

EAP Task Force

GROUP OF SENIOR OFFICIALS ON THE REFORMS OF THE WATER SUPPLY AND SANITATION SECTOR IN EASTERN EUROPE, CAUCASUS AND CENTRAL ASIA

THIRD MEETING

Water and Sewerage Utilities in the Republic of Georgia - Operational and Financial Performance Indicators

(prepared by *Gruzvodokanal*¹)

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Introduction

Pursuant to the work program under the NIS urban water sector reform project of the EAP Task Force of the OECD², in March-July 2003 LLC Gruzvodokanal (the "Gruzvodokanal") conducted an assessment of operational and financial performance by water and sewerage utilities in Georgia. The objective of this assessment was to derive actual indicators for the Georgian water sector based on internationally accepted standards to enable the evaluation of the real capabilities of local utilities and the sector in general, adoption of balanced decisions, investment planning and designing a water sector development program based on objective data and its analysis. Such database may prove useful for donors willing to provide assistance to Georgian water and sewerage utilities.

The survey was conducted by Gruzvodokanal, the primary organization in the Georgian water and sewerage sector, which provides technical and advisory assistance to all municipal utilities and minor water suppliers in small towns and large villages. Gruzvodokanal is the only entity in Georgia that possesses objective information on all utilities and their design documentation. Gruzvodokanal regularly holds seminars to discuss the current status of the sector and new approaches and technology.

The indicators were compiled using the World Bank's model benchmarking kit designed for the calculation of operating and financial indicators for water and sewerage utilities (Appendix 1). This kit makes it possible to objectively evaluate the condition of both individual utilities and the sector as a whole. However, some of the indicators cannot be applied in the calculation of aggregated sector parameters, including those relating to the number of connections as Georgian utilities do not maintain such records.

The survey covered 28 water and sewerage utilities serving some 70% of total population in Georgia and operating in the capital city of Tbilisi (approximately 1.2 million residents), the major cities of Rustavi (140,000), Kutaisi (220,000), Batumi (140,000), Zugdidi (70,000), Gori (65,000) and Poti (70,000), and a number of smaller towns with a population of less than 50,000 persons (Samtredi, Senaki, Khashuri, Chiaturi, Marveuli, Telavi, Zastafoni, Kobuleti, Ozugeti, Tqibuli, Borjomi, Kaspi, Gurdjani, Kvareli, Tezhola, Abasha, Oni and Tsqaltubo). In some towns (Rustavi, Samtredi and Khashuri) water and sewerage utilities operate independently of each other. Sewerage operators in these towns are presented as a separate group that also includes the sewage treatment facilities of Tbilisi and Rustavi located in the Gardaban District, which are a separate entity as well. In addition to sewerage operations, these utilities provide water service (albeit to a very limited extent) and, accordingly, their group indicators are also presented in the sections dedicated to water supply.

Brief description of the water and sewerage system in Georgia

Georgia is located in the South-Eastern part of Europe and comprises nine administrative districts and the autonomous republics of Abkhazia and Adzharia. Total population is 4.95 million persons, of which 58% live in urban areas.

The issue of secure potable water supply in Georgia is a key task of the national environmental and public health programs. At present, all of the 85 towns and regional centers have centralized public water supply systems, including 156 headwork intake facilities, which predominantly use groundwater and underground potable water sources and have a total design capacity of 3.1 million cubic meters daily. Sewerage systems exist in 41 towns and regional centers, and 30 more localities have treatment plants for domestic and industrial sewage with a design capacity of 1.6 million cubic meters daily (including the regional treatment facilities in the Gardaban district with daily capacity of 1.0 million cubic meters, which serve the cities of Tbilisi and Rustavi). The total length of water pipelines and water supply networks is 9.5 thousand kilometers, while sewage collectors stretch for some 4.0 thousand kilometers.

² The work was carried out with financial assistance from the Governments of Netherlands and Norway. For information on other projects in the FSU urban water sector, please contact Aki Yamaguchi (aki.yamaguchi@oecd.org) or Alexander Danilenko (alexander.danilenko@oecd.org).

In 1990s Georgia, stricken by an acute political and economic crisis, had no state system of water management or an integral water policy. As a result, the majority of water and sewerage utilities found themselves in critical condition in terms of management and operation of facilities, aggravated by unsatisfactory sanitary and technical condition of headworks at most utilities. At present, many facilities do not have protected area fencing or operative disinfection (chlorination) equipment. 60% of water supply networks (but water quality is good, due to reduced demand and the fact that the most water comes from the underground source) and 50% of sewerage networks and collectors are past their service lives. Many utilities have not conducted any repairs and maintenance for many years, leading to frequent water system breakdowns and the resultant pollution and losses of potable water. Water losses total 30%-50%, residential service is erratic, and no accounting is maintained for water dispatched by headworks and water consumed. The situation is aggravated by insufficient water quality lab control, and water often does not conform to the applicable state standards and sanitary and hygienic requirements.

