

**FIRST MEETING OF THE OECD MEMBER-LEAD TEAM ON WATER SUPPLY
AND SANITATION**

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Background document

**SUPPORT TO THE GEORGIAN GOVERNMENT IN DEVELOPING AND
IMPLEMENTING A FINANCIAL STRATEGY FOR URBAN WATER SUPPLY AND
SANITATION IN GEORGIA AND CARRYING OUT THE FEASIBILITY ANALYSIS**

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1. Background

In this project, the OECD/EAP Task Force secretariat cooperated with the Georgian Government to assess the financial implications of achieving the Millennium Development Goals (MDGs); to help the Government of Georgia to set realistic targets for the rehabilitation and development of *urban* water supply and sanitation infrastructure and services; and to identify options to bridge the financial gap between the expenditure needed for achieving policy objectives and the financing available. The analysis was conducted using FEASIBLE, a model developed to elaborate alternative financing scenarios. It should be noted that the study only addresses *urban* infrastructure, while it is obvious that in Georgia, with almost 50% of the population living in *rural* areas, the challenges of the rural water sector will be similar, if not more serious.

A similar study was undertaken in 2000, drawing a bleak picture of financing options for the water sector. Since then, and in spite of a significant economic recovery, the situation of the water supply and sanitation sector in Georgia remains critical:

- The condition of the infrastructure has continued to deteriorate, due to insufficient maintenance – more than 60% of the infrastructure is totally depreciated, approx. double the figure considered acceptable internationally
- The quality of the service has also deteriorated, resulting in regular outbreaks of water-related diseases, and in degradation of water resources – in spite of relatively high coverage by centralized water supply, varying from almost 100% in the 3 biggest cities to 64-82% (on average) in 17 other cities and towns under consideration. Approx. 30% of the population outside Tbilisi receive water for less than 12 hours per day, many people living in upper floors do not receive water at all, and water often contains sediments, smell and colour
- The financial situation of the utilities is both a cause and a consequence of these developments; tariff policy for households is inadequate and the collection rate of user charges is low.

2. The need for immediate action

These trends raise doubts as to whether the Georgian Government will be able to meet the goals that it set for itself. This is particularly the case for the reform of the housing and utilities sector initiated in 1998, and for the water-related Millennium Development Goals which were adopted by the Georgian Government in 2003.

More importantly, current trends are unsustainable. The report establishes that current financial resources are insufficient to prevent further deterioration of the existing infrastructure and services. Assuming that water tariffs were increased in line with household income growth, the stabilization of both infrastructure and service at their 2003 level in the 20 cities and towns under consideration would require additional annual finance, amounting to GEL 29.2 million in 2006 (USD 16.2 million), then gradually decreasing to GEL 2 million by 2023 (USD 1.1 million).

Thus, urgent action is needed to prevent further deterioration of the infrastructure. Further delays will generate additional costs and make the re-establishment of a satisfactory level of WSS services for the population and for the environment even more difficult and costly.

3. Measures to close the current financing gap, and the affordability issue

A baseline scenario was developed that would allow the current financing gap to be closed and provide for the stabilization of the present quality of water services (in terms of regularity and water quality) and the state of the infrastructure. This would require implementation of the following policies:

- Improve the collection rate of water bills, for business firms and budget organizations (from 70% in 2003 to 100% by 2007), and for households (from 34% in 2003 to 85% by 2010);
- Adopt payment based on actual consumption, by introducing water metering (including in apartments), and conduct regular leak detection and prevention; this would provide incentives for and result in a reduction of physical and commercial losses, which currently amount to 50-60% of the water supplied in the network
- Raise the annual water bill for households to the highest affordable level, followed by annual increases at the same rate as nominal growth of the GDP. As the annual water price for households in Tbilisi is already at the maximum affordability level, it is suggested to leave it unchanged in 2006. However, it is suggested that the annual water bill for households in other cities is doubled. For business firms and budget organizations further increases of tariffs would probably induce them to opt out of the network system and find alternative sources; water prices for these organizations would therefore remain at the current levels
- Increase budgetary resources (be they domestic, or from donors or international creditors) allocated to investment in the water and sanitation sectors from 1.34% of state expenditure in 2003 to 1.76%.

The policy recommendations for tariffs have been developed in the framework of a social assessment, including affordability and preliminary willingness to pay analysis. In particular, it was assumed that the proposed tariffs would ensure that 95% of Georgian households would spend less than **2.5%** of their expenditure on water, while only 5% would have to pay more. It was also assumed that implementation of a water saving programme would result in reducing water consumption from 800 litre/capita/day (lcd) to 300 lcd in Tbilisi, while in other cities water consumption would remain constant at the 2004 level of 82 lcd.

