own and operate the facilities created by the project, are dissatisfied with some of the completed components. They complain of poor design and construction and failure of outputs to meet performance specifications. These shortcomings put project sustainability at risk and negatively affect the efficiency of the service providers.

43. The second issue was institutional weakness. It varied across *aimags* but prevented timely and efficient execution and threatens the long-term sustainability of the new assets. The problem, especially severe at the local level, is exacerbated by the country's highly centralized government system. The third weakness was in the PMO itself. Although responsible for project execution and implementation, it had three different project managers in the first 2 years and for 6 consecutive months had none at all; management decision making came to a halt during this period. The EA's top management failed to place enough importance on the establishment of a sound project management structure.

44. The request by the EA for the additional pilot component after project execution had started caused a significant delay. By the time the inclusion was agreed upon, almost 24 months of the project period had elapsed during which the EA had not taken the steps necessary to expedite project implementation.

45. The performance of the borrower is rated *partly satisfactory*.

L. Performance of the Asian Development Bank

46. The ADB supported the borrower and the PMO in all aspects of project implementation. Regular ADB missions facilitated adjustments to the project, conceived remedial measures, and addressed implementation difficulties. The PMO benefited from in-country training on project implementation and administration that ADB organized to help instruct staff in preparing and reviewing civil works and equipment procurement bid documentation and in conducting evaluation and selection procedures.

47. The PMO and the EA noted that project delays were sometimes exacerbated by lengthy periods (6–8 weeks) taken by ADB to review tender packages and contracts. This was resolved when responsibility for loan administration was transferred to the resident mission in September

2007. ADB was able to respond more quickly to issues and provide day-to-day support to the PMO. This helped put the project back on track after 3 years of little progress.

48. Some loss of institutional knowledge and continuity resulted from the transfer of responsibility for the project to the resident mission. The project then had only 9 months of implementation time left although financial progress was only 47%. However, the effectiveness of the new arrangement was demonstrated by substantial project completion 15 months after the transfer.

49. ADB's overall performance is rated *partly satisfactory*.

III. EVALUATION OF PERFORMANCE

A. Relevance

50. The project is considered *relevant*. It supported the government's priorities in the sector, which were (i) to pursue the growth and development of regional *aimag* centers; and (ii) improve access to urban services—particularly in informal *ger* areas. The project design sought to meet the need (i) to rehabilitate and extend urban services in the project towns, and (ii) for the corporatization and strengthening of the PUSOs to deliver services in a sustainable manner.

51. The project could have been more relevant in two ways, starting with PUSO reform. Corporatization went some distance toward making PUSO services more sustainable but not far enough. The PUSOs were separated institutionally from the *aimag* governments but most lease agreements were deficient in setting out PUSO responsibilities and performance criteria. Neither did they enable the PUSOs to properly fund themselves. The PUSOs had to seek authority for tariff increases from their *aimag* governments, which were reluctant to court unpopularity by approving them and mostly denied them outright or granted only inadequate rises. In one instance, the *aimag* government was asked for authorization to increase tariffs but instead ordered a reduction.

52. The relevance of the pilot component, as designed, was also doubtful. ADB initially resisted the government's request to add it. ADB's agreement came only after it asked for further justification and a long project delay due to the government's decision not to proceed with implementation of other components until the addition was approved. The component's limited relevance is demonstrated by the very small number of water supply and sewerage connections that materialized (see Appendix 7). Of the 426 plot connections anticipated, only 37 were made for water supply and just 2 for sewerage. The serviced plots were not auctioned as intended. The individual electric water heaters, which were a part of the pilot component were not used because (i) their use resulted in power failures due to inability of distribution networks to carry the increased load and (ii) were too expensive to operate due to their high power consumption.

B. Effectiveness in Achieving Outcome

53. The project is considered *partially effective* in achieving its outcomes. The quality, coverage, and reliability of water supply, wastewater management and district heating services in the project towns have been enhanced and the populations of the towns benefit from improved access to services. Where water meters have been installed, non-revenue water has been substantially reduced. The inequalities in service between formal developed areas and informal *ger* areas of the project towns have been diminished though not eliminated. By making

water kiosks and public bathhouses more accessible to residents of *ger* areas, the project has improved services for those who are generally the poorest residents and previously had the least access to water supply and sanitation services. However, attempts to extend household-level on-plot water supply and wastewater collection services to *ger* areas through the pilot project were ineffective.

54. The project was *less effective* in achieving outcomes in district heating and in solid waste management. While the district heating component was partially successful in improving heating supply in formal developed areas of the towns in which new boilers were installed, problems were experienced in achieving the expected boiler water temperatures due to a mismatch between the calorific value of the available coal and the calorific value of coal specified in the boiler design. This has resulted in old boilers having to be retained to generate the required heating capacity, adding to operational costs and threatening system sustainability. One contract, for supply, delivery and installation of boilers in Sainshand, was terminated due to non-performance of the contractor and supplier. In the solid waste management sector, the achievement of effective project outcomes was compromised by (i) the procurement of equipment that proved unreliable and did not have adequate servicing arrangements in Mongolia, (ii) the failure of the PUSOs to use the equipment for its intended purpose at landfill sites, and (iii) the transfer of solid waste management responsibilities from the PUSOs to *soum* governments during project implementation.

55. The project was not entirely effective in making PUSO service sustainable. Failure to address the systemic issue of low tariffs left the PUSOs unable to cover their operating costs; they continue to subsidize water supply and sanitation services from other services and engage increasingly in unrelated activities such as commercial development. This deflects the PUSOs from their core function of service delivery. The framework governing water supply and wastewater management service delivery requires reform in order to enable the PUSOs to set tariffs at a level adequate to maintain sustainable service provision.

C. Efficiency in Achieving Outcome and Outputs

56. Data is not available for a reevaluation of the economic and financial analysis of the project's district heating, sanitation and solid waste management components. Their outcomes and outputs can be assessed qualitatively, however. Project delays compromised the efficiency of delivery of all components, particularly district heating. The incompatibility between the boiler design and the fuel that is locally available could have been avoided if the boiler specifications prepared by the design consultants had indicated the calorific value of the local coal to be used. This impaired the delivery of heat energy, which was supposed to be one of the project's key outcomes.

57. Efficiency in delivering the project outcome and outputs picked up when responsibility for project administration was moved to ADB's resident mission. After severe delays, the pace of problem solving improved and the relationship between ADB and the client became closer and more productive.

D. Preliminary Assessment of Sustainability

58. While the project was generally regarded by its owners and users as effective in delivering much-needed infrastructure and services to the project *aimags*, its efficiency and sustainability are in question. The ill-matched equipment installed under the district heating investments is not meeting performance targets. This means that old heating stations that were supposed to be decommissioned must still operate, creating additional unplanned costs that

further endanger financial sustainability. Project sustainability is also compromised by the PUSOs' powerlessness to set tariffs at levels high enough to cover their costs and service the project debt. The motivation of the eventual owners and operators to sustain the project's infrastructure and services may also be undermined by the fact that some project assets did not meet their requirements because they were largely excluded from the project's conceptualization, design, procurement and execution process.

59. The project could be made more sustainable by pursuing reforms to give the PUSOs a clear operating framework, make them accountable to the *aimag* governments for performance, and by putting in place cost recovery measures for their services. The midterm review mission noted that tariffs remained far below levels needed for financial sustainability. The MCUD and the mission agreed to engage consultants to review options for further reform.

E. Impact

60. Government indicators suggest that the populations of the project towns have increased since the project began and that economic activity is up. The project's improvements to service quality, reliability and accessibility in both formal developed districts and the *ger* areas have contributed to this growth. The time required by *ger* area residents to collect water has been greatly reduced. The project also made water supply and district heating more available and dependable for apartment dwellers. Some PUSOs and *aimag* governments believe the low 1% annual population growth assumption made at the design stage has resulted in the project's service capacities being lower than required by populations that have grown at three or four times that rate.

61. Although the PUSO reform process is incomplete, the technical and financial management capabilities of these organizations have been upgraded. The installation of the Vinnica financial management software package and the training associated with it were successful in improving the organizations' financial management planning and reporting.

62. The project's environmental and social impacts are positive. The improved solid waste management systems and enhanced functioning of wastewater management systems should deliver environmental benefits. Effluent quality from wastewater treatment systems is improved and better plant operation reduces the risk of nuisance and disease vector breeding. Implementation of actions associated with environmental and social safeguards requirements and associated action plans are considered satisfactory. Provisions on environmental management in the initial environmental evaluations were generally followed and no environmental issues were identified during project implementation. No involuntary resettlement or land acquisition was undertaken under the project.

63. The pilot component, which was added in 2005, has demonstrated little beneficial impact.

IV. OVERALL ASSESSMENT AND RECOMMENDATIONS

A. Overall Assessment

64. Project implementation was delayed due to problems related to consultant procurement, unnecessary changes in scope, and management and technical shortcomings. A failure to include *aimag* governments and the PUSOs in design and procurement restricted local ownership of project outputs. Remedial measures for future initiatives should include localization of project management and administration, subject to capacity constraints.

65. Further reform of service delivery institutions is critical if services are to be delivered sustainably. Use of larger contracts to attract better contractors and of faster and more efficient design and construction modalities, such as design and build, is required to improve timeliness and quality of project outputs.

66. While the project framework has proved relevant in assessing project performance, the absence of a functioning performance monitoring and evaluation system has constrained the ability of the government, ADB and beneficiary PUSOs to measure the success of the project in terms of outcomes.

67. Overall performance is rated *partly successful*.

B. Lessons Learned

68. Institutional weakness has been a key constraint to timely and efficient project execution and to long-term sustainability of newly created assets. Local capacity constraints were exacerbated by a centralized system of governance, management and decision making. Local infrastructure investments remain largely at the discretion of the central government and local officials lack the budgetary and human resources or skills to maintain assets and to effectively respond to the constituents' needs. The incentives and resources for local governments to strengthen services are limited. The project's implementation arrangements, which vested almost all responsibility for implementation at the central level, may have contributed to these weaknesses. The project would have benefited from greater local involvement in project planning, design and implementation, and by addressing local capacity constraints and incentives for quality service provision.