The situation with domestic and industrial sewage disposal and treatment in towns and other communities is even more alarming. Most treatment facilities are out of action, destroyed or inoperative, with domestic and industrial sewage discharged into open water bodies without any treatment, resulting in Black and Caspian Sea pollution. This factor also underlies the growing enteric and infectious disease incidence in Georgia.

The lack of the essential organizational and technical efforts at Georgian water and sewerage utilities also stems from the low paying capacity of their principal customers. The majority of population, budget-financed organizations and some enterprises cannot pay their potable water and sewage disposal bills. At present, residential customers pay for a mere 15%-20% of all water consumed. This has created major financial difficulties for utilities, which are unable to pay for electricity and delay salaries for 6-8 months.

Chronic underfinancing conditioned by dependence on budget allocations and water sector funding on 'residual' basis severely undermine the reliability of the vital water and sewerage services, prevent full-scale introduction of resource-saving equipment and technology and adversely affect environmental safety.

In the lights of the above, Gruzvodokanal believes that if the current trends in sector financing from the national and local budgets and other sources do not reverse, with at least a triple increase in allocations, utilities will lack the resources to even preserve the current low level of water and sewerage service.

Recognizing the difficulties faced by the sector, the Ministry of Urban Development and Construction of Georgia developed a program to improve the sanitary and technical condition of water and sewerage systems in towns and regional centers, approved by Decree No. 531 of the President of Georgia of September 23, 1998. This program envisages the implementation of a set of indispensable urgent measures to improve the sanitary and technical condition of existing water and sewerage facilities and networks to ensure quality potable water supplies and an environmentally safe disposal of wastewater. However, the lack of funds has obstructed adequate program implementation.

Institutional issues faced by the sector

The situation is aggravated by the absence of a clear-cut segregation of water sector responsibilities among the national and local authorities and bodies of self-governance. The disintegration of the former public utility system over the past ten years has left the water and sewerage sector without a central agency responsible for its management and development. At present, Georgia does not have an integral nation-wide system for collection and analysis of technical and economic data and operational indicators of water utilities. The Ministry of Urban Development and Construction provides methodological guidance and is responsible for water infrastructure development, while all matters relating to water as a vital necessity and a sanitary/hygienic factor are monitored by the Ministry of Health Care, Labor and Social Welfare. The Ministry of Environmental Protection authorizes water use, defines discharge limits and monitors environmental impact, and the Ministry of State Property Management in its capacity as the sole owner of state property acts as the founder of water and sewerage utilities (most are organized as limited liability companies), while the bulk of responsibility for the regular operation and development of utilities lies with local authorities and bodies of self-governance.

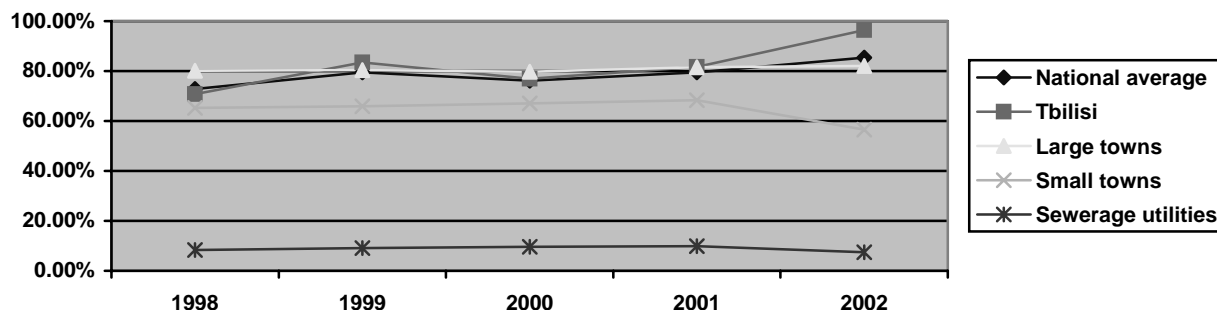
Gruzvodokanal exists within the framework of the Ministry of Urban Development and Construction and is responsible for providing methodological guidance to water and sewerage utilities in Georgian towns and regional centers. Gruzvodokanal has developed a number of regulations, such as the Rules for the Use of Public Water and Sewerage Systems, Specifications for the Quality of Wastewater Discharged by Industrial Enterprises into Municipal Sewage Networks, and Rules of Operation of Water Supply and Sewerage Systems in Inhabited Localities. A national law on potable water and potable water supply is underway.

The current state of the national water and sewerage sector prompted Georgian utilities, at the initiative of Gruzvodokanal, to form the Georgian Water and Sewerage Association. At the constituent conference on July 11, 2003, all participants representing water and sewerage utilities throughout the country agreed that disjointed and uncoordinated utility operations are the main cause of the current difficulties in supplying communities with potable water and sewerage and wastewater treatment services.

