

Loughborough University  
Institutional Repository

---

*Improvement in the delivery  
of urban water supply  
services in Afghanistan by  
corporatisation of water  
utility*

This item was submitted to Loughborough University's Institutional Repository by the/an author.

**Citation:** MASOUMYAR, S.N. and BAHEER, D.M., 2013. Improvement in the delivery of urban water supply services in Afghanistan by corporatisation of water utility. IN: Shaw, R.J. (ed). Delivering water, sanitation and hygiene services in an uncertain environment: Proceedings of the 36th WEDC International Conference, Nakuru, Kenya, 1-5 July 2013, 6pp.

**Additional Information:**

- This is a conference paper.

**Metadata Record:** <https://dspace.lboro.ac.uk/2134/30925>

**Version:** Published

**Publisher:** © WEDC, Loughborough University

**Rights:** This work is made available according to the conditions of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) licence. Full details of this licence are available at: <https://creativecommons.org/licenses/by-nc-nd/4.0/>

Please cite the published version.

**36th WEDC International Conference, Nakuru, Kenya, 2013**

**DELIVERING WATER, SANITATION AND HYGIENE SERVICES  
IN AN UNCERTAIN ENVIRONMENT**

**Improvement in the delivery of urban water supply  
services in Afghanistan by corporatisation of water utility**

*S. N. Masoumyar & D. M. Baheer, Afghanistan*

**BRIEFING PAPER 1744**

---

*The Afghanistan Urban Water Supply and Sewerage Corporation (AUWSSC) was formed in 2006 (transformation of the previous government enterprise into a corporation). The liquidation of the previous enterprise, the transferring of assets and liabilities, the selection of the senior management team and the functioning of AUWSSC as an independent budget entity took several years. Nevertheless, the water supply network and services have increased significantly since the AUWSSC became operational. For example, the water production capacity per day has increased by 23%, the total water system network pipelines have increased by 35%, the customer service connection registrations have increased by 37%, and the total revenue generation per year has increased by more than 50%. At the same time, several challenges remain and key recommendations are given, from field level improvements, to hiring of capable staff, to development of procedures and guidelines, which would help enhance the services of the corporation.*

---

**Introduction**

Provision of water supply for households remains a key challenge in the fast-growing urban areas of Afghanistan. Although construction of water supply networks in the urban centres was historically given priority and several development schemes were implemented, decades of armed conflict resulted in the destruction or neglect of the existing infrastructure, negligible investment in new facilities, and poor customer services.

This paper looks at the developments in the provision of water supply services under the aegis of the recently corporatized water utility. The paper first gives a brief history of water supply systems in the urban areas and then focuses on the utility's institutional reform process from the government enterprise, the Central Authority of Water Supply and Sewerage (CAWSS), to the government-owned (five ministries are share-holders) corporation - the Afghanistan Urban Water Supply and Sewerage Corporation (AUWSSC). It points out the key achievements of the Corporation as well as the challenges it continues facing. It provides some recommendations, which would help the corporation to improve its services. It should also be noted that while the Corporation is responsible for both: water supply and sewerage, this paper addresses only the topics related to the water supply area.

**Brief history of urban water supply in Afghanistan**

Before establishment of piped water supply systems for urban households in Afghanistan, urban inhabitants of the country were taking their drinking water from rivers, streams, unprotected springs and karezes (underground channel of water). During the summer season and drought periods most of these sources became dry and the urban population of the country faced a shortage of drinking water in their areas. Additionally, often these water sources were in an unhygienic condition and were not safe sources for drinking and other domestic use.

The first urban water supply system was constructed in 1880 by King Amir Abdul Rahman Khan in Kabul city; he brought drinking water by a preliminary system to Kabul city from Namangan Spring which was located in the present compound of Ebn- sena Hospital in District 1 of Kabul city.