69. The project had only limited, uneven success in raising tariffs, resulting in underfunding of O&M. This raises the need for wider institutional and policy reform. The support of ADB and other development partners has focused on helping the government to rebuild assets but has placed less emphasis on building the institutions and systems required to ensure these assets are maintained and used efficiently. Given the acute needs for infrastructure rehabilitation and expansion in urban areas in the 1990s, this emphasis on infrastructure provision was understandable. Today Mongolia lags behind other former socialist countries in institutional reform and strengthening and risks wasting resources on infrastructure that it cannot maintain and manage properly. While the project addressed this issue, it placed insufficient emphasis on delineating the functions of the *aimag* governments and the PUSOs and on strengthening lines of accountability for delegated service provision.

70. The issue of tariffs is complicated by (i) the high cost of servicing in some areas, particularly the *ger* area settlements; and (ii) the government's willingness to subsidize service tariffs. The project supported a dialogue between ADB and the government around urban service reform, tariff issues, the application and targeting of government subsidies, and the development of more transparent, efficient and equitable mechanisms for directing such subsidies in public services.

71. Lessons learned indicate the need for (i) detailed project formulation during the project preparatory stage, (ii) adoption of simple and affordable technologies in construction and facility improvements, and (iii) parallel provision of institutional development and training during project implementation. It is vital that relevant institutions and beneficiaries at the local level are fully involved in all stages of project preparation, design and construction.

72. Measurement of sector performance and progress in achieving urban economic development and improved service provision, including in those areas specifically related to the Millennium Development Goals and the National Development Strategy, is compromised by an absence of disaggregated data and a lack of clear and measurable indicators. The project did not include monitoring of a set of clear indicators for which data is available or can be readily obtained. Better analysis of existing information and trends is required at preparation and greater attention needs to be paid to the development of a robust baseline and measurement and evaluation of outputs, outcomes and benefits.

73. Certain lessons have already been incorporated in The Southeast Gobi project⁹, which was approved in April 2010. In contrast with *L1907*, *aimags* have primary responsibility for the design and construction of infrastructure, including procurement and oversight of construction supervision. Design and build contracts aim to avoid technical problems at the design stage and shorten the period required for completion of works. The Southeast Gobi project also supports a reform process in which tariffs are set through a tender process in which firms compete for the right to manage service provision.

C. Recommendations

1. Project Related

74. Institutional reforms to strengthen service delivery are critical to the achievement of infrastructure-related outcomes. This means distancing the operational aspects from political interference and establishing a service delivery framework that provides a mechanism for tariff enhancement and sets clear performance targets for the PUSO or utility company.

75. It is crucial for project sustainability that the final user of the project infrastructure is fully engaged in prioritization, preparation, design and contracting, as well as in the supervision of the works. While local capacity is low, future projects should be a vehicle to strengthen it by enhancing local involvement in design and execution. This requires better use of consulting services and the introduction of mechanisms to assure the quality of design and contract documentation outputs. The implementing agency and end user should be placed at the center of the procurement process.

76. While use of smaller contract packages can attract more local contractors into the tendering process, the modality whereby small contracts are tendered by the central government is failing to deliver good quality infrastructure and contractor training and capacity building. The use of larger packages and design-and-build contract modalities where appropriate, combined with better quality contract management and supervision, is ultimately a better way of delivering quality and building capacity. In addition, future interventions need to include provision for contractor and supervisor training, preferably immediately after contract agreement. In addition, contract packaging and sequencing should be adequately reflected in the procurement plan, which should serve as a guide during project implementation.

77. Equally important is the capacity of the executing and implementing agencies in procurement. The EA's shortcomings in this regard contributed significantly to the project's procurement delays and problems. Although a procurement specialist was originally included in the implementation support consultant's contract, the position was eliminated at the request of the EA. Such a position should be incorporated in the future.

⁹ ADB. 2010. *Report and Recommendation of the President to the Board of Directors on Proposed Grant to Mongolia for the Southeast Gobi Urban and Border Town Development Project*. Manila (G0204-MON, for \$15.0 million).

78. **Future monitoring.** Although a monitoring and evaluation system was created for the project and a baseline generated, there was little monitoring of benefits in impacted communities. Monitoring was further hindered when late implementation of physical works left no time to carry out impact and benefit assessments. For future interventions, project monitoring and an evaluation system must be established at the outset and used in the regular reporting of the PMO to the EA and ADB.

79. **Covenants.** The covenants were generally relevant and most were complied with. Those that were not complied with, however, were also the most important for project sustainability. In future, it would be preferable to concentrate on a few of the more critical covenants and make them a strong focus of project review missions.

80. **Further action or follow-up.** ADB should continue to support institutional reform of PUSOs and encourage private sector participation in the urban services sector. The reforms should be deepened and extended by developing (i) stronger and longer-term performance based agreements for delegated service provision; (ii) better regulatory mechanisms; and (iii) the conditions for greater involvement of the private sector in urban infrastructure management and financing.

81. **Additional assistance.** Greater focus needs to be placed on developing a sustainable and robust framework for local service delivery in regional towns. This can make full use of the provisions in the recently enacted Law on Concessions.

82. **Timing of the project performance evaluation report.** It is recommended that the project performance evaluation report be carried out within the next 12 months, by which time most project facilities will have been operational for about 2 years.

2. General

83. At appraisal, ADB should put more focus on ensuring that (i) arrangements involve end users in all stages of implementation; and (ii) capacity building and institutional arrangements are adequate to provide strong project execution, management and implementation support, including the judicious use of consulting support to ensure quality outputs and build executing and implementing agency capacity.

84. At the project implementation review stage, the focus should be on ensuring that (i) execution and implementation arrangements are being followed; (ii) implementation and capacity building support is in place; (iii) equal weight is placed on physical components and parallel institutional support and reform; and (iv) a baseline is established, along with an effective system for monitoring project outputs and service delivery targets.

Table A1.1 PROJECT FRAMEWORK AND EVALUATION OF ACCOMPLISHMENTS

Design Summary	Performance Indicators and Targets	PCR Evaluation of Accomplishments	Assumptions and Risks
Goals Support balanced and equitable regional development Reduce urban poverty and improve the living conditions for urban residents	Regional service centers established with increasing number of business entities National population growth rate is sustained in provincial capitals % of informal <i>ger</i> residents without utility services decreased	Data from <i>aimag</i> governments shows increased economic activity and numbers of businesses in <i>aimag</i> centers. Growing numbers of state organizations and business entities are able to connect to centralized service networks. <i>Aimag</i> data shows increasing rates of population growth in <i>aimag</i> centers. Public urban service organizations (PUSO) data shows percentage of <i>ger</i> area residents without access to water kiosks decreased and, in some <i>ger</i> areas, numbers of connections to water and sewerage pipelines increased.	
Purpose Improve access to urban services through provision, upgrading, and rehabilitation of basic infrastructure and services in the selected eight provincial capitals in eastern and central Mongolia Reduce inequalities in access to urban services between formal and informal <i>ger</i> areas Strengthen the operation and management capacities of the local PUSOs for sustainable regional development	Provide continuous reliable water supply and district heating and hot water supplies to apartments, public schools, hospitals, and key public buildings Increased number of water supply, public bathhouses, and solid waste collection facilities to cover all <i>ger</i> areas, in each town Differential in unit price of water charged between two user groups to be reduced by 20% Improved operating ratio of the PUSOs below 80%	PUSO records show that water meters and instant electric water heaters were installed in apartments, and public schools, hospitals, and key public buildings were provided with continuous reliable water supply, sewerage, and heating supply networks. Project records showed water kiosks were connected to water supply pipelines and residents were provided with continuous reliable water supply. Bathhouses were constructed and are operating. Waste trucks and universal tractors have improved solid waste collection in <i>ger</i> areas. PUSO records show that differential in unit price of water charged between formal and informal consumers has been reduced by keeping the unit price for <i>ger</i> areas the same	Local and national economic conditions did not deteriorate. Political interests did prevent some tariff increases but not sufficiently so as to prevent redress of the inequities between formal and informal areas. Tariffs were not increased enough to allow PUSOs to become financially sustainable in some cases. Government has committed to continuing to pursue institutional reform toward a market-based economy.

Design Summary	Performance Indicators and Targets	PCR Evaluation of Accomplishments	Assumptions and Risks
		<p>while increasing the unit price for apartments.</p> <p>Records show some PUSOs with operating ratio below 80%.</p>	
<p>Outputs</p> <p>1. Part A: Urban Infrastructure and Equipment</p> <p>Rehabilitated and extended water supply systems</p> <p>Improved number and location of water supply facilities in <i>ger</i> areas</p> <p>Cost effective central sanitation systems provided through sewage lagoons and rehabilitation of pipe network and pumps</p> <p>Rehabilitation of existing bathhouses owned by the PUSOs</p> <p>New bathhouses for informal area residents</p> <p>Improved solid waste collection and management with new equipment</p> <p>Improved heating, distribution, and hot water supply systems</p> <p>Rehabilitation/installation of hot water heat exchangers</p>	<p>On average, at least 300 buildings (major institutions and apartments) in each town are metered by the end of 2007</p> <p>Number of functional water distribution kiosks increase up to 10 per each town</p> <p>Water consumption level increase to at least 30 liters per capita per day (lpcd) for informal <i>ger</i> areas from 8 lpcd on average</p> <p>Tariff for informal <i>ger</i> areas will remain at MNT1 per liter</p> <p>At least 40% of supplied water amount collected and discharged to sewage lagoons</p> <p>Provide at least two bathhouses in the <i>ger</i> areas in each town</p> <p>Provision of waste collection steel bins to cover <i>ger</i> areas in addition to the complete coverage of formal areas</p> <p>Production costs of heat reduced by 10%</p> <p>Increased number of households provided with hot water supply service by 25% on average</p>	<p>Project records show total 11,893 water meters were installed in households by the end of 2008.</p> <p>Project records show sufficient new water kiosks were built to serve <i>ger</i> areas of each town, according to PUSO request.</p> <p>PUSO records show that, while residents in <i>ger</i> areas are provided with continuous reliable and high-quality water supply, per capita water consumption has not increased to 30 lpcd (nor has it for many households which are individually connected).</p> <p>PUSO records show the tariff for <i>ger</i> areas remains at around MNT1 per liter.</p> <p>PUSO records show more than 50% of wastewater treated in rehabilitated treatment plants.</p> <p>PUSO records show existing bathhouses rehabilitated.</p> <p>PUSO records show all <i>ger</i> areas have bathhouse access.</p> <p>PUSO records show use of waste trucks provided under project, increased waste collection, fencing of disposal site and provision of waste bins.</p> <p>PUSO reports that while heat available and heating has increased, overall production costs have not come down due to problem with match between boilers and coal quality.</p>	<p>Counterpart funds provided in a timely fashion</p> <p>Local government and PUSOs committed to serve <i>ger</i> areas</p> <p>Households' cash incomes have not deteriorated and thus customers have ability to pay for water.</p> <p>Law on Waste Management approved during Project Implementation returning responsibility for solid waste management to the <i>soum</i> government.</p> <p>Good coordination between heat suppliers and PUSO's role as distributors, where energy suppliers are not PUSOs</p>