The Georgian Water and Sewerage Association is as a voluntary union of water and sewerage utilities which also includes repair, construction and other entities operating in the water sector. Association members remain independent legal entities. The Association will coordinate the main areas of utility operations and draft and arrange the implementation of dedicated comprehensive programs based on member proposals and recommendations. It will also safeguard the interests and rights of members, will provide them with legal and other advisory support, and will represent members in state and other agencies and international organizations within the scope of its authority.

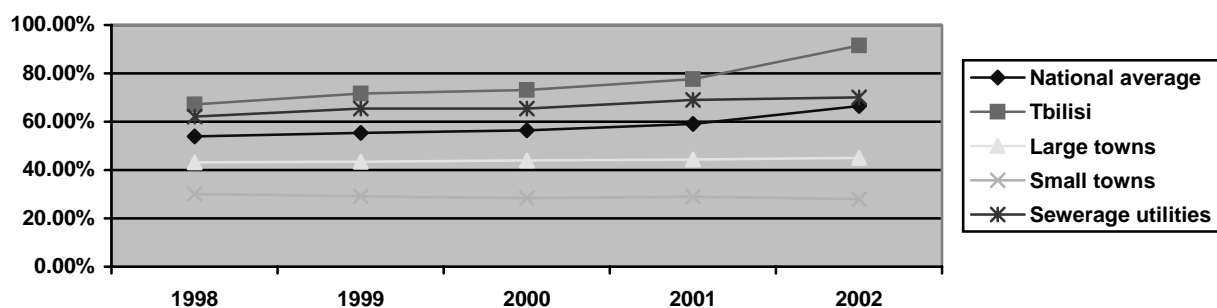
Technical condition of water utilities

Indicator 1.1 Water coverage (%)



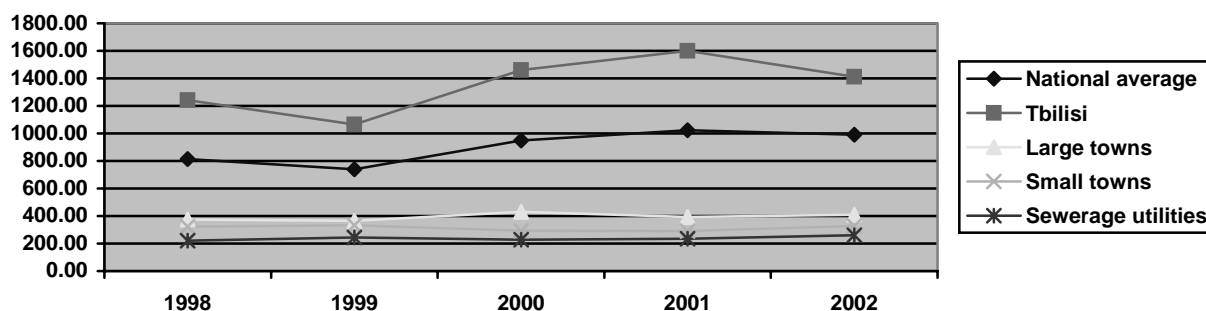
Water coverage in Georgia remained stable and relatively high throughout the five years under review. Some fluctuations and perceived growth are explained by administrative reforms, with enterprises divesting their in-house water and sewerage networks and fixed assets to water and sewerage utilities. Another factor that deserves a separate mention is a significant population loss driven by emigration and continuing economic difficulties which had a major impact on the water coverage and other indicators. A worrisome development is a decline in coverage in small towns in 2001-2002, which stems from the absence of any investment or major repairs in these communities for many years. Sewerage utilities enhanced coverage through offering water services to nearby residents.

Indicator 2.1 Sewerage coverage (%)



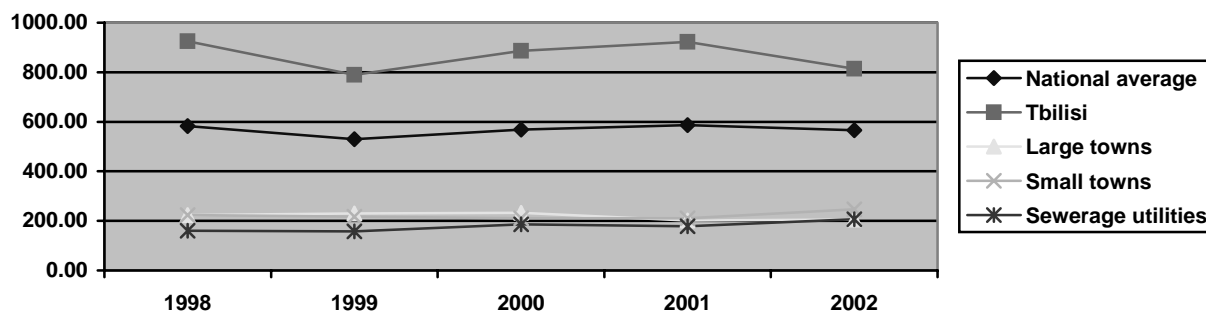
Sewerage coverage is much lower, especially in small towns and sometimes in major towns as well. Only Tbilisi can boast virtually 100% coverage which has increased commensurate with the transfer of corporate sewerage networks to the municipal water utility. In large towns, utilities have managed to preserve the level of sewerage connections at under 50%, while in small towns this indicator slightly declined. Coverage by sewerage utilities has increased but, similarly to Tbilisi, primarily due to divestments.