The second complete water supply system for Kabul city was designed by British engineers in 1900 in the time of King Habibullah Khan. It included a transmission line from Dalakan Spring of Paghman District to Deh Afghanan at the centre of Kabul city, construction of a 1,200 cbm water reservoir in Deh Afghanan and a network for the centre of Kabul city. In 1954 and 1955, the government of Afghanistan received a loan from the government of Japan to construct a 1,200 cbm reservoir in Dehmazang area and 52 km of pipe network for Kabul city. As a result of this project 160,000 inhabitants of Kabul city received safe drinking water. Additionally, the Government of Japan conducted surveys, developed designs and implemented urban water supply projects in Herat, Mazar-i-Sharif and Kandahar cities.

In 1972 and 1974 a master plan for water supply of Kabul City was completed (with funding of 1.1 million USD from the government of Canada, and 1 million USD from the development fund of Afghanistan). Following this, two key projects were implemented. One was the construction of 20 wells in the Logar River well-field at the cost of 9.8 million USD (loan from World Bank and government fund), which provided water to 270,000 people in the areas of the city centre, Karteh Naw, Sahashdarak, Wazir Akbar Khan and Khair Khana. The production of water was 40,045 cbm per day. The second project provided 17,500 cbm of water per day for 130,000 people of Khair Khana District. The financing was via loan from Ashnayelt Bank of Germany and development budget of the Afghan government. The project included the construction of 11 km of transmission pipe, two reservoirs with the volume of 5,000 cbm and 10,000 cbm, and 6 wells, booster pump station and a control house at the Logar River project site.

### **Central Authority of Water Supply and Sewerage (CAWSS)**

In 1975, a government enterprise named Central Authority for Water Supply and Sewerage was established within the structure of Ministry of Public Works (transformation of Afghanistan Water Supply Department). All urban water supply units from Kabul Municipality and other local municipalities were transferred to this new enterprise. In 1987, this enterprise was reassigned to the Ministry of Urban Development.

### **Afghanistan Urban Water Supply and Sewerage Corporation (AUWSSC)**

From the 1980s onwards, Afghanistan went through significant periods of turmoil. Subsequently, due to a lack of investment, prolonged conflict, droughts, and rapid urbanisation over the last few decades, access to piped water infrastructure dropped to a level, which was estimated to be one of the lowest in the world. Since the end of the conflict, the Government's Water Supply and Sanitation strategy focus has been on the rehabilitation and re-establishment of the existing systems and services, while at the same time initiating institutional reform and strengthening and capacity building, and carrying out feasibility studies for system expansion. Several donors including the World Bank, GIZ, KFW, USAID, CIDA, JICA, UN-Habitat and Provincial Reconstruction Teams (PRTs) have provided support to the sector.

As a part of the process of institutional reform, the water service structure once again went through a transformation process. By the Presidential Decree of 25th January 2006, CAWSS was liquidated and a new corporate entity was created – the Afghanistan Urban Water Supply and Sewerage Corporation (AUWSSC) – having five shareholders. These are: Ministry of Finance (45%), Ministry of Urban Development Affairs (35%), Ministry of Economy (10%), National Environmental Protection Agency (10%) and Kabul Municipality (5%). Representatives from these five shareholders form the Board of Directors of AUWSSC. At the time of formation, the main challenges of the management team were seen to be: (i) expansion of service area to additional towns, as well as within the towns already serviced; (ii) achievement of significant gains in efficiency on operations to meet the performance improvement targets for the AUWSSC; and, (iii) pioneering a corporate-type of management based on commercial principles such as commercialisation, financial viability and customer orientation.

### **Process of AUWSSC operationalisation (major problems, solutions applied)**

Immediately upon establishment of AUWSSC by the Presidential Decree of 01/25/2006, a working group was formed by the shareholder governmental entities to prepare a transition plan for a fast and effective liquidation of CAWSS and its conversion to AUWSSC. The group was provided technical support from a number of international donor organisations working in the urban water supply sector of Afghanistan. However, it needs to be noted that the transition process is still in progress. The major challenges faced in implementation of the transition process can be briefly described as follows:

- **Absence of a proper assets management system in CAWSS resulted in an extremely lengthy process of its assets re-registration, assessment and title transfer to the newly established corporation.**

The process has proven to be extremely complicated due to the decades of previous conflicts, when no proper systems were functioning either in the central governmental cadastre or in the municipalities to allow for a proper legal registration of land and other facilities. Same land and facilities have found to be stated as a property of different organisations and/or private persons according to ownership documents issued for the same estate by different or even the same authorities.