Design Summary	Performance Indicators and Targets	PCR Evaluation of Accomplishments	Assumptions and Risks
<p>2. Part B: Project Implementation and Institutional Development Institutional capacity-building programs for eight PUSOs</p> <p>Established community participation and health awareness programs</p> <p>Water loss reduction program and training in service operation and maintenance (O&M)</p> <p>Training in financial management and strategic corporate planning skills</p> <p>Land use planning and solid waste management programs</p>	<p>The eight PUSOs are corporatized</p> <p>Established community organizations to take lead in awareness program</p> <p>Nonrevenue water reduced to no more than 30% by the end of 2007</p> <p>PUSOs debt to asset ratios is maintained no higher than 0.63 from 2007.</p> <p>PUSOs to achieve full cost recovery based on the agreed upon tariff increase structure by 2007</p> <p>Established solid waste management and land use plans for each town</p>	<p>PUSO reports an average > 25% increase in number of households served with hot water.</p> <p>Records show seven PUSOs corporatized. Only Bulgan PUSO remains with <i>aimag</i> government.</p> <p>Project records that community organizations conducted community participation and health awareness training for residents in <i>ger</i> areas, other citizens, and PUSO staff.</p> <p>PUSO records show installation of water meters has reduced non-revenue water to below 30%.</p> <p>PUSO records show debt-to-asset ratios no higher than 0.63.</p> <p>PUSO records show some able to achieve full cost recovery (but not for water, as tariff increases not approved by <i>aimags</i>).</p> <p>Project records show that solid waste management and land use plans developed for two <i>aimag</i> centers.</p>	<p>Corporatization of 7 PUSOs prior to civil works carried out</p> <p>Lease agreements between corporatized PUSOs and the respective provincial governments forged and enforced.</p> <p>Government commitment to improving management capacities of PUSOs</p> <p>Shortage of skilled staff, but not critical to PUSO performance</p> <p>PUSOs failed to achieve full cost recovery for water as <i>aimag</i> governments would not approve tariff increases.</p>
<p>Activities 1. Part A: Urban Infrastructure and Equipment Preparatory activities establish project management office (PMO), project implementation units (PIUs) and project steering committee</p> <p>Recruitment of consultants</p> <p>Preparation of detailed engineering designs, and contract documents</p> <p>Bid evaluation and contract award</p> <p>Procurement of equipment and delivery to each construction site</p> <p>Overall project implementation, civil work</p>	<p>Start: Jul 2002 Complete: Oct 2002 Responsible: Ministry of Infrastructure (MOI) and respective PUSOs</p> <p>Start: Jul 2002 Complete: Oct 2002 Responsible: MOI, PMO, PIUs</p> <p>Start: Oct 2002 Complete: Mar 2003 Responsible: MOI, PMO, PIUs</p> <p>Start: Apr 2003 Complete: Sep 2003 Responsible: MOI, PMO</p> <p>Start: Sep 2003 Complete: Mar 2004 Responsible: PMO, PIUs</p> <p>Start: Apr 2004 Complete: Dec 2007</p>	<p>Project records show that PMOs and PIUs formed in each project town and project steering committee was established and it resolved all issues related to the project.</p> <p>Project records show that almost 1 year was lost for recruitment of project design consultant (2003).</p> <p>Project records show that detailed engineering designs for civil works were conducted between February 2004 and April 2005.</p> <p>Project records show that national and international competitive bidding documents were prepared</p>	<p>Asian Development Bank (ADB) 's approval of advance procurement action</p> <p>ADB's approval of retroactive financing</p> <p>Sufficient number of contractors available and responsive.</p> <p>PIUs an PUSOs continued to provide assistance and supervision of the subproject implementation</p> <p>PMO's and PIU's supervision capability and knowledge of ADB practices improved through Loan 1560-MON: Provincial</p>

Design Summary	Performance Indicators and Targets	PCR Evaluation of Accomplishments	Assumptions and Risks
<p>supervision, and coordination</p> <p>2. Part B: Project Implementation and Institutional Development</p> <p>Project management and implementation support</p> <p>Institutional development programs:</p> <ul style="list-style-type: none"> (i) Training on water loss reduction, O&M, and meter reading (ii) Improved land planning and solid waste management (iii) Community participation and public health campaign (iv) Training in PUSOs' financial/corporate strategic planning skills with necessary computer equipment for capacity-building 	<p>Responsible: MOI, PMO, and PIUs</p> <p>Start: Jul 2002 Complete: Oct 2002 Responsible: MOI and respective PUSOs</p> <p>Start: Oct 2002 Complete: Dec 2007 Responsible: MOI and respective PUSOs</p> <p>Start: Oct 2005 Complete: Dec 2007 Responsible: MOI, PMO, and respective PUSOs</p> <p>Start: Oct 2002 Complete: Oct 2003 Responsible: PMO and respective PUSOs</p> <p>Start: Oct 2003 Complete: Dec 2007 Responsible: MOI, PMO, and respective PUSOs</p>	<p>and submitted in 2004 to 2005 and most procurement was made in 2006—three years behind original schedule.</p> <p>Project records show that implementation started in April 2007 (3.5 years behind schedule) and was completed in December of 2008 (1 year behind schedule).</p> <p>Project records show that almost 1 year was lost for recruitment of project management and implementation support consultant (2003).</p> <p>Project records show training and study tour conducted on infrastructure service of water and sewerage for small and large organizations.</p> <p>Project records show training and study tour conducted on Urban Services operation in project towns</p> <p>Project records show that PUSOs were provided with water loss reduction facilities and associated training on water loss reduction and O&M.</p> <p>Project records show that a community participation and public health campaign was conducted.</p> <p>Project records show that the consultants prepared and developed solid waste management plans and submitted these to the PUSOs.</p> <p>Project records show that training on institutional development of PUSOs was organized for the following subjects:</p> <ul style="list-style-type: none"> (i) PUSO solvency, tariff reforms, and cost estimation; (ii) basic problems and difficulties of data 	<p>Towns Basic Urban Services Project</p> <p>A pilot project component was added to the Project causing delays.</p> <p>Political interference in consultant selection caused delays</p> <p>Political interference in consultant selection caused delays</p>

Design Summary	Performance Indicators and Targets	PCR Evaluation of Accomplishments	Assumptions and Risks
		management system and preparation of debt data; (iii) the modification of main content and data, performance indicators and reporting procedures of project implementation and monitoring system; (iv) data saving devices, risk of data transpiration, and risk management; (v) the application of Vinnitsa Financial Program and Marketing Program, the difficulties and necessary modifications; (vi) the preparation method of PUSO accounting policy; (vii) internal monitoring and financial internal monitoring; and (viii) the preparation of business plans.	
Inputs 1. Part A: Urban Infrastructure and Equipment Rehabilitated/extended water supply systems	\$16.8 million (without contingencies)	\$16.9 million (including all contingencies)	
Cost-effective central sanitation systems	\$5.6 million	Project records indicate the following: \$6.3 million	Advance action for detailed engineering design NOT executed upon ADB's loan approval due to bureaucratic delays
Improvement of heating systems	\$2.2 million	\$1.7 million	
Increased number of operating bathhouses	\$6.8 million	\$3.6 million	Good coordination among the Government, consultants, PMO, and PIUs
Development of new bathhouses for informal area residents	\$0.8 million	\$0.6 million	
New and improved systems of solid waste operations introduced	\$1.3 million	\$1.0 million	Timely allocation of local counterpart funds Poor quality consultancy leading to misspecification Poor contractor performance Reluctance of Executing agency to spend planned resources on

Design Summary	Performance Indicators and Targets	PCR Evaluation of Accomplishments	Assumptions and Risks
			consultancy
2. Part B: Project Implementation and Institutional Development	Total: \$2.2 million for 271 person-months of consultant inputs (35 person-months of international and 236 person-months of national consultants)	Project records show: \$1.81 million: 271 person-months of consultant inputs (35 person-months of international and 236 person-months of national consultants)	
Project implementation	\$1.6 million 172 person-months of consultant inputs	\$1.24 million 143 person-months of consultant inputs	
Institutional development	\$0.6 million 99 person-months of consultant inputs	\$0.58 million 68 person-months of consultant inputs	
	Total Project Cost: \$26.5 million (including counterpart funds contributions)	Total Actual Project Cost: \$19.0 million (including counterpart funds contributions)	
	Total ADB loan \$20.1 million (including physical/price contingencies and local IDC \$2.1 million)	Total ADB loan utilized is \$16.5 million (out of a loan total of \$23.5 million as a result of SDR appreciation against the US\$)	
		Unspent loan funds \$7.0 million	

ADB = Asian Development Bank, IDC = interest during construction, lpcd = liters per capita per day, MNT = togrog, MOI = Ministry of Infrastructure, O&M = operation and maintenance, PIU = project implementation unit, PMO = project management office, PUSO = public urban service organization.