Indicator 3.1 Water production (liters per person daily)



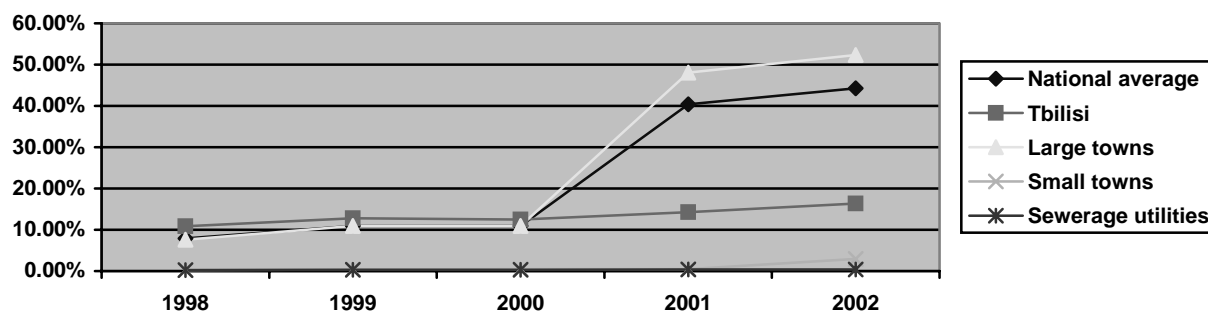
Water production remained steady throughout the period, with a slight drop in 2002. It should be noted that Tbilisi, the primary economic center of the country, requires more water than other towns, which makes averaged indicators somewhat artificial. 300-400 liters per person seems to be a reasonable indication of actual daily water production in other large and small towns. A slight increase in production over the last years may be due to somewhat better economic situation in the country and a certain growth in production as observed, for example, in Batumi and Rustavi. This indicator should be treated with care as most enterprises do not have meters installed.

Indicator 4.1 Water consumption (liters per person daily)



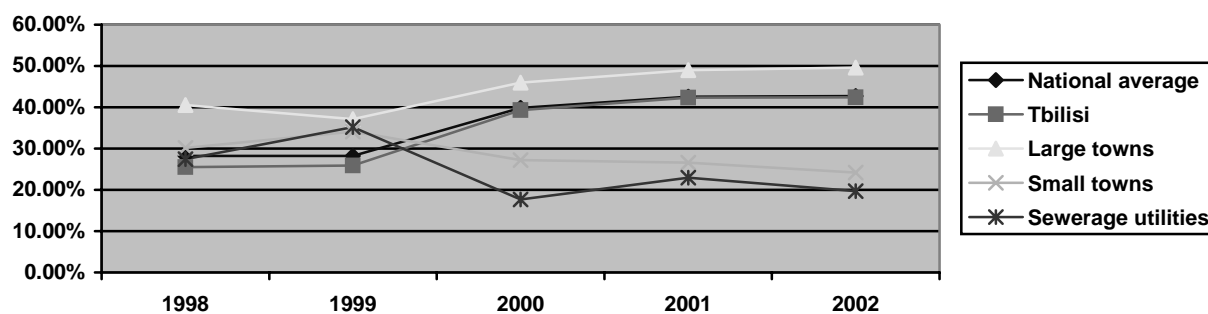
Water consumption over the period also remained unchanged. An increase in metered consumption, especially in large towns (see indicator 7.1) resulted in slightly lower consumption, which nevertheless remains extremely high in a number of communities, including Tbilisi (over 900 liters per person daily), Batumi, Samtredi and Telavi (400-500 liters per person daily). Heavy consumption implies weak metering practices and low charges and payment discipline (see indicators 7.1, 18.1 and 22.1 below).

