



Technical Assistance Report

Project Number: 51132-002
Transaction Technical Assistance (TRTA)
September 2020

Georgia: Supporting High-Level Technology for Asset Management

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 10 July 2020)

Currency unit	–	lari (GEL)		
GEL1.00	=	€0.290067	or	\$0.327022
\$1.00	=	GEL3.057900	or	€0.886997
€1.00	=	GEL3.447475	or	\$1.127400

ABBREVIATIONS

ADB	–	Asian Development Bank
AMS	–	asset management system
O&M	–	operation and maintenance
PBL	–	policy-based loan
TA	–	technical assistance
UWSCG	–	United Water Supply Company of Georgia
WSS	–	water supply and sanitation

NOTE

In this report, "\$" refers to United States dollars.

Vice-President	Shixin Chen, Operations 1
Director General	Werner E. Liepach, Central and West Asia Department (CWRD)
Director	Yong Ye, Urban Development and Water Division (CWUW), CWRD
Team leaders	Heeyoung Hong, Principal Urban Development Specialist (Finance), CWUW, CWRD Geoffrey Wilson, Senior Water Resources Specialist, Sector Advisory Service Cluster–Water Sector Group, Sustainable Development and Climate Change Department (SDCC)
Team members	Minhong Fan; Senior Procurement Specialist; Procurement Division 1; Procurement, Portfolio and Financial Management Department Murman Katsitadze, Associate Procurement Officer, Georgia Resident Mission, CWRD Leah Luna, Senior Operations Assistant, CWUW, CWRD Maritess G. Marcelino, Project Officer, CWUW, CWRD Mary Alice Rosero; Social Development Specialist (Gender and Development); Portfolio, Results, Safeguards and Gender Unit; CWRD Seok Yong Yoon, Principal Public Management Specialist (e-Governance), Digital Technology for Development Unit, SDCC

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I. THE ENSUING PROJECT

1. The proposed Sustainable Water Supply and Sanitation Sector Development Program, composed of (i) a policy-based loan (PBL) and (ii) a project loan to Georgia, is aligned with the government's pursuit of more sustainable water supply and sanitation (WSS) services and state-owned enterprise. The policy actions under the PBL will support governance and institutional reforms to improve performance and financial sustainability, while ensuring funding for basic services during a period of fiscal constraints brought on by the coronavirus disease (COVID-19) pandemic. The project will (i) improve a critical and procurement-ready water supply system in Telavi, a strategically important city for job creation and economic growth,¹ (ii) strengthen the operation and maintenance (O&M) capacity of United Water Supply Company of Georgia (UWSCG),² and (iii) prepare for national-scale rural WSS investments.

2. The PBL will strengthen sector governance and institutions,¹ and the project loan will increase the operational efficiency of WSS systems. The total program cost is estimated at \$153.5 million. The Asian Development Bank (ADB) will finance \$150.0 million using its ordinary capital resources, and the government will provide \$3.5 million in counterpart support. The ADB funds will comprise (i) a \$130.0 million PBL (stand-alone with two tranches), and (ii) a \$20.0 million project loan. ADB will finance 100% of adaptation and mitigation costs. The program supports the priorities identified in ADB's country partnership strategy, 2019–2023, and is listed in its country operations business plan, 2020–2022 for Georgia.³ This technical assistance (TA) is not listed in the business plan.

II. THE TECHNICAL ASSISTANCE

A. Justification

3. Many cities throughout Asia and the Pacific face difficulties ensuring continuous water supply. The main problems are aging infrastructure—investment has been insufficient to replace deteriorating assets—and lack of operational budgets to fund much-needed maintenance. Physical assets such as pipes, valves, pumps, wells, and treatment facilities deteriorate over time, adding to the cost of O&M, while also making it more difficult for utility operators to maintain a high level of service and meet customers' expectations. An asset management system (AMS) is a proven technology to enable more efficient management of assets and thereby prolong their life. Although AMS for water supply systems is commonplace in many developed countries, water supply utilities in developing member countries seldom operate an AMS.