Source: Asian Development Bank staff.

DETAILED COMPARISON OF OUTPUTS AT APPRAISAL AND COMPLETION

**Table A2.1: Detailed Comparison of Civil Works Outputs
at Appraisal and Completion**

No.	Item	Measurement Unit	Appraisal	Actual
A. Choibalsan Town				
1.	Major civil work (Contractor: Chandmani Tal)			
a.	Outside water supply pipelines	km	9.85	9.85
b.	Renovation of outside heating supply system	km	7.86	17.90
c.	Construction of heating monitoring building	pcs	1	1
d.	Renovation of heating exchanger	pcs	1	1
e.	Rehabilitation of screen building and lagoons of treatment plant	pcs	1	1
f.	New deep well, outside water and power supply works	pcs	2	2
g.	Drilling work of deep well borehole	pcs	2	2
h.	Outside pipeline connections of bathhouses with sauna for three people and construction of sewerage boreholes with diameter 130 mm	km	0.31	0.31
i.	Outside pipeline connections of bathhouses for 5 people and construction of sewerage boreholes with diameter 130 mm	km	0.12	0.12
2.	Pilot project (Contractor: Chandmani Tal)			
a.	Outside water supply pipelines of 20 households in <i>ger</i> areas	km	0.94	0.71
b.	Water pipelines of 64 households in private housing areas	km	1.52	1.52
c.	Sewerage pipelines of 64 households in private housing areas	km	1.73	1.73
3.	Minor civil work (Contractor: Chandmani Tal)			
a.	Construction of bathhouses for 3 and 5 people	pcs	2	2
B. Baruun-Urt Town				
1.	Major civil work (Contractor: Khurd)			
a.	Outside water supply pipelines	km	8.38	12.79
b.	Outside sewerage pipelines	km	2.14	2.15
c.	Renovation of outside heating supply system	km	8.70	20.82
d.	Renovation of smoke stack pipes	pcs	1	1
e.	Renovation of water-lifting pump station and net plots	pcs	4	4
f.	Construction of treatment plant and screen building	pcs	1	1
g.	Renovation of deep well and net plots	pcs	3	3
h.	Construction of bathhouses for 5 people and boreholes diameter 130 mm	pcs	1	1
2.	Pilot project (Contractor: Odcon)			
a.	Water pipelines of 38 households in private housing areas	km	0.86	0.74
b.	Sewerage pipelines of 38 households in private housing areas	km	0.84	0.84
c.	Outside power supply work in private housing areas (open substation with 100 kilowatt voltage)	pcs	1	1

No.	Item	Measurement Unit	Appraisal	Actual
	d. Outside water supply pipelines of 44 households in <i>ger</i> areas	km	1.37	0.89
	e. Outside sewerage pipelines of 44 households in <i>ger</i> areas	km	1.56	0.76
	f. Outside sewerage pipelines of University of Science and Technology	km	0.86	0.75
	g. The area in front of polyclinic, near old boiler station	km	0.18	0.18
	h. Water pipeline connection of 7 households' hospital	km	0.18	0.18
	i. Sewerage pipeline connection of 7 households' hospital	km	0.15	0.15
3.	Minor civil work (Contractor: Duuren Trade)			
	a. Construction of bathhouse building for 5 people	pcs	1	1
C. Undurkhaan Town				
1.	Major civil work (Contractor: CHMM)			
	a. Outside water supply pipelines	km	11.07	11.06
	b. Outside sewerage pipelines	km	4.54	4.70
	c. Renovation of outside heating supply system	km	6.70	7.00
	d. Renovation of water-lifting pump station building	pcs	1	1
	e. Water kiosks with hydrant	pcs	4	4
	f. Rehabilitation of deep well	pcs	3	3
	g. Drilling work of deep well borehole and construction of new building	pcs	1	1
	h. Construction of bathhouse building for 5 people	pcs	1	1
	i. Renovation of treatment plant	pcs	1	1
	j. Renovation of boiler station building	pcs	2	2
	k. Renovation of smoke stack pipes	pcs	1	1
	l. Kherlen riverbank protection	m ²	0.97	0.97
	m. Renovation of chlorination and sewerage pump station buildings	pcs	1	1
2.	Pilot project (Contractor: NABSAN)			
	a. Water pipelines of 28 households in private housing areas	km	0.85	0.85
	b. Sewerage pipelines of 28 households in private housing areas	km	1.17	1.17
	c. Outside water pipelines of 20 households in apartment	km	0.35	0.35
	d. Outside sewerage pipelines of 20 households in apartment	km	0.43	0.43
	e. Outside water supply pipelines of 31 households in <i>ger</i> areas	km	1.40	0.86
	f. Outside sewerage pipelines of 31 households in <i>ger</i> areas	km	1.20	0.68
	g. Connection of water supply pipelines of 6 households	km	0.16	0.16
	h. Connection of sewerage pipelines of 6 households	km	0.14	0.14
3	Minor civil work (Contractor: Khentii khangai)			
	a. Renovation of water kiosks' building	pcs	7	7
	b. Heating boiler	pcs	2	1

No.	Item	Measurement Unit	Appraisal	Actual
D. Sainshand Town				
1.	Major civil work (Contractor: Boorchii)			
a.	Outside water supply pipelines	km	17.24	17.68
b.	Renovation of outside heating pipelines	km	5.26	5.26
c.	Maintenance work of deep well Nos.1, 2, and 3 and net plots	pcs	3	3
d.	Renovation of water-lifting pump station and net plots	pcs	3	3
e.	Water reservoir with diameter 100mm and net plots	m ³	3	3
f.	Water reservoir with diameter 1000mm and net plots	m ³	1	1
g.	Construction of water heater building	pcs	1	1
h.	Renovation of deep well and net plots	pcs	3	3
i.	Sewerage boreholes with diameter 130 mm	pcs	1	1
j.	Bathhouses for 5 people and net plots	pcs	1	1
k.	Rehabilitation of treatment plant and screen building	pcs	1	1
l.	Sewerage pipelines of Medical Institute	km	0.21	0.21
2.	Pilot project (Contractor: Khangiltsag)			
a.	Water pipelines of 48 households in private housing areas	km	1.60	1.60
b.	Sewerage pipelines of 48 households in private housing areas	km	1.66	1.88
c.	Outside water supply pipelines of 25 households in ger areas	km	0.60	0.60
E. Dalandzadgad Town				
1.	Major civil work (Contractor: Moninjbar)			
a.	Outside water supply pipelines	km	10.01	10.01
b.	Rehabilitation and expansion of outside sewerage pipelines	km	0.80	0.80
c.	Renovation of treatment plant	pcs	1	1
d.	Water kiosks with hydrant	pcs	4	4
e.	Contraction of new deep boreholes building	pcs	1	1
f.	Rehabilitation of deep well	pcs	3	3
g.	Construction of bathhouse building for 5 people	pcs	1	1
h.	Bathhouse with sauna for 3 people	pcs	1	1
2.	Pilot project (Contractor: Govi gurvan saikhan)			
a.	Water supply pipelines of 60 households in private housing areas	km	2.77	2.77
b.	Sewerage pipelines of 60 households in private housing areas	km	2.06	2.06
c.	Outside water supply pipelines of 80 households in ger areas	km	1.94	1.94
3.	Minor civil work (Contractor: Govi gurvan saikhan)			
a.	Renovation of water kiosks	pcs	15	15
b.	Contraction of bathhouses for 3 and 5 people	pcs	2	2

No.	Item	Measurement Unit	Appraisal	Actual
F. Bulgan Town				
1.	Major civil work (Contractor Chinvanconstruction)			
a.	Outside water supply pipelines	km	10.43	9.32
b.	Deep borehole with its building	pcs	2	2
c.	Substation of deep well, 40 kilowatt	pcs	1	1
d.	Chlorination building	pcs	1	1
e.	Water reservoir 2x150 m ³	pcs	2	2
f.	Expansion of outside sewerage pipelines	km	1.64	1.64
g.	Rehabilitation and expansion of treatment plant	pcs	1	1
h.	Bathhouse building for 5 people	pcs	1	1
i.	Screen building	pcs	1	1
j.	Sewerage borehole with diameter 130 mm	pcs	1	1
k.	Installation of heating exchanger	pcs	6	6
l.	Renovation of outside heating pipelines	km	21.36	21.36
G. Mandalgobi Town				
1.	Major civil work (Contractor: Monnab)			
a.	Renovation and expansion of outside heating pipelines	km	2.92	2.92
b.	Outside sanitation pipelines	km	1.62	1.62
c.	Outside water supply pipelines	km	20.82	20.82
d.	Renovation of water pump station building	pcs	2	2
e.	Renovation of deep well building	pcs	2	2
f.	Drilling of new boreholes with its building	pcs	1	1
2.	Pilot project Contractor: Monnab)			
a.	Water supply pipelines of 54 households in private housing areas	km	1.46	1.46
b.	Sewerage pipelines of 54 households in private housing areas	km	1.52	1.52
c.	Outside water supply pipelines of 76 households in ger areas	km	3.29	3.29
3.	Minor civil works (Contractor: Sinchi Oil)			
a.	Renovation of water kiosks building	pcs	6	6
b.	Contraction of water kiosks building	pcs	3	3
H. Tsetserleg Town				
1.	Major civil work (Contractor: Ilch-Arkhangai)			
a.	Outside water supply pipelines	km	11.30	11.30
b.	New deep well with its building	pcs	1	1
c.	Renovation of deep well	pcs	2	2
d.	Water kiosks with hydrant	pcs	2	2
e.	Renovation of monitoring and chlorination buildings	pcs	1	1
f.	New water kiosks building	pcs	1	1
g.	Renovation of water kiosks diameter 1000mm	pcs	1	1
h.	Water boreholes	pcs	1	1
i.	Construction of new plots of water kiosks building	pcs	1	1
j.	Expansion of outside sewerage pipelines	km	83.00	83.00
k.	Treatment plant and screen building	pcs	1	1
2.	Pilot project (Contractor: Tsagaan sumner)			