Indicator 7.1 Proportion of metered water connections (%)

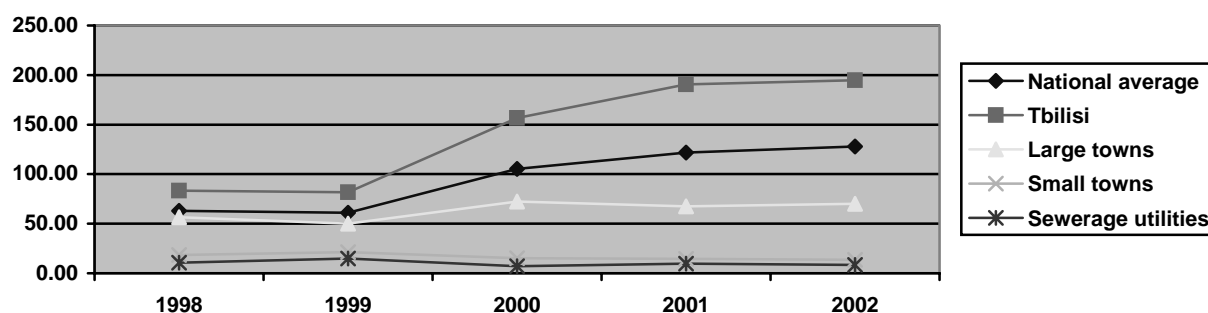


Metered consumption evidently increased, however the bulk of this growth falls on large utilities having funds to invest and the support from local self-governance bodies required to implement such programs. Small towns with no access to the market of inexpensive meters do not show similar growth. In Tbilisi, the situation is apparently complicated by political factors that slow down the introduction of universal metering, although certain progress can also be observed. Sewerage utilities have no interest in metering as is evident from indicator 7.1 for such operators. Wider metering, however, so far has not led to any major decline in consumption.

Indicator 6.1 Losses: unbilled water produced (%)



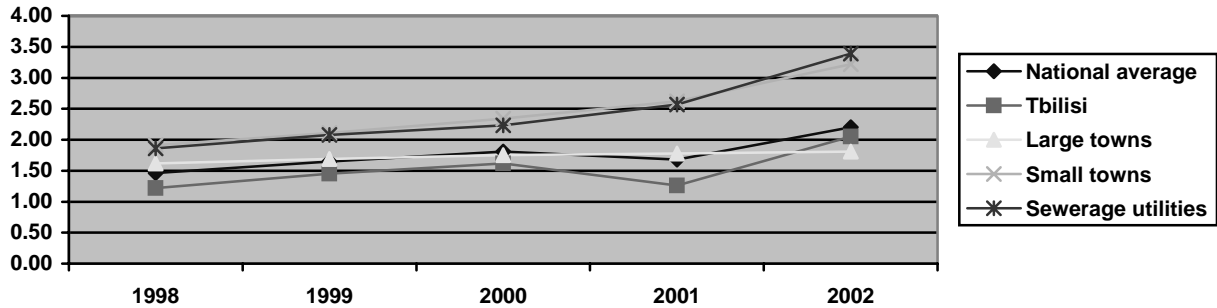
Indicator 6.2 Losses: unbilled water produced (cubic meters per person daily)



Another evident trend is growing losses, in both percent and physical terms. This is an objective indication of declining capital investments and the level of network maintenance resulting from financial difficulties. Physical water losses in Georgia are a multiple of losses by Western companies. Non-operating losses

drive up energy and chemical agent consumption, while the financial condition of utilities precludes comprehensive modernization.

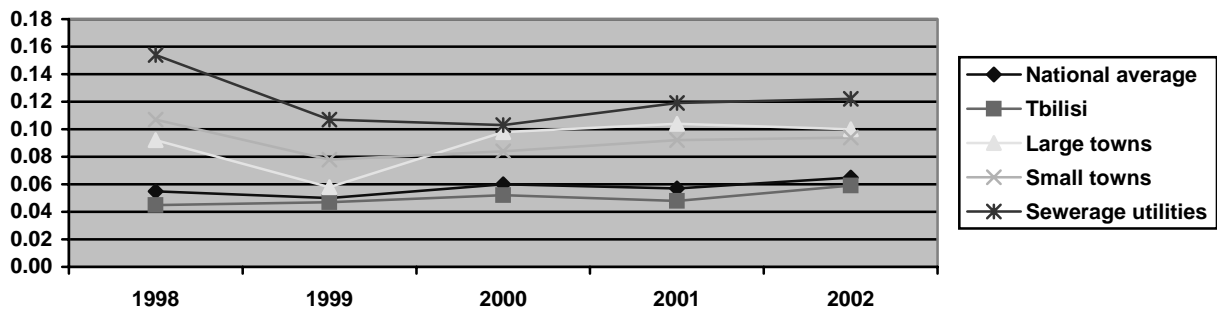
Indicator 9.1 Pipe breaks (annual per km of water networks)



The poor condition of networks and growing failure incidence (higher than in industrialized countries by 10-50 times) reaffirm the criticality of urgent measures to resolve the problems faced by the national water sector. All utility groups (except Tbilisi) report decreasing uninterrupted daily service, which approximates 12 hours per day (indicator 15.1). Georgian utilities and Gruzvodokanal realize that this method of resource saving leads to disintegration of infrastructure and higher breakdown rates, yet low tariffs, an extremely difficult financial situation and debts to energy companies leave utilities with no alternatives.