To successfully complete this process - AUWSSC is being assisted by international donor organisations who provided the funding for implementation of an assets audit; international experts assistance in audited assets legal re-registration and title transfer; procurement, installation and maintenance of a proper assets management system in AUWSSC and its regional branches; human capacity development (training) to ensure an effective management of the corporation assets.

- **Absence of a proper legal/regulatory basis to enable the new corporation to effectively implement its mandated responsibilities.**

This problem must have been observed not only in Afghanistan, but also in many other developing countries that are going through the process of corporatisation and later privatisation of their public utilities. The lack of a proper legal/regulatory framework in place by the time of liquidation of the old ineffective state-owned utility enterprises and establishment of new corporations has heavily affected AUWSSC's ability to quickly take over CAWSS and start implementation of its responsibilities as was assigned by the Presidential Decree. No proper revision of the existing legal and regulatory framework has been implemented to support the subject Presidential Decree implementation. Until now many of the functions assigned to AUWSSC are being duplicated by other ministries and governmental organisation as they consider themselves responsible for these functions based on several by-laws, procedural documents and laws governing in the Islamic Republic of Afghanistan. Although the Afghanistan Water Law has been revised in 2007, it still allows some vague interpretations of the functional responsibilities of different governmental bodies. In addition, due to low interest in the donor community regarding this subject, no funding has been provided to implement a proper review of the existing legal/regulatory framework and develop revisions to existing laws and regulations to avoid duplication of functions by different governmental authorities. Some minimal assistance is being currently provided by donors (mostly GIZ) for a certain optimisation of the existing legal/regulatory framework in the Afghanistan urban water supply sector. However, AUWSSC and the Government of Afghanistan yet need to work with donors to secure the necessary funding for a full-scale legal/regulatory framework revision.

- **Lack of effective management experience.**

The lack of coordination and mutual understanding between AUWSSC shareholders the extended negotiation process with the World Bank for provision of funding to expand the existing networks and to subsidise the operational financing of AUWSSC and its regional Strategic Business Units (SBUs) resulted in an enormous delay in completion of a hiring process of the AUWSSC Management Team. Despite the fact that AUWSSC was established in 2006 by a Presidential Decree, its Executive Management Team (EMT) hiring was implemented in December 2009 – September 2010. The AUWSSC EMT had to be supported by an international consulting company, which started its work only in late 2011 (while it was planned to start in early 2010). The contract with this consulting company expired in March 2013.

Considering the current lack of management experience of AUWSSC EMT, GIZ is providing AUWSSC with some limited technical assistance in preparation, tendering and procurement of professional expert/advisory services to AUWSSC Executive Management Team to compensate for the absence of the technical consulting company.

- **General lack of experienced technical experts and skilled labour.**

Due to decades of conflict in Afghanistan most of its educated experts and skilled labour have fled the country. This problem is not just limited to the urban water sector, but is rather a universal problem for any sector of Afghanistan's economy. The low salary scale does not look attractive for the existing few professionals in the country who prefer to be employed in the private sector or with the international donor organisations, where the compensation scale is significantly higher.

AUWSSC has been provided extensive support by many donors (i.e. GIZ, WB, USAID, JICA, etc.) in building the professional capacity of its staff members. However, many trained staff members have left AUWSSC upon completion of expensive training programmes for higher paid employment

opportunities with the private sector or donor organisations.

AUWSSC and the Government of Afghanistan have been successful in negotiating with the World Bank for a salary supplement, which enabled AUWSSC to attract experienced local top managers. However, the salary scale for mid- and low-level management as well as the one for professional labour still needs to be provided a solution.