No.	Item	Measurement Unit	Appraisal	Actual
	a. Water pipelines of 150 households in private housing areas	km	4.42	4.42
	b. Sewerage pipelines of 150 households in private housing areas	km	5.46	5.46
	c. Outside water pipelines of 60 households in <i>ger</i> areas	km	3.33	3.33
	d. Outside sewerage pipelines of 60 households in <i>ger</i> areas	km	1.08	1.08
	e. Rehabilitation of water pipelines	km	1.64	1.64
3.	Minor civil works (Contractor: Dek)			
	a. Renovation of water kiosks building	pcs	8	8
	b. Bathhouse building for 5 people	pcs	1	1

km= kilometer; m³=cubic meter; mm=millimeter; pcs=pieces;

Source: Project Management Office information

Table A2.2: Detailed Comparison of Procurement of Equipment at Appraisal and Completion

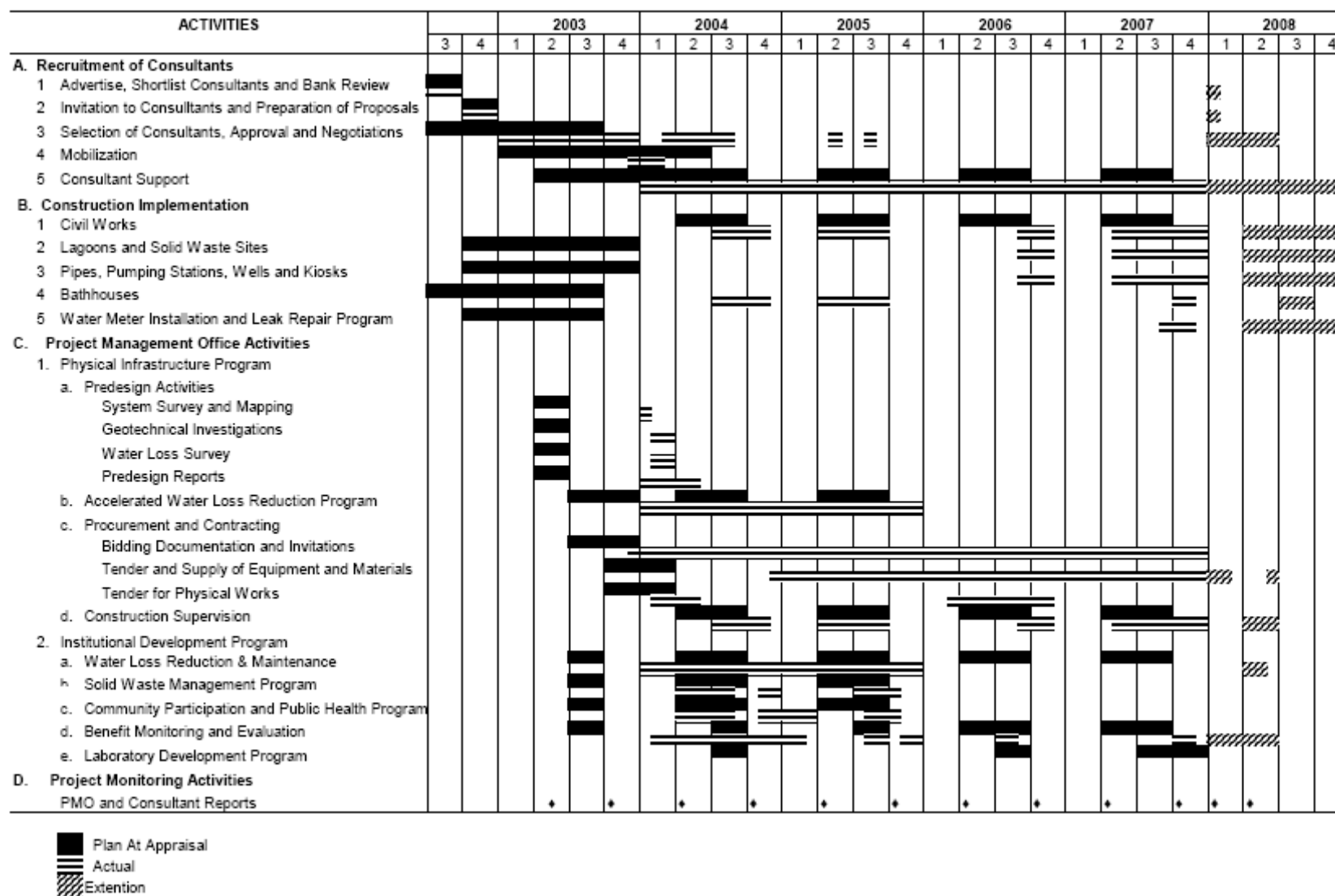
No.	Item	Measurement Unit	Appraisal	Actual
A.	Tsetserleg			
1.	Pipes and Appurtenances			
	a. PE pipe	km	14,34	14,34
	b. PVC pipe	km	2.18	2.23
	d. Welding apparatus	pcs	2	2
	e. Portable generator	pcs	2	2
2.	Pumps and Equipment			
	a. Underground water source pumps (GRUNDFOS SP77-19)	pcs	3	3
	b. Sewerage pumps (GRUNDFOS SV302H15117)	pcs	3	3
	c. Chlorination system equipment	pcs	1	1
B.	Bulgan			
1.	Pipes and Appurtenances			
	a. PE pipe	km	11.90	11.90
	b. PVCpipe	km	2.98	2.98
	c. Steel pipe	km	20.81	20.81
	d. Welding apparatus	pcs	2	2
	e. Portable generator	pcs	2	2
	f. Heating exchanger	pcs	4	4
2.	Pumps and Equipment			
	a. Underground water source pumps (GRUNDFOS SP77-19)	pcs	2	2
	b. Sewerage pumps (GRUNDFOS SV302H15117)	pcs	2	2
	c. Chlorination system equipment	pcs	1	1
3.	Boilers and appurtenances			
	a. Boilers: DZL (0.7MW)	pcs	2	2
	b. Boilers: DZL (1.4MW)	pcs	9	9
	c. Boilers: DTKH (0,7mW)	pcs	11	11
	d. Network pump	pcs	9	9
	e. Heating Exchanger	pcs	1	1

No.	Item	Measurement Unit	Appraisal	Actual
C. Sainshand				
1.	Pipes and Appurtenances			
a.	PE pipe	km	21.51	21.51
b.	PVC pipe	km	1.84	1.84
c.	Steel pipe	km	5.74	5.74
d.	Welding apparatus	pcs	2	2
e.	Portable generator	pcs	2	2
f.	Heating exchanger	pcs	2	2
2.	Pumps and Equipment			
a.	Underground water source pumps (GRUNDFOS SP77-19)	pcs	3	3
b.	Sewerage pumps (GRUNDFOS SV302H15117)	pcs	6	6
c.	Chlorination system equipment	pcs	1	1
D. Mandalgobi				
1.	Pipes and Appurtenances			
a.	PE pipe	km	22.10	22.10
b.	PVC pipe	km	1.68	1.68
c.	Steel pipe	km	4.58	4.58
d.	Welding apparatus(pcs	2	2
e.	Portable generator	pcs	2	2
2.	Pumps and Equipment			
a.	Underground water source pumps (GRUNDFOS SP77-19)	pcs		
b.	Sewerage pumps (GRUNDFOS SV302H15117)	pcs		
3.	Boilers and appurtenances			
a.	Boilers: CWWQ (0.5 MW)	pcs	2	2
b.	Boilers: CWWQ (1.05MW)	pcs	1	1
c.	Boilers: DTKH (0,7MW)	pcs	3	3
d.	Network pump	pcs	3	3
e.	Heating Exchanger	pcs	1	1
E. Dalandzadgad				
1.	Pipes and Appurtenances			
a.	PE pipe	km	10.40	10.40
b.	PVC pipe	km	4.09	4.09
c.	Welding apparatus	pcs	2	2
d.	Portable generator	pcs	2	2
2.	Pumps and Equipment			
a.	Underground water source pumps pump GRUNDFOS SP30-12	pcs	1	
F. Choibalsan				
1.	Pipes and Appurtenances			
a.	PE pipe	km	10.37	10.37
b.	PVC pipe	km	2.98	2.98
c.	Steel pipe	km	20.19	20.19
d.	Welding apparatus	pcs	2	2
e.	Portable generator	pcs	2	2
f.	Heating exchanger	pcs	17	17
2.	Pumps and Equipment			
a.	Underground water source pumps (GRUNDFOS SP77-19)	pcs	3	3

No.	Item	Measurement Unit	Appraisal	Actual
	b. Sewerage pumps (GRUNDFOS SV302H15117)	pcs	6	6
	c. Chlorination system equipment	pcs	1	1
G.	Baruun-Urt			
1.	Pipes and Appurtenances			
a.	PE pipe	km	9.62	9.62
b.	PVC pipe	km	1.53	1.53
c.	Steel pipe	km	21.96	21.96
d.	Welding apparatus	pcs	2	2
e.	Portable generator	pcs	2	2
f.	Heating exchanger	pcs	2	2
2.	Pumps and Equipment			
a.	Underground water source pumps (GRUNDFOS SP77-19)	pcs	3	3
b.	Sewerage pumps (GRUNDFOS SV302H15117)	pcs	2	2
c.	Water source station pumps	pcs	8	8
d.	Chlorination system equipment	pcs	1	1
3.	Boilers and appurtenances			
a.	Boilers: DZL (0.7MW)	pcs	9	9
b.	Boilers: DZL (1.4MW)	pcs	9	9
c.	Network pump	pcs	12	12
d.	Heating Exchanger	pcs	5	5
H.	Undurkhaan			
1.	Pipes and Appurtenances			
a.	PE pipe	km	14.86	14.86
b.	PVC pipe	km	3.43	3.43
c.	Steel pipe	km	8.00	8.00
d.	Welding apparatus	pcs	2	2
e.	Portable generator	pcs	2	2
f.	Heating exchanger	pcs	2	2
2.	Pumps and Equipment			
a.	Underground water source pumps (GRUNDFOS SP77-19)	pcs	4	4
b.	Sewerage pumps (GRUNDFOS SV302H15117)	pcs	3	3
c.	Water source station pumps	pcs	6	6
d.	Chlorination system equipment	pcs	1	1
3.	Boilers and appurtenances			
a.	Boilers: DZL (0.7MW)	pcs	4	4
b.	Boilers: DZL (1.7MW)	pcs	2	2
c.	Network pump	pcs	9	9
d.	Heating Exchanger	pcs	2	2

km= kilometer; m³=cubic meter; MW= megawatt; pcs=pieces; PE=polyethylene; PVC= polyvinyl coated.
Source: Project Management Office information.