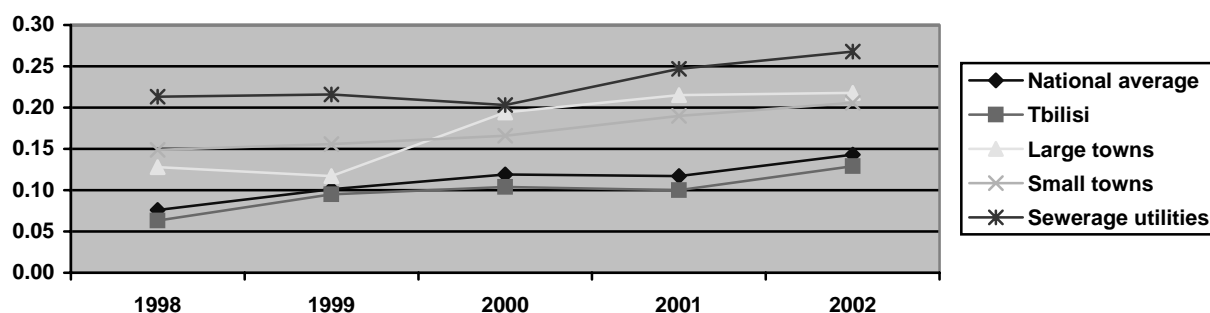
Financial and operational performance of water utilities

Indicator 11.1 Production costs (\$ per cubic meter of water produced)

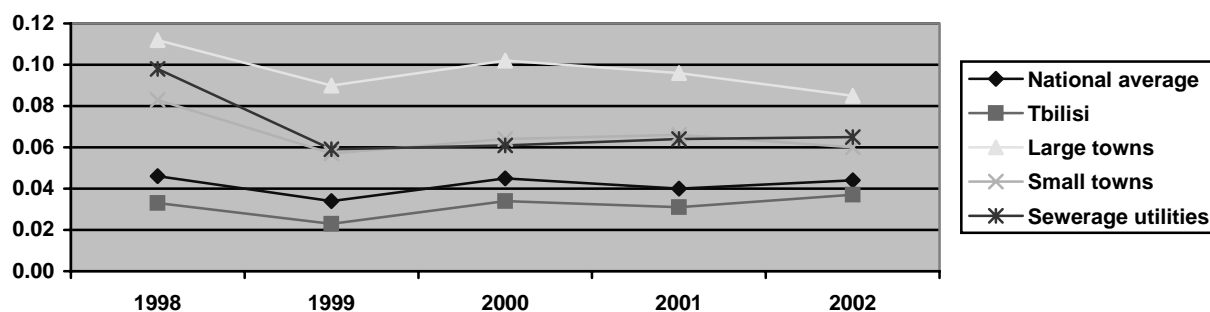


Potable water production costs in US dollars remained stable over the five years. A minor tariff reduction in dollar terms is due to the payment system crisis in Russia that affected Georgia as well. In terms of Georgian Lari (GGL) (see chart below), costs increased commensurate with inflation, albeit with a slight lag.

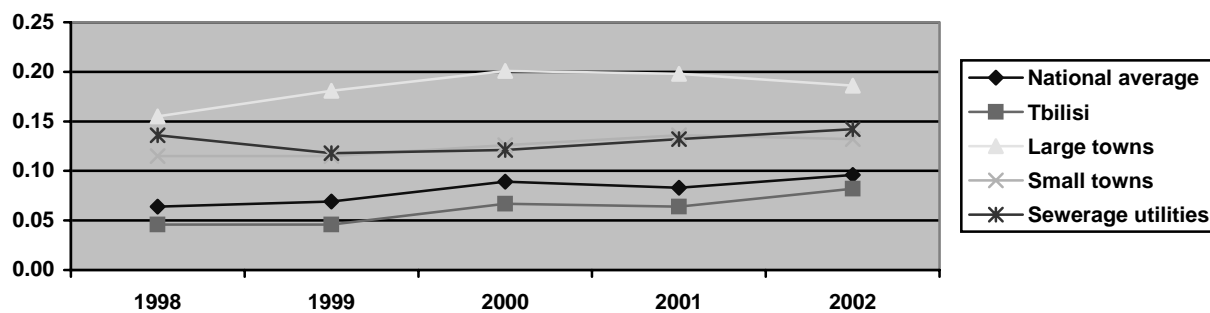
Indicator 11.1 Production costs (GGL per cubic meter of water produced)



Indicator 18.1 Actual average tariff (\$ per cubic meter)