- **Insecure environment does not allow for a rapid expansion of AUWSSC services in certain provinces of Afghanistan.**

Still existing security problems in certain provinces of Afghanistan do not allow AUWSSC to expand its services for the urban population of these provinces. AUWSSC personnel are being considered by insurgents as government representatives and have been targeted by them many times. This problem in its turn affects AUWSSC's ability to hire qualified personnel in a number of its regional offices.

The solution to this problem is well beyond the manageable area of interest of AUWSSC and donor organisations. However the problem is stated here as one of the major issues affecting AUWSSC's ability to effectively implement its responsibilities in all the urban areas of Afghanistan as has been mandated by the Presidential Decree of 01/25/2006.

### **Key achievements of AUWSSC to date**

In spite of the above listed problems, AUWSSC, supported with extensive technical assistance programmes of different donor organisations (i.e. GIZ, KfW, USAID, WB, JICA, etc.), has made quite a number of significant achievements in a relatively short period (March 2009 – December 2012).

Below are just few numbers to represent the technical achievements of AUWSSC during the aforementioned period. While some of the increase in absolute numbers seems to be small, the relative percentage of the increase proves the significant change if compared with the baseline numbers.

- Total water distribution and transmission pipelines length increased from 1, 788 km to 2450 km (37%).
- Customer connections increased from 110,597 to 151,539 (37%).
- Metered customer connections increased from 56,662 to 104,888 (85%).
- Water production capacity per day increased from 84,541 cbm/day to 103,594 cbm/day (23%).
- Water storage reservoir volume increased from 62,821 cbm to 73,926 cbm (18%).

One of the most significant achievements of AUWSSC was the approval of the new water tariff (approved by the Presidential Decree on 11<sup>th</sup> June, 2012.) This, along with the improvement of the collection rate, is expected to increase the revenues of AUWSSC by the end of 2013 to the point where AUWSSC could actually become a self-sustainable enterprise, which will not depend on the continued WB subsidisation of its operational expenses.

Just in few years of its operation AUWSSC has improved the collection rate, thereby increasing its revenues by 57%. Increase of the revenues due to implementation of the new tariff structure is expected to be in the range of 65-70%.

In early 2013, AUWSSC obtained the approval of its Board of Directors for implementation of the new organisational structure for the Corporation's headquarters.

AUWSSC continues working with different municipalities for transferring the title and the operation responsibility of their existing water supply networks to AUWSSC regional units. Several new regional and sub-regional units of AUWSSC have been established since 2010.

With the support of GIZ and WB, AUWSSC Management Team and its Board of Directors has visited several water utilities (private and state-owned) in the regional countries to study their market structures and the best practices in urban water supply management. AUWSSC has signed Memorandums of Intentions with those Utilities for provision of technical expert/advisory services to AUWSSC to ensure its successful corporatisation process.

Most of the above would be impossible to achieve without strong commitment and continued technical support of such donors as GIZ, KfW, WB, USAID, JICA and AFD for bringing improvements to the Afghanistan urban water supply sector.

## Major challenges currently faced by AUWSSC

Albeit the significant progress made in the coverage of the network and services provided for water supply in urban areas since the formation of AUWSSC, many challenges still remain that hinder development. These are listed below.