Under these assumptions in the baseline scenario, the monthly payment for WSS services in 2006 would be approx. GEL 4.50 (USD 2.50) per household per month in Tbilisi and approx. GEL 3.40 (USD 1.90) per household per month in other cities in Georgia. These monthly payments would be in line with the affordability threshold and the willingness to pay analysis, which revealed that people in Tbilisi have only limited willingness to pay, whereas the households in Rustavi were willing to pay more for improved WSS services.

4. Achieving the Millennium Development Goals on water supply and sanitation in urban areas of Georgia

The baseline scenario demonstrates that simply maintaining and rehabilitating the existing urban water supply and sanitation infrastructure represents a significant financial challenge for Georgia. Going beyond this goal and aiming to achieve the Millennium Development Goals on water supply and sanitation, i.e. extending access to safe water to half of those who currently do not have such access, is therefore an even greater challenge.

To assess the implications of achieving the Millennium Development Goals on water supply and sanitation, the project's steering group, composed of high-level representatives of the Ministries of

Economic Development, Finance and Environment, suggested that the following scenarios be developed, in order to identify additional policy measures that would go beyond those in the baseline scenario:

- 1 Scenario 1 “all in-house tap connection”: This would involve rehabilitation of the existing water mains and sewerage in the 20 cities and towns; construction of new infrastructure (water intake, distribution and treatment facilities) to provide sustainable access to safe water via in-house water taps to all urban consumers, including those who do not have such access at the moment; reducing losses and unaccounted for water in Tbilisi
- 2 Scenario 2 “in-house tap connections plus stand-pipes.” shares the objectives of scenario 1, albeit using another technology: safe water to be delivered by standpipes located within 200 metres of households that do not currently have sustainable access to water (i.e., where water quality or continuity of supply are insufficient). This would involve approx. 5% of the urban population in Georgia receiving water through stand-pipes.
- 3 Scenario 3 “all in-house tap connection plus wastewater treatment in coastal zones” is a variant of scenario 1, which also entails the rehabilitation of mechanical treatment of wastewater in the Black Sea coastal area. This would be a first step towards a complete rehabilitation of the treatment of wastewater in Georgia, and towards abating pollution in a region which hosts an important part of the Georgian tourism industry – a potential driver of economic growth in the country.

Please note that the scenarios involve no hypothesis on improving access to sanitation, as all households in the 20 cities under consideration already have access to at least *basic* sanitation (although this does not mean that all collected wastewater is treated).

The table below shows that scenarios 1 and 3 would require much more capital investment than scenario 2 and could only be sustained if the state devotes more than 4% of public budgets to water supply and sanitation for the next 15 years. Considering all the other demands on public budgets (e.g., rural water, education, transport, health), this seems unrealistic. Even implementing scenario 2 - much less demanding from the financial point of view but requiring some difficult choices and an effective policy dialogue with the population - would be a challenge for Georgia.

Table 1. Feasibility of alternative scenarios

	Scenario 1	Scenario 2	Scenario 3
Capital investment over 2006-2015 (M GEL)	417.5	170.8	445.0
Capital investment, annual basis (M GEL)	47.5	15.9	49.7
Capital investment per head per year (USD)	7.0	2.3	7.5
Year of elimination of the accumulated financial gap	2015-2018	2013-2014	2016-2019
Funding for WSS as proportion of the public expenditure budget (%)	4.7-3.9	3.0-2.7	4.7-3.9

Source: EAP Task Force / OECD, calculation from FEASIBLE

Achieving the Millennium Development Goals on water supply and sanitation would require significant additional efforts to improve the situation in rural areas, where water services are even more seriously deteriorated than in urban areas, and where almost half of the Georgian population lives. While this report focuses on *urban* water only, and the costs of improving water supply and sanitation in *rural* areas are not assessed, it seems obvious that doing this would significantly add to the financial challenge.

Achieving the water related MDGs in urban Georgia is possible, but will be financially painful for households and public budgets.

The proposed tariff scenario in all three scenarios assumes that monthly charges in Tbilisi and other cities of Georgia will amount to approx. GEL 4.50 and GEL 3.40 per household per month, respectively, which is in line with the affordability threshold, but most likely well above the present willingness to pay.