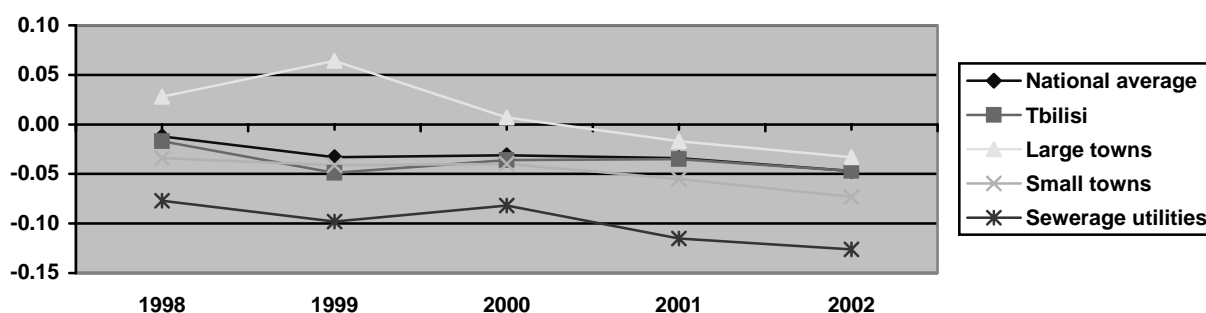


Indicator 18.1 Actual average tariff (GGL per cubic meter)



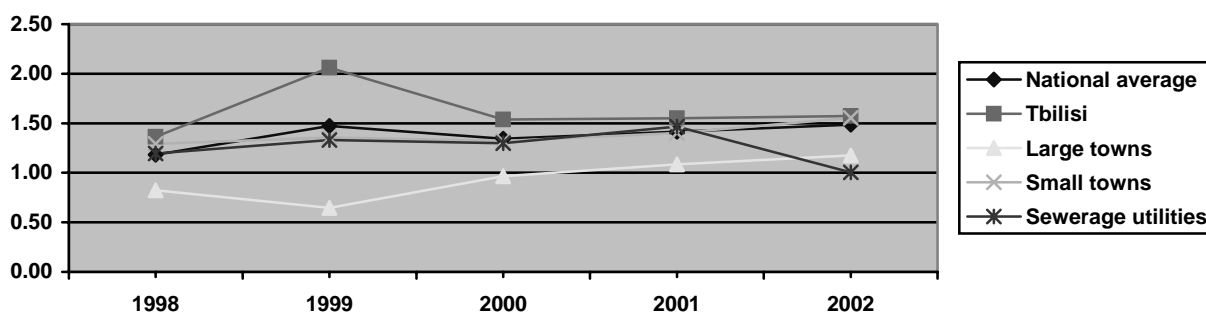
Water charges remain a political issue in Georgia. Charges do not cover utility costs despite cross-subsidizing and systematic forgiveness of debts. It is simply unprofitable for utilities to sell water. The chart below illustrates the difference between costs and charges (in GGL) for all utility groups. In all cases, charges fail to cover costs, and the gap continues to increase (see chart below).

The difference of utility charges to costs (in GGL per cubic meter)



Apparently, in such an environment the key issue is financial survival of utilities rather than their efficiency. The ratio of utility costs to operational revenues to as at year-end (working ratio) exceeds 1 in all utility groups, implying lack of liquidity and severe financial problems (see indicator 24.1 below). Only in large towns, water utilities managed to maintain their financial balance until the 1998-1999 crisis, which pushed them in the red as well.

Indicator 24.1 Utility working ratio

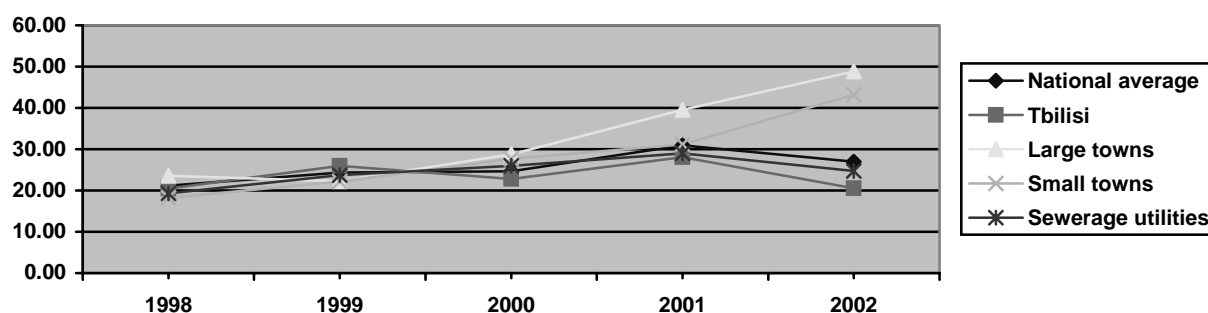


Of all operators, only the Tbilisi water utility has access to third party financing as shown by indicator 25.1 *Debt Service*. No other utility has either the opportunity or powers to borrow. Meanwhile, the level of investment remains low at slightly above \$1-2 per capita.