Table A3.1 COMPARISON OF PROJECT IMPLEMENTATION SCHEDULE AT APPRAISAL AND COMPLETION



Source: Asian Development Bank staff.

Table A4.1: PROJECT COSTS
(\$ million)

No.	Component	Foreign exchange	Local currency	Total cost
A.	Urban Infrastructure and Equipment	11.00	5.92	16.92
	1. Civil work	1.57	4.30	5.87
	2. Equipment	9.43	1.62	11.05
B.	Project Implementation and Institutional Development	1.45	0.37	1.81
	1. Project Implementation	0.90	0.34	1.24
	2. Institutional Development	0.55	0.03	0.58
	Total Base Cost (A+B)	12.45	6.28	18.73
C.	Contingencies	0.00	0.00	0.00
	1. Physical	0.00	0.00	0.00
	2. Price	0.00	0.00	0.00
D.	Fees and Charges	0.27	0.00	0.27
	1. Service Charge on ADB Loan	0.27	0.00	0.27
	2. Interest During Construction	0.00	0.00	0.00
Total		12.72	6.28	19.00

Source: ADB. *Loan Financial Information System*

Table A5.1: STATUS OF LOAN COVENANTS COMPLIANCE

Covenant	Reference	Status of Compliance
Particular Covenants		
The Borrower shall cause the Project to be carried out with due diligence and efficiency and in conformity with sound social security, administrative, financial, engineering and environmental practices.	Loan Agreement, Article 4, Section 4.01 (a)	Complied with. The project consultants and specialists were recruited to support PMO.
The Borrower shall make available, promptly as needed, the funds, facilities, services, land and other resources which are required, in addition to the proceeds of the Loan, for the carrying out of the Project and the maintenance of the project facilities.	Loan Agreement, Article 4, Section 4.02	Complied with. Counterpart funds and facilities were provided as needed.
Except as the bank may otherwise agree, all goods and services to be financed out of proceeds of the Loan shall be procured in accordance with the provisions of Schedule 4 and 5 to the Loan Agreement. The bank may refuse to finance where goods or services have not been procured under this procedure.	Project Agreement, Article 1, Section 2.03 (b)	Complied with. Project procurement and execution were carried out in accordance with schedules 4 and 5 of the Loan Agreement.
Each provincial Government shall, or shall ensure that its PUSO shall maintain records and provide/make available PMO to record, proof the expenditures and follow principles, proceeds of accounting.	Project Agreement, Article 1, Section 2.06	Complied with. PUSOs maintained and submitted to the PMO records of goods and services funded by the loan through accounting reports and were registering new assets as fixed assets, thus complying with accounting principles.
The Borrower shall furnish to the Bank all such reports and information as the Bank shall reasonably request concerning (i) the Loan, and the expenditure of the proceeds and maintenance of the service thereof; (ii) the goods and services and other items of expenditure financed out of the proceeds of the Loan; (iii) the Project; (iv) the administration, operations and financial condition of the agencies of the Borrower responsible for the carrying out of the Project and operation of the Project facilities, or any part thereof; (v) financial and economic conditions in the territory of the Borrower and the international balance-of-payments position of the Borrower; and (vi) any other matters relating to the purposes of the Loan.	Loan Agreement, Article 4, Section 4.07 (a)	Complied with. The PMO had furnished ADB with the reports as requested, including the loan disbursement report, the PMO and PIU operations cost report, and information on the financial situation of the PUSOs. The PMO has prepared disbursement projections and submitted to ADB annually.
Without limiting the generality of the foregoing, the Borrower shall furnish, or cause to be furnished, to the Bank monthly and semi-annual reports on the carrying out of the Project and on the operation and management of the Project facilities. Such reports shall be submitted in such form and in such detail and within such a period as the Bank shall reasonably request, and shall indicate, among other things, progress made and problems encountered during the period under review, steps taken or proposed to be taken to remedy these problems, and proposed program of activities and an expected progress during the following period.	Loan Agreement, Article 4, Section 4.07 (b)	Complied with. The PMO has prepared annual, quarterly, and semiannual reports in accordance with ADB guidelines and forms, and has been sending those to ADB for each respective year. These reports included the progress made, achievements, and problems encountered during the period under review; steps taken or proposed to be taken to remedy these problems; and proposed program of activities and expected progress during the succeeding period.
Promptly after physical completion of the Project, but in any event not later than three (3) months thereafter or such later date as the Bank may agree for this purpose, each PUSO shall, through the PMO help prepare and	Loan Agreement, Article 4, Section	Complied with. The completion report, covering operations of project facilities, has been prepared and submitted to ADB on 31 August 2009.

Covenant	Reference	Status of Compliance
<p>furnish to the Bank a report, in such form and in such detail as the Bank shall reasonably request, on the execution and initial operation of the Project, including its cost, the performance by the PUSO of its obligations under this Project Agreement and the accomplishment of the purposes of the Loan.</p>	4.07 (c)	
<p>The Borrower shall enable the Bank's representatives to inspect the Project, the goods financed out of proceeds of the Loan, and any relevant records and documents.</p>	<p>Loan Agreement, Article 4, Section 4.08 PA 2.10</p>	<p>Complied with.</p>
<p>Each provincial Government shall, or shall ensure that its PUSO shall, enable the Bank's representatives to inspect the Project, the goods financed out of the proceeds of the Loan, all other plants, sites, works, properties and equipment of the PUSO and any relevant records and documents.</p>		<p>Complied with: Project <i>aimag</i> governments, PIUs, and PUSOs have enabled ADB inspections, as required, and provided the necessary records and documents as requested.</p>
<p>Execution and Implementation Arrangements MOI shall be the EA for the Project, Government Implementing Agency for Construction, Urban Development and Public Utilities within MOI shall, throughout the implementation period of the Project, maintain the PMO for the Project. The PMO, which has already been established, shall be headed by a full-time Project director and staffed with persons having expertise in financial accounting, procurement, construction supervision and other areas as appropriate. The functions of the PMO include (i) acting as the secretariat to the PSC; (ii) providing coordination with MOI; (iii) coordination of the PIUs within the PUSOs; (iv) procurement equipment; (v) preparation of procurement and bidding documents, evaluation of offers and bids and recommendations for award of contracts for civil works in consultation with PIUs; (vi) preparatory work and supervisions with regard to consultants; (vii) coordination with the bank; and (viii) preparation and submission to the bank of semi-annual Project reports, annual monitoring and evaluation reports, including annual reports on environmental monitoring, and the project completion report.</p>	<p>Loan Agreement, Schedule 6, paras.1</p>	<p>Complied with: The PMO was established under the resolution No. 248 of the Minister of Infrastructure on 26 August 2002. The PMO had eight staff members, a project director, a project accountant, a contract/procurement specialist, two supervising engineers, an office secretary/interpreter, and two drivers.</p> <p>The MOI was replaced by MCUD in 2006.</p> <p>The PSC was re-established by resolution No.12, dated 15 February 2006.</p>
<p>Within each PUSO in each Project Town, a PIU shall be established within six months of the effective date. The PIU shall include the PUSO Director, the chief engineer and the chief accountant of the PUSO. Each PIU shall coordinate closely with the PMO and participate in each state of project implementation.</p>	<p>Loan Agreement, Schedule 6 para. 2</p>	<p>Complied with. PIUs were established in each of the eight project towns and carried out their activities in cooperation with the PUSOs and in coordination with the PMO.</p>
<p>In the carrying out of the Project, the Borrower shall cause competent and qualified consultants and contractors, acceptable to the Borrower and the Bank, to be employed to an extent and upon terms and conditions satisfactory to the Borrower and the Bank.</p>	<p>Loan Agreement, Article 4, Section 4.03 (a)</p>	<p>Complied with. Project design and management support consultants were engaged in accordance with the Handbook for Users of Consulting services of ADB and related Mongolian laws.</p> <p>Works were procured in accordance with the Public Procurement Law of Mongolia and ADB procurement guidelines.</p>
<p>The Borrower shall cause the Project to be carried out in accordance with plans, design standards,</p>	<p>Loan Agreement,</p>	<p>Complied with. The project was carried out in accordance with plans, design standards,</p>