4. Strategy 2030 acknowledges that better management and maintenance of infrastructure assets are essential and sets the course for ADB to help strengthen the capacity of developing member countries to reduce life-cycle costs and maintain their infrastructure assets by using advanced technology.⁴

¹ Telavi is the capital of the Kakheti Region, and has a population of about 20,000. Water supply is critical for wine and agricultural production, and for tourism in Telavi. Most of the famous wine producers are in Telavi. More than 70% of households in Telavi use water tanks and reservoirs, and 30% purchase water.

² UWSCG is a limited liability company established in January 2010 and owned entirely by the state. It provides WSS services to urban settlements across the country, except for the municipalities of Tbilisi, Mtskheta, Rustavi, and Gardabani, and Adjara Autonomous Republic. UWSCG has more than 2,700 employees, 10 regional offices, and 51 service centers.

³ ADB. 2019. *Country Partnership Strategy: Georgia, 2019–2023—Developing Caucasus's Gateway to the World*. Manila; and ADB. 2019. *Country Operations Business Plan: Georgia, 2020–2022*. Manila.

⁴ ADB. 2018. *Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific*. Manila.

5. The TA will support the project component of the proposed program. The program concept paper was approved on 1 June 2020. The program is expected to be implemented from 2020 to 2024. The TA will help develop and operationalize a sustainable AMS for the water supply services in selected cities in Georgia. It is an innovation for the country. The TA covers AMS review and benchmarking; hardware and software procurement; AMS installation, which includes populating it with data; and capacity building.

6. An operational AMS (including software license and hardware) will be implemented in selected cities where UWSCG provides services, for their continued use. The AMS will be fully populated using available data (electronic and paper), supplemented by knowledge elicitation (eliciting the knowledge from experienced operational field staff), and data infilling (techniques for filling in data gaps based on existing data). Where necessary, asset data surveys (including a condition assessment survey) will be commissioned. Annual support maintenance of the AMS license will be provided for 3 years.

7. The main aim of the TA is to demonstrate to UWSCG and the cities the benefits of a state-of-the-art AMS for water supply services. The expected benefits for UWSCG are that it (i) understands its water supply network better, (ii) makes better operational and maintenance decisions, (iii) achieves more effective maintenance planning, and (iv) ensures the financing of asset rehabilitation or replacement. This will result in an extended asset life span, a reduction in nonrevenue water, and an increase in operational efficiency, which will improve the reliability of water supply systems. Other benefits include valuing the assets, providing the necessary data to build hydraulic models, planning maintenance workload allocation, and improving financial performance.

8. The TA will also help build the capacity of UWSCG staff to operate the AMS, to ensure that the system is sustainable and will continue to be used by UWSCG service centers or regional offices. In addition, the TA team will support the preparation of a knowledge product that can showcase the AMS technology and its realized benefits, as well as lessons from its use, to other water supply utilities. The knowledge product will be disclosed and will be a reference material for the future development of other knowledge products. The TA will also support two knowledge events at ADB headquarters in Manila to disseminate the AMS-related realized benefits and lessons to ADB staff because these insights are expected to be applicable to other infrastructure projects, such as wastewater, stormwater, drainage, and irrigation systems, or roads. The success of the AMS demonstration will be monitored and the findings fed into the program completion report.

9. The TA is aligned with the following impact: improved reliability of water supply systems operated by UWSCG. The TA will have the following outcome: effective maintenance of UWSCG assets using an AMS increased.

B. Outputs and Activities

10. **Output 1: Proprietary asset management system for water supply benchmarked.** Specialist consultants will be engaged to undertake a market review of commonly used and currently available AMSs for water supply services, review the advantages and disadvantages of off-the-shelf versus custom-made AMSs, and compile a long list of AMSs for water supply systems. The AMSs in the long list will be reviewed for functionality against the current and future requirements of typical water utilities in developing member countries, and specifically for the selected utility. The AMS functionality will be benchmarked against the required functionality. The

review will include the assessment of AMS life-cycle costs, e.g., for the license and for ongoing annual support maintenance, and the sustainability of the cost structure for utilities in developing member countries. In consultation with ADB, the consultants will then compile a short list of AMSs (three at most) for water supply services. They will carry out an in-depth review of the functionality and lifetime costs of the shortlisted AMSs and recommend to ADB the most appropriate, cost-effective, and sustainable one for the selected water utility in Georgia. The AMS benchmarking consultant will prepare draft and final (digital) AMS benchmark reports.