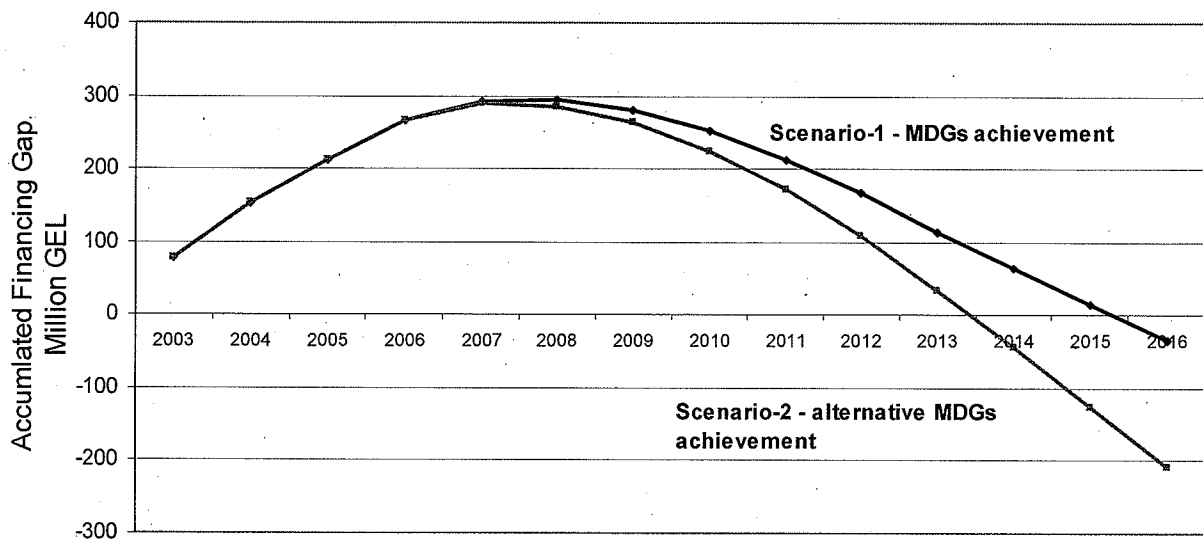
Thus, implementation of the tariff scenario requires (a) a well-designed information and public awareness campaign to improve the willingness to pay; and (b) that appropriate measures to protect the poor sections of the population are put in place. Georgia is a poor country with approx. 50% of the population living on less than USD 2 per day. The social protection mechanisms that are currently in place appear to be insufficient to cope with the situation as projected in the tariff scenario due, in part, to insufficient targeting of assistance. A reform of the social protection system which is currently under way should help to improve this situation if its implementation is successful, but the amounts allocated would probably still remain insufficient to compensate poor households adequately.

While scenario 2 involves the use of stand-pipes rather than in-house taps and would be politically quite challenging to implement (because it would involve downgrading of a share of poor quality in-house connections to standpipes), it is also the only scenario that appears realistic from the financial point of view, unless the Government of Georgia is willing to spend a significant share of its public expenditure budget on water. Even in this scenario, approx. 3% of the public budget would need to be allocated to the *urban* water sector over the next 10 years, which is approx. three times that of the level in most OECD countries.

Compared to the present situation it means that public expenditure on the WSS sector would need to be doubled; missing funds amounting to approx. GEL 26 million (USD 14 million) per annum would need to be mobilized. Official development assistance could help to reduce this burden.

Despite the considerable financial effort involved in all three scenarios, the calculation in the report shows that it will be impossible to eliminate the accumulated financial gap (maintenance backlog) before 2013. This means that the accumulated depreciation of fixed assets of the WSS sector will remain critically high, even higher than the baseline year level (2003), over the period, leaving the infrastructure in a fragile state throughout this period (Figure 1).

Figure 1. Accumulated financing gap in scenarios 1 and 2, in million GEL



Source: FEASIBLE calculations

5. Main recommendations

The report recommends the following set of policy measures to address the situation in the urban water sector:

- To set (and to implement) priorities for the water supply and sanitation sector, at national level – politicians should seriously consider introducing an appropriate combination of in-house tap and stand-pipe technologies to achieve water-related MDGs
- To allocate more public money to the WSS sector, and to monitor its use in accordance with set priorities; the outcome of the financial strategy should be integrated into medium-term expenditure programmes and annual public budgets, at both national and local levels
- To increase the collection rate, and to review the tariff policy, taking affordability constraints in the population into account; experience from Armenia has shown that this is feasible and can yield significant and rapid improvements; a well-planned public awareness campaign should accompany these measures
- To mitigate the leaks in the network and to decrease the unaccounted for water; *incentives* should be designed to reward leak detection, disruption of illegal connections, the introduction of water meters and to promote a more rational use of water resources.

This package can only be implemented if:

- The sector's governance structure is reformed; experience in Armenia and the Ukraine is relevant in this regard
- Human and institutional capacities are significantly strengthened in municipalities and water utilities; incentives and performance based rewards are designed and built into the contracts between municipalities and utilities
- An effective social protection mechanism is implemented, in order to mitigate the social consequences of greater cost recovery through increased user charges.