Covenant	Reference	Status of Compliance
<p>specifications, work schedules and construction methods acceptable to the Borrower and the Bank. The Borrower shall furnish, or cause to be furnished, to the Bank, promptly after their preparation, such plans, design standards, specifications and work schedules, and any material modifications subsequently made therein, in such detail as the Bank shall reasonably request.</p>	<p>Article 4, Section 4.03 (b)</p>	<p>specifications, work schedules and construction methods acceptable to the Borrower and the Bank. As certain changes were necessary during project implementation, including the addition of the pilot component, plans and schedules were amended in collaboration and with the approval of ADB.</p>
<p>The PSC shall be chaired by the Vice Minister of Infrastructure and shall be composed of senior officials from MOI, MOFE, and Government Implementing Agency for Construction, Urban Development and Public Utilities and the Governors of the eight Provincial Governments, and shall conduct policy guidance and coordination. The PSC shall meet at least twice a year.</p>	<p>Loan Agreement, Schedule 6 para. 3</p>	<p>Complied with. The PSC was re-established under Resolution Number 12 of the MCUD, dated 15 February 2006. It comprised of representatives from MCUD, MOF, and eight <i>aimag</i> governors, as well as the PMO director. It conveyed 16 meetings in the course of implementation.</p>
<p>The Borrower shall maintain or cause to be maintained, records and accounts adequate to identify the goods and services and other items of expenditure financed out of the proceeds of the Loan, to disclose the use thereof in the project, to record the progress of the project (including the cost thereof) and to reflect, in accordance with consistently maintained sound accounting principles, the operations and financial condition of the agencies of the Borrower responsible for the carrying out the project and operation of the Project facilities or any part thereof.</p>	<p>Loan Agreement, Article 4, Section 4.06 (a)</p>	<p>Complied with. An imprest account was established, managed, and replenished in accordance with the loan disbursement and statement of expenditure procedure and used for reimbursement of eligible expenditures and liquidation of advances provided from the imprest account in accordance with the ADB's <i>Loan Disbursement Handbook</i> (2001).</p> <p>Project financial statements were prepared, adopting modified cash based accounting, and in compliance with International Accounting Standards.</p>
<p>The Borrower shall (i) maintain, or cause to be maintained, separate accounts for the Project; (ii) have such accounts and related financial statements audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications, experience and terms of reference are acceptable to the Bank; (iii) furnish to the Bank, as soon as available but in any event not later than nine months after the end of each related fiscal year, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto (including the auditors' opinion on the use of the Loan proceeds and compliance with the covenants of this Loan Agreement as well as on the use of the procedures for imprest account/statement of expenditures), all in the English language; and (iv) furnish to the Bank such other information concerning such accounts and financial statements and the audit thereof as the Bank shall from time to time reasonably request.</p>	<p>Loan Agreement, Article 4, Section 4.06 (b)</p>	<p>Complied with. The project financial statements were audited annually, with international standards consistently applied.</p>
<p>Each provincial Government shall, or shall ensure that its PUSO shall, (i) maintain separate accounts for the Project and for its overall operations; (ii) have such accounts and related financial statements (balance sheet, statement of income and expenses, related statements) audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications, experience</p>	<p>Project Agreement, Section 2.09 (a)</p>	<p>Complied with. Financial reports and statements from the PUSOs and periodic audits were collected and compiled as part of the Package B consulting services and the audited financial reports of the PUSOs were submitted to ADB.</p>

Covenant	Reference	Status of Compliance
<p>and terms of reference are acceptable to the Bank; and (iii) furnish to the Bank, through the PMO promptly after their preparation but in any event not later than nine (9) months after the close of the fiscal year to which they related, certified copies of each audited accounts and financial statements and the report of the auditors relating thereto (including the auditor's opinion on the use of the Loan proceeds and compliance with the covenants of the Loan Agreement, as well as on the use of the procedures for imprest account/statement of expenditures, all in the English language. Each PUSO shall furnish to the Bank, through the PMO, such further information concerning such accounts and financial statements and the audit thereof as the Bank shall from time to time reasonably request.</p>		
<p>The Borrower shall cause the Provincial Governments to ensure that except as otherwise agreed by the Bank, the tariffs for water, sanitation, solid waste, heating and hot water supply and bathhouse services in the Project towns are as set forth in the Tariff Schedule. Commencing in 2004, the Borrower shall cause the Provincial Governments to ensure that the calculation of tariffs for water, sanitation, solid waste, heating and hot water, and bathhouse services in each Project towns is based on the principle of full cost recovery, taking into account capital investment costs, debt service obligations and operation and maintenance costs. The Borrower shall also cause the Provincial Governments to ensure that tariffs are reviewed yearly and adjusted as necessary in accordance with these principles. With respect to the residents of informal areas, during the term of the Loan, the Borrower shall cause the Provincial Governments to ensure that there will be no increase in real terms in the tariffs for water, sanitation, solid waste, heating and hot water supply and bathhouse services that are set forth in the tariff Schedule, until otherwise agreed by the Bank. If tariffs are increased for informal areas during the term of the Loan, the PUSO and the Bank shall review and agree on the calculation of future tariffs for such urban services subsections.</p>	<p>Loan Agreement, Schedule 6 para. 5</p>	<p>Not complied with. Despite considerable efforts by the project, and some cases of increase in tariffs, the <i>aimag</i> governments were not ready to increase tariffs in line with the tariff schedule prepared under the project.</p> <p>Current tariff levels are in most cases not based on the principle of full cost recovery for water supply services.</p> <p>The water price has been increased in some cases due to increases in fuel costs.</p> <p>There has been no increase in the real price of water services to <i>ger</i> areas.</p>
<p>PUSO Corporatization</p> <p>The Borrower shall cause the Provincial Governments to ensure that for each PUSO, except as otherwise agreed by the Bank, (i) all five basic urban services subsections in the Project town (i.e., water supply, sanitation, solid waste, heating and hot water supply and bathhouse services) are integrated into the PUSO's operations;</p> <p>(ii) the PUSO is duly established as a state-owned limited liability company under the Borrower's Company Law, with a management board, auditors and articles of association authorizing the PUSO to engage in the services and borrow funds.</p>	<p>Loan Agreement, Schedule 6 para. 4</p>	<p>Not fully complied with. Not all services have been integrated into PUSO operations. The Law on Solid Waste Management approved in November 2003 returned responsibility for solid waste management to the <i>soum</i> government. Thus, PUSOs in five <i>aimags</i> were no longer responsible for solid waste management.</p> <p>All PUSOs except the one in Bulgan, which remains with the government, have been established as state-owned limited liability companies created under Mongolian Company Law and have been functioning as limited liability companies.</p>
<p>Project Specific Covenants</p> <p>The Borrower shall cause the Provincial Governments</p>	<p>Loan</p>	<p>Complied with. Bathhouses are operated with</p>

Covenant	Reference	Status of Compliance
to ensure that Project bathhouses (i) are cross-subsidized by the PUSOs in a manner acceptable to the Bank; and (ii) charges are calculated in accordance with the social pricing system formulated under the Bank's project, "Improving the living Environments of the Poor in Ger areas of Mongolia's cities", financed by the Japan Fund for Poverty Reduction.	Agreement, Schedule 6 para.6	PUSO subsidies where necessary. Vulnerable people in Undurkhaan (70 people), Mandalgobi (65), Bulgan (87), and Sainshand (60) have received discount cards for using bathhouse services.
The Borrower shall cause each Provincial Government to ensure that: (i) the PUSO submits annually to its tariff regulatory board tariff proposals calculated according to the principle of full cost recovery and (ii) tariffs thus set, and obligation to pay them on time are valid, binding, and enforceable on all consumers and entities, including government-owned entities.	Loan Agreement, Schedule 6 para.7	Not fully complied with. Although the PUSOs have submitted proposals for tariff changes to <i>aimag</i> governments, they have not been approved. Tariffs and obligations to pay them on time are valid, binding, and enforceable on all consumers and entities.
Project Reporting		
Each Provincial Government shall, or shall ensure that its PUSO shall through the PMO help furnish to the Bank semi-annual reports on the execution of the Project and on the operation and management of the Project facilities. Such report shall be submitted in such form and in such detail and within such a period as the Bank shall reasonably request, and shall indicate, among other things, progress made and problems encountered during the semi-annual period under review, steps taken or proposed to be taken to remedy these problems, and proposed program of activities and expected progress during the following semi-annual period.	Project Agreement, Section 2.08 (b)	Complied with. The PMO furnished ADB with the reports, as requested, including progress and loan disbursement reports, a PMO and PIU operation cost report, and information about the financial situation of the borrower organizations (PUSOs). The PIUs and the PUSOs have reported implementation problems to the PMO, which took necessary steps to remedy these problems.
The Borrower shall make arrangements satisfactory to the Bank for insurance of the Project facilities to such extent and against such risks and in such amounts as shall be consistent with sound practice.	Loan Agreement, Article 4, Section 4.05 (a)	Not complied with. Insurance for equipment created by the project has not been covered by the civil works contracts. However, the contractors were responsible for any type of damages that may occur during construction.
Without limiting the generality of the foregoing, the Borrower undertakes to insure, or cause to be insured, the goods to be imported for the Project and to the financed out of the proceeds of the Loan against hazards incident to the acquisition, transportation and delivery thereof to the place of use or installation, and for such insurance any indemnity shall be payable in a currency freely usable to replace or repair such goods.	Loan Agreement, Article 4, Section 4.05 (b)	Complied with. Supply contracts included the provision that the supplier of imported goods shall be responsible, including the guarantee for protection, loss, or breakage of equipment while receiving, transporting, delivering, and assembling.
<u>Management Contracts.</u> If a PUSO proposes to enter into a contract for the management of its operation pursuant to Order No.123 of 22 March 2001 of the State Property Committee, the Borrower shall cause the relevant Provincial Government to ensure that the PUSO consults with the Bank before and during the tendering of the contract and that the draft tender documents, draft management contract (including the provisions to ensure that the delivery of public urban services for the poor are not adversely affected by the contract), and award of contract are acceptable to the Bank.	Loan Agreement, Schedule 6 paras.8	Complied with. During project implementation, the PUSOs of seven project towns (Tsetserleg, Mandalgobi, Dalandzadgad, Baruun-Urt, Undurkhaan, Sainshand, and Choibalsan) entered into management contracts. Management contracts included provision to ensure the quality of public urban services in <i>ger</i> areas where the most of the poor people live.