11. **Output 2: Asset management system populated and implemented.** ADB will engage a specialist AMS consultant to lead the implementation of the selected AMS for water supply in a city (or two) in Georgia. The consultant will develop specifications for dedicated AMS hardware, and will procure the hardware as well as the AMS software license, and annual support maintenance (3 years) for the AMS. The AMS will be populated with water supply asset data from electronic or hardcopy drawings, and knowledge elicitation from utility staff members. Asset gaps and asset condition will be determined by surveys. Infilling techniques will be used for the remaining gaps. The specialist will carry out asset rehabilitation and replacement programming and prepare a financing plan.

12. **Output 3: Knowledge of the benefits of asset management technology enhanced.** The AMS benchmarking consultant will lead a remote AMS knowledge event at ADB headquarters. The AMS implementation consultant will lead a second remote AMS knowledge event at ADB headquarters. Together, the consultants will prepare a (digital) knowledge product on AMSs for water supply for ADB operations.

C. Cost and Financing

13. The TA is estimated to cost \$225,000, which will be financed on a grant basis by the High-Level Technology Fund⁵ and administered by ADB. The key expenditure items are listed in Appendix 1.

14. The government will provide counterpart support in the form of counterpart staff and office accommodation. The government was informed that approval of the TA does not commit ADB to finance any ensuing project.

D. Implementation Arrangements

15. ADB will administer the TA and will be the executing agency. The Urban Development and Water Division of its Central and West Asia Department will implement the TA and be accountable for the TA outputs. It will carry out administration and supervision, implementation oversight, and communication with consultants and stakeholders.

16. The Water Sector Group Secretariat under the Sector Advisory Service Cluster of ADB's Sustainable Development and Climate Change Department will provide support and resource persons in close coordination with the program officer. The TA will be implemented from November 2020 to December 2021. The TA resources will be disbursed following ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time). The TA does not require logistical support and undertakings from either beneficiary.

17. The implementation arrangements are summarized in the table below.

⁵ Financing partner: Government of Japan. Administered by the Asian Development Bank.

Implementation Arrangements

Aspects	Arrangements		
Indicative implementation period	November 2020–December 2021		
Executing agency	ADB		
Implementing agency	Urban Development and Water Division, Central and West Asia Department		
Consultants	To be selected and engaged by ADB		
	Individual: individual selection	International expertise (4.5 person- months)	\$100,000
	Individual: individual selection	National expertise (10 person- months)	\$22,000
Procurement	To be undertaken by consultants		
	Direct contracting	1 contract	\$40,000
	Limited competitive bidding or request for quotations, as appropriate	1 contract	\$3,000
Disbursement	The TA resources will be disbursed following ADB's <i>Technical Assistance Disbursement Handbook</i> (2010, as amended from time to time).		
Asset turnover or disposal arrangement upon TA completion	ICT hardware (desktop computer) ICT software license (asset management system)		

ADB = Asian Development Bank, ICT = information and communication technology, TA = technical assistance.
Source: ADB.

18. **Consulting services.** ADB will engage consultants following the ADB Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions. The consultants will procure asset and condition surveys, computer hardware and AMS software licenses, and annual maintenance support for 3 years (as applicable).

COST ESTIMATES AND FINANCING PLAN (\$'000)

Item	Amount
High-Level Technology Fund^a	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	100.0
ii. National consultants	22.0
b. Out-of-pocket expenditures	
i. International and local travel	10.0
ii. Office space rental and related facilities	0.0
iii. Goods (rental and/or purchase)	0.0
iv. Reports and communications	0.0
v. Others	5.0
2. Contributions to knowledge partner	0.0
3. Printed external publications	0.0
4. Surveys	10.0
5. Goods (rental or purchase)	0.0
6. Training, seminars, workshops, forums, and conferences	
a. Facilitators	0.0
b. Travel cost of ADB staff acting as a resource person	10.0
c. Venue rental and related facilities	1.0
d. Participants	4.0
e. Representation	0.0
7. Pilot testing	
a. Goods (rental or purchase)	43.0
8. Contingencies	20.0
Total	225.0

^a Financing partner: Government of Japan. Administered by the Asian Development Bank.

Source: Asian Development Bank estimates.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/LinkedDocs/?id=51132-002-TARreport>

1. Terms of Reference for Consultants