Social safety net in the sector

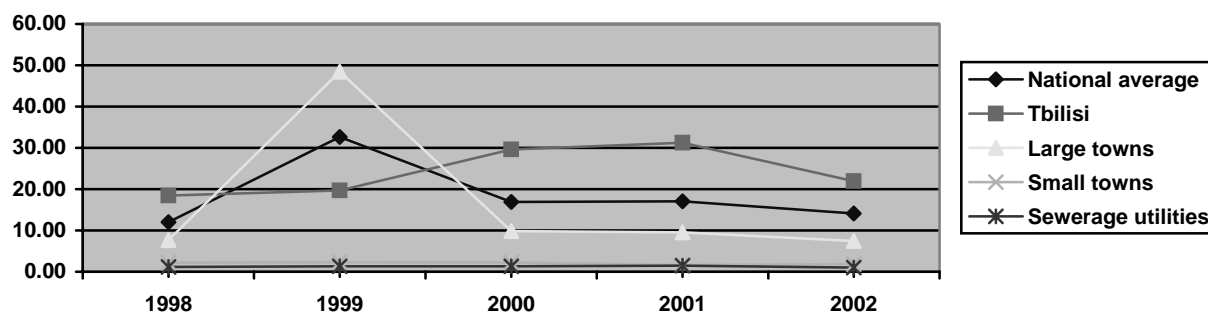
Special direct safeguards for the poor as relates to water and sewerage services are virtually non-existent in Georgia. Social assistance is universal and covers the entire range of utility services, including heating and electricity. Low tariffs for all residential consumers are being preserved through cross-subsidizing and (indirectly) deferred payments for water and sewerage services (or, simply speaking, non-payments).

Indicator 23.1 Collection (months from billing date)



Low payment discipline is another factor that aggravates the financial condition of water utilities. All utility groups report accounts receivable in excess of two years' worth of payments. Only the Tbilisi water utility was able to reduce such debt in 2002. In large cities, arrears already exceed three years and continue to build up. Georgian utilities are not authorized to disconnect non-payers, and fines for non-payment are often ruled unlawful. In Tbilisi the relations between TWU and its customers (of all categories) are regulated by "Directives for Users of Tbilisi Water Supply and Sanitation Services" (adopted by the city council on March 2, 2000; Resolution No. 3-13). According to this directive, in cases of non-payment TWU has full right to terminate service to all categories of customers. TWU uses this right for industrial, budgetary, and rarely for domestic metered customers (individual houses), but not for residential customers living in apartment buildings. As a result, utility bills and notices are being ignored by population consumers and are not paid on time, which further aggravates the utilities' difficult financial condition and undermines their technical capabilities for providing quality service.

Indicator 21.1 Extent of cross-subsidizing (ratio of industrial to residential charges)



Cross-subsidizing is the major social security tool used to preserve low residential charges in Tbilisi and other large towns. This practice is not as wide-spread in small towns or among sewerage utilities, apparently because the latter have no industrial customers. There is a certain trend towards reduced cross-subsidizing, however it still remains extensive in Tbilisi, where residential charges are 20 times lower than the tariffs for industrial consumers and budget-financed organizations (less than GGL 0.04 per cubic meter). Such practice may trigger further outflow of industrial customers and rejection of services offered by water utilities, which will definitely aggravate their financial problems.

Quality of drinking water and environmental issues faced by water and sewerage utilities in Georgia

Despite all difficulties, Georgian water utilities manage to deliver high-quality water to virtually all consumers, also the water sources security began to be important for the national government. At the same

time, none of the utilities maintain any sewage treatment operations besides mechanical purification of wastewater.

Conclusions

1. The operational and financial performance indicators developed by the World Bank adequately present the state of the water and sewerage sector in Georgia. Gruzvodokanal has tested these indicators and found them to be a valuable aid in sector development planning and decision-making.
2. So far, Georgian water utilities have managed to maintain an acceptable quality of service despite all difficulties. Water and sewerage coverage is still high, however all utilities (with the sole exception of Tbilisi) report declining uninterrupted service performance. Consumption levels in large towns remain very high, notwithstanding the growing use of meters.
3. The technical condition of Georgian water utilities continues to deteriorate, with growing failure incidence in both water and sewage systems, while low tariffs preclude timely maintenance and repairs.
4. Water tariffs remain extremely low and do not cover even the operating costs of water utilities. Virtually all water utilities are on the brink of financial disaster. The sector is in critical need of an immediate tariff-setting reform.
5. Social assistance exists in the form of cross-subsidizing and, indirectly, low payment discipline. Such methods are inefficient and undermine both the client base component and the financial basis of the sector. Immediate measures are required to resolve the crisis.
6. The sewage treatment system is virtually inoperative and requires urgent measures if it is to be revitalized. Any further disuse of treatment facilities may render them completely unusable and their re-commissioning unfeasible. This will entail severe financial losses and will also damage the image of Georgia as a result of pollution of borderline rivers and the Black Sea.