Covenant	Reference	Status of Compliance
<p><u>Financial Matters.</u> Without limiting the generality of Section 4.02 of this Loan Agreement, the Borrower shall ensure, and cause the Provincial Governments to ensure, that (i) adequate budgetary resources are provided on time to the PMO and the PUSOs throughout the Project implementation period; and (ii) no domestic or international loan funds for water supply, sanitation, solid waste services, heating and hot water supply, or public bath houses are provided to any of the PUSOs without the prior approval of the Bank.</p>	<p>Loan Agreement, Schedule 6 paras.9</p>	<p>Complied with. Adequate counterpart financing was available during project implementation. No other loans were provided to project towns PUSOs.</p>
<p><u>Resettlement and Land Acquisition.</u> The Borrower shall ensure that no involuntary resettlement of persons or new land acquisition requiring involuntary resettlement of persons will be undertaken under the Project.</p>	<p>Loan Agreement, Schedule 6 paras.10</p>	<p>Complied with. No involuntary resettlement and land acquisition was undertaken.</p>
<p><u>Environmental Issues.</u> The Borrower shall cause the Provincial Governments to ensure that all construction, rehabilitation and other Project implementation activities are carried out in accordance with existing environmental laws and regulations of the Borrower and the Bank's environment guidelines, including the Bank's "Environmental Assessment Requirements and Procedures". The Borrower shall cause the Provincial Governments to ensure that the environmental monitoring and mitigation measures set forth in the Initial Environmental Examination for the Project dated April 2002 are carried out in a timely and sustainable manner during the Project construction, rehabilitation and operation periods.</p>	<p>Loan Agreement, Schedule 6 paras.11</p>	<p>Complied with. The Ministry of Nature and Environment endorsed environment impact assessment and was responsible for its monitoring during project implementation.</p>
<p><u>Public Consultation.</u> The Borrower shall cause the Provincial Governments to ensure that consultation with local communities is carried out as provided in the community participation and health education program under the Project.</p>	<p>Loan Agreement, Schedule 6 paras.12</p>	<p>Complied with. The local health and public consultant held training and awareness activities for working groups, representatives of local communities, related local government offices, and residents of <i>ger</i> and apartment areas as part of the institutional development component.</p>
<p><u>Monitoring and Evaluation.</u> The Borrower shall ensure that a comprehensive program for Project performance monitoring and evaluation (PPME) acceptable to the Bank is carried out to (i) examine the Project's technical performance; (ii) evaluate the delivery of the Project facilities; (iii) assess the achievement of the Project's objectives; and (iv) measure the Project's social and economic benefits. A set of PPME indicators shall be developed at the commencement of Project implementation by the consultants recruited under the Project and the PMO and PIU staff in consultation with the local communities. The Borrower shall ensure that the PPME is integrated into the management information systems of the PUSOs so that the monitoring of social and economic benefits can continue following the Project implementation period. The Borrower shall ensure that each PIU prepares PPME reports on an annual basis and that these</p>	<p>Loan Agreement, Schedule 6 paras.13</p>	<p>Not fully complied with. A set of PPME indicators was developed at the start of project and a local consultant evaluated the PPME system and prepared a report that suggested strengthening the capacity of the PMO to implement the PPME.</p> <p>No annual PPME reports were prepared.</p>

Covenant	Reference	Status of Compliance
<p>reports are then consolidated by the PMO and submitted to the Bank with copy to MOFE. The Borrower shall also ensure that the integrated system for the management, monitoring and evaluation on Project benefits, social impacts and physical improvements are in accordance with the Bank's guidelines for project performance management systems.</p>		
<p>Promptly after physical completion of the Project, but in any event not later than three (3) months thereafter or such later date as the Bank may agree for this purpose, each PUSO shall, through the PMO help prepare and furnish to the Bank a report, in such form and in such detail as the Bank shall reasonably request, on the execution and initial operation of the Project, including its cost, the performance by the PUSO of its obligations under this Project Agreement and the accomplishment of the purposes of the Loan.</p>	<p>Project Agreement, Section 2.08 (c)</p>	<p>Complied with. A project completion report setting out the achievements and problems encountered during project implementation has been submitted.</p>

ADB = Asian Development Bank, IDC = interest during construction, MCUD = Ministry of Construction and Urban Development, MNT = togrog, MOF = Ministry of Finance, MOFE = Ministry of Finance and Economy, MOI = Ministry of Infrastructure, O&M = operation and maintenance, PIU = project implementation unit, PMO = project management office, PPME = project performance monitoring and evaluation, PSC = project steering committee, PUSO = public urban service organization.

Source: Asian Development Bank staff based on information provided by Project Management Office.

FULL LIST OF PROCUREMENT CONTRACTS**Table A6.1: Consulting Services Inputs**

Expert Name	Initial contract	Revised contract	Actual inputs	PCSS
International	29.5	33.5	25.2	
Tord Rosengren				
Team Leader	15.5	15.5	10.4	0001
Rodney Fletcher				
Water Supply Engineer	3.0	3.0	1.5	0004
Robert Merrill				
Financial Specialist	4.0	5.0	4.9	0006
Gary Grifis				
Accounting Specialist	3.0	3.0	3.0	0008
Hans Christiansen				
Heating Engineer	3.0	3.0	2.3	0011
Alexander Lega				
Mechanical Electrical Engineer	3.0	3.0	2.1	
Tim Van Epp				
Solid Waste Management and Environment Specialist	1.0	1.0	1.0	
Local Consulting Firm	236.0	249.0	211.2	
Civil Engineering				
Project implementation assistance	147.0	156.0	143.0	0002
Khot Services				
Institutional development	89.0	93.0	68.2	0003
Total Services	265.5	282.5	236.4	

PCSS= Procurement Contract Summary Sheet

Source: ADB. *Loan Financial Information System*

Table A6.2: Major Civil Works and Equipment Contracts

Contractor	Contract Amount (\$)	Mode of Procurement	Date of Contract Award	PCSS
Chandmani Tal	687,837	NCB	11 Dec 2006	0037
Chandmani Tal	140,635	NCB	29 Aug 2006	0031
Chandmani Tal	90,127	NCB	11Nov 2004	0016
Khurd	684,013	NCB	11 Dec 2006	0036
Odcon	160,765	NCB	29 Aug 2006	0030
Duuren Trade	47,311	NCB	11Nov 2004	0015
CHMM	637,992	NCB	11 Dec 2006	0040
NABSAN	230,060	NCB	29 Aug 2006	0029
Khentii khangai	15,403	NCB	11Nov 2004	0014
Boorchi	579,198	NCB	11 Dec 2006	0033
Khangiltsag	101,910	NCB	29 Aug 2006	0026
Moninjbar	384,306	NCB	11 Dec 2006	0034
Govi gurvan saikhan	285,266	NCB	29 Aug 2006	0027
Govi gurvan saikhan	81,041	NCB	11Nov 2004	0012
Chinvanconstruction	745,890	NCB	11 Dec 2006	0039
Monnab	988,503	NCB	11 Dec 2006	0035
Monnab	215,734	NCB	29 Aug 2006	0028
Sinchi Oil	23,050	NCB	11Nov 2004	0013
Ilch-Arkhangai	300,074	NCB	11 Dec 2006	0038
Tsagaan sumber	472,219	NCB	29 Aug 2006	0032
DEK	59,831	NCB	11Nov 2004	0017
Yichang Hongxun Conduit	3,112,800	ICB	29 May 2006	0020
Prestige Engineering	1,485,718	ICB	01 Jun 2006	0021
Megawatt	1,592,500	ICB	29 Aug 2006	0024
Mongolia Star Melchers	50,042	Shopping	29 Mar 2006	0019
Most International	1,234,089	ICB	19 Jul 2006	0022
Intereng Mestechnic	86,364	ICB	03 Sep 2004	0010
Angelique	428,080	ICB	19 Aug 2004	0009
Sain International	27,416	Direct contracting	07 May 2004	0007
Aquatus	177,029	ICB	03 Apr 2007	0041
ADG	98,505	Shopping	06 Feb 2009	0059

ICB = International competitive bid; PCSS = Procurement Contract Summary Sheet; NCB=national competitive bid;
Source: ADB. *Loan Financial Information System*

OUTPUTS OF PILOT COMPONENT

Table A7.1: Water Supply and Sewerage Connections in Ger Areas

Towns		Water Mains Length (m)	Distribution line(m)	Number of connected households	
				Projected	Actual
A.	Baruun-Urt				
	1. Water	758	184	44	8
	2. Sewerage	892	215		1
B.	Choibalsan				
	1. Water	685	27	20	1
C.	Dalandzadgad				
	1. Water	1,942	1,975	80	0
D.	Mandalgobi				
	1. Water	1,391	1,900	76	0
E.	Undurkhaan				
	1. Water	860	160	31	6
	2. Sewerage	681	140		1
F.	Sainshand				
	1. Water	396	204	25	12
	Tsetserleg				
G.	1. Water	1,771	2,500	150	10
	2. Sewerage	1,596	1,500		0
	Total				
	1. Water	7,937	6,950	426	37
	2. Sewerage	3,035	1,855		2

m=meter

Source: Project Management Office information.

Table A7.2: Plots provided with Water and Sewerage Connections under Housing Area Action Plan

Towns		Number of connected households	
		At appraisal	Actual
A.	Baruun-Urt	38	36
	1. Water (856 m)		
	2. Sewerage (1,705 m)		
B.	Choibalsan	64	60
	1. Water (1,522 m)		
	2. Sewerage (1,725 m)		
C.	Dalandzadgad	60	80
	1. Water (2,773 m)		
	2. Sewerage (1,989 m)		
D.	Mandalgobi	54	48
	1. Water (1,434 m)		
	2. Sewerage (1,521m)		
E.	Undurkhaan	72	52
	1. Water (1,448 m)		
	2. Sewerage (1,318m)		
F.	Sainshand	48	40
	1. Water (1,606 m)		
	2. Sewerage (1,661m)		
	Tsetserleg	200	150
G.	1. Water (3,402 m)		
	2. Sewerage (2,789m)		
	Total	492	466
	1. Water (13,041m)		
	2. Sewerage (12,708 m)		

m=meter

Source: Project Management Office information

**Table A7.3: Installation of Household
Electric Water Heaters**

Towns	Number of households	
	At appraisal	Actual
Undurkhaan	40	40
Baruun-Urt	92	55
Mandalgobi	373	372
Tsetserleg	480	440
Bulgan	100	189
Total	1,085	1,096

Source: Project Management Office information