- The existing technical losses are estimated to be in the range of 35% due to the obsolete piping. This also affects the quality of the water. In addition the old system was designed and built in times when both electric and water utilities were state-owned. As a result the existing system is not energy efficient and uses significant amount of electric power for pumping the water.  
AUWSSC and the Government of Afghanistan is working with the international donor community and International Financial Institutions (IFI) to raise funding for rehabilitation of the existing system (to reduce the technical losses and improve the water quality) as well as for its optimisation (to use gravitational flow wherever it is possible).
- Absence of a proper customer registration system as well as a unified metering, billing and collection system results in still high commercial losses of AUWSSC, thus affecting its ability to provide effective maintenance of the existing network.  
AUWSSC is currently working with the donor organisations on procurement and installation of a management information system that will also include the above-mentioned modules. The system is expected to be in place by mid 2014.
- One of the major problems faced by AUWSSC, which has been specified before, is the lack of experienced personnel (managers, engineers, skilled labour). This heavily affects AUWSSC's ability to successfully implement the corporatisation process. This problem becomes especially acute in the regional branches of AUWSSC, due to internal migration of the educated specialists and skilled labour force from the regions to Kabul, where the employment opportunities are better.  
AUWSSC has developed extensive capacity building training programmes for its headquarter personnel as well as for the staff of its regional branches. The programmes are being funded by donor organisations such as GIZ, WB, USAID, etc. However, due to the previously mentioned problem of relatively low salaries for the governmental employees, the rate of staff turnover is very high. The current inability of AUWSSC to revise the governmental salary scale for its employees requires finding another effective solution to ensure that the trained personnel stay with AUWSSC upon completion of their training program.
- Lack of a clear development plan and a business (revenue generation) approach in its daily routine management affects AUWSSC's ability to develop and implement clear unified administrative, financial and technical procedures required to ensure efficient and effective operation of the corporation.  
Due to a certain lack of coordination of different donors' assistance programmes, a number of similarly titled documents have been developed since 2006 by different donors to help AUWSSC plan for its institutional development processes as well as to unify its internal management procedures (administrative, technical, financial). Some of these documents became obsolete overtime and needed a major revision and re-tailoring to reflect the recent changes in the legal and regulatory framework,. Others might still be used by AUWSSC without major revisions. GIZ, since 2011, has been providing AUWSSC with technical assistance to develop its final business development model and an institutional development plan. The document is to be completed and accepted by AUWSSC for implementation by the end of 2013.
- The aforementioned land title issues are also a considerable factor slowing down AUWSSC's ability to effectively enlarge its activities in the regions.

## Recommendations

Below are several recommendations, which, if implemented as planned before the end of 2013, would contribute to fast and significant improvements in the quality of services provided by AUWSSC to its customers. Moreover, they would ensure continued successful implementation of the corporatisation process of AUWSSC;

- Accept for implementation the AUWSSC Business Model and Institutional Development Plan. Develop and implement an Evaluation and Monitoring system for implementation of the above plans.

- Start implementation the new organisational structure of AUWSSC; conduct a personnel assessment and certification for the headquarter staff as well as for the regional units of AUWSSC; develop personal training plans for each staff member and, in order to increase the efficiency of the donors technical assistance funding, share these plans with the donor community providing human capacity development assistance to AUWSSC.
- Develop and implement a performance bonus system to reduce extensive staff rotation in AUWSSC as well as to attract new qualified staff to fill in the existing vacancies in the headquarters and in the field.
- Hire a group of new international expertsadvisors for key members of the AUWSSC Executive Management Team to fill in the gap upon completion of the WB Consultant contract.
- Complete procurement and installation of the Management Information System (assets management; metering/billing/collection; accounting/financial reporting).
- Conduct an assessment of the existing water supply infrastructure; identify major problems/bottlenecks; develop infrastructure rehabilitation and optimisation plans; implement an aggressive awareness campaign with the donor community and IFIs to seek for funding for a gradual implementation of the rehabilitation/optimisation plan.

---

### **Acknowledgements**

This paper has been prepared with the support of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

---

### **Contact details**

Mr. Sayed Najibullah Masoumyar  
Afghanistan Urban Water Supply  
and Sewerage Corporation, AUWSSC  
Operations Manager  
Sari Tapa, Karti-e-Now, District 8,  
Kabul, Afghanistan  
Tel: 0093 799 313251  
Email: masoumyar@gmail.com

Mr. Dad Mohammad Baheer  
Afghanistan Urban Water Supply  
and Sewerage Corporation, AUWSSC  
General Director  
Sari Tapa, Karti-e-Now, District 8,  
Kabul, Afghanistan  
Tel: 0093 700 277 129  
Email: d.baheer@auwssc.gov.af

Mr. Artak Vardanyan  
Urban Water Supply Improvement Programme  
(WSIP),  
Advisor, Water Management and Planning  
Deutsche Gesellschaft für  
Internationale Zusammenarbeit (GIZ) GmbH  
Tel. 0093 705 169927  
Email: artak.vardanyan@giz.de

---