Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 13-Feb-2025 | Report No: PIDDC01203

BASIC INFORMATION

A. Basic Project Data

Project Beneficiary(ies)	Operation ID	Operation Name	
Armenia, Armenia	P508124	Armenia: Water and Irrigation Services Enhancement Program	
Region	Estimated Appraisal Date	Estimated Approval Date	Practice Area (Lead)
EUROPE AND CENTRAL ASIA	16-Apr-2025	25-Jun-2025	Water
Financing Instrument	Borrower(s)	Implementing Agency	
Investment Project Financing (IPF)	Republic of Armenia	Ministry of Territorial Administration and Infrastructure	

Proposed Development Objective(s)

The Project Development Objective (PDO) is to provide improved access to efficient and financially sustainable irrigation and rural WSS services in selected areas of Armenia.

PROJECT FINANCING DATA (US$, Millions)

Maximizing Finance for Development

Is this an MFD-Enabling Project (MFD-EP)?	To be decided
Is this project Private Capital Enabling (PCE)?	Yes

SUMMARY

Total Operation Cost	**175.00**
Total Financing	**175.00**
of which IBRD/IDA	**80.00**
Financing Gap	**0.00**

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	80.00

Non-World Bank Group Financing

Counterpart Funding	20.00
Borrower/Recipient	20.00
Other Sources	75.00
FRANCE: French Agency for Development	75.00

Environmental and Social Risk Classification	Concept Review Decision
Substantial	The review did authorize the preparation to continue

Other Decision (as needed)

B. Introduction and Context

Country Context

1. **Armenia has made significant strides since gaining its independence from the Soviet Union in 1991, with a transformed economy with sustained growth, ambitious reforms supporting a market-oriented environment.** From 2000 to 2022, average annual growth was 6.3 percent, reducing poverty from 32.1 percent to 23.7 percent. However, growth has been volatile. After the Velvet Revolution, growth reached 7.6 percent in 2019, but the economy contracted by 7.2 percent in 2020 due to the COVID-19 pandemic and the military conflict with Azerbaijan. The economy recovered in 2021 and was further fueled by inflows of people, money transfers, and re-routed trade, with growth averaging 10.7 percent in 2022-23, before decelerating to a projected 5.5. percent for 2024. Poverty in Armenia has steadily decreased over the last decade, with extreme poverty nearing 1.1 percent. Access to basic services like water and heating remains more limited in rural areas.

2. **Climate change poses significant economic and social risks for Armenia**, with the annual average temperature rising faster than the global average (2.38°C in Armenia since 1960, compared to 1.5°C globally). Over the next fifty years, temperature increases in Armenia are expected to surpass the global average. Warmer temperatures and extreme weather events will damage infrastructure, impact human health and productivity, and harm sectors like agriculture, forestry, and tourism. The agriculture sector is particularly vulnerable due to changes in land productivity, water availability, and growing season timing. Droughts, worsened by limited water resources and rising temperatures, are a major concern, especially in the Ararat Valley, Vayk, and Syunik. Nearly 98% of Armenia's land is at risk of longer drought episodes, further stressing the agriculture sector.

3. **The agricultural sector lost ground in the economy in value added and employment share, while industry and the service sector have become more important drivers of growth.** Agriculture's GDP peaked at US$2.1 billion in 2014 but fell 16% to US$1.7 billion in 2018. Between 2012 and 2019, agriculture’s share of GDP and employment dropped

from 37% to 24%[1]. However, from 2020 to 2022, agricultural output grew by 22% after years of decline. Services have been the main driver of per capita growth since 2000, with services (excluding trade) growing 28% and industry 8% in 2022. Services' share of GDP rose from 46% in 2012 to 53% in 2021, driven by ICT, tourism, and healthcare. The industrial sector's share also increased from 16% to 26.9% during this period.

Sectoral and Institutional Context

4. **Irrigated agriculture plays a crucial role in Armenia's economy, providing livelihoods for over 250,000 people and contributing 80% of agricultural output. However, the sector's contribution to GDP has declined from 16% in 2015 to 8% in 2023.** Armenia has 208,000 hectares of irrigable land, of which 95,000 hectares are irrigated, highlighting the importance of effective water management. The irrigation infrastructure, largely inherited from the Soviet era, no longer meets modern demands due to outdated technology, system deterioration, and the impacts of climate change. As a result, the sector faces inefficiencies, with only 25% system-level efficiency, compared to 70-85% in modern systems, and half of the water being lost in distribution networks. This limits irrigation, reduces agricultural productivity, and causes economic losses. Modernizing infrastructure and improving management could enhance water productivity by up to 40%, without requiring additional water resources, which is critical for the sector's future growth and food security.

5. **The irrigation sector in Armenia faces significant institutional and operational challenges that hinder effective water delivery for agriculture.** The Water Committee (WC) struggles with inadequate technical capacity, poor planning, and a lack of project management resources, while sector monitoring and asset management are underdeveloped, with outdated tools like GIS and CMMS. Water User Associations (WUAs), responsible for local irrigation, have not received support since 2015 and face issues such as large service areas, outdated infrastructure, poor farmer participation, and financial instability. Similarly, the Water Supply Agency (WSA), which provides bulk water to WUAs, suffers from outdated infrastructure, low tariffs, insufficient maintenance funding, and a lack of modern asset management systems and skilled staff. Both WUAs and WSA need urgent reforms, including infrastructure modernization, tariff restructuring, and improved financial and operational management to ensure long-term sustainability and efficiency in the sector.

6. **Armenia has made significant strides in improving its water supply and sanitation (WSS) services over the past two decades, largely through phased Public-Private Partnership (PPP) reforms that have enhanced operational performance, service quality, and financial stability.** Currently, most WSS services are managed by "Veolia Djur," a subsidiary of Veolia, under a lease contract lasting until 2031. However, about 650,000 people in 579 rural settlements remain outside this contract, relying on aging, small-scale networks, spring or groundwater sources, and community-managed systems with limited municipal oversight. These areas face challenges such as deteriorating infrastructure, inadequate water storage and disinfection, sparse metering, and a lack of reliable data and skilled personnel, with sanitation services also underdeveloped. Despite the improvements, the policy landscape for these rural settlements is inadequate, with low tariffs hindering sector development and Veolia's sustainability, while the Water Code exempts local services from tariff regulation and licensing. The Water Committee (WC) and Public Services Regulatory Commission (PSRC) lack authority to oversee local governance bodies, leading to poor maintenance and limited service expansion. To address these gaps and ensure long-term sustainability, legal, policy, and institutional reforms are needed, with a focus on improving rural WSS services and infrastructure.

7. **Armenia faces significant challenges in water information management, hindering the effective operation of irrigation and water supply services.** There is no regulatory framework for managing or sharing data, despite the Water

[1] Data as of January 2021 of ILOSTAT (dashboard), International Labour Organization, Geneva, https://ilostat.ilo.org/.

Committee producing key data on water infrastructure. Water User Associations manage separate irrigation data, leading to fragmented and inefficient data systems. Although a Water Infrastructure Information System (WIIS) was developed to integrate this data, it remains incomplete, preventing integration across irrigation, drinking water, and wastewater sectors. This fragmentation results in poor planning, resource allocation, and inefficient service delivery. Outdated infrastructure and limited technical capacity further exacerbate these issues, causing rapid deterioration of investments. Strengthening water information management is critical to improving Armenia's water sector and ensuring more sustainable and efficient services.

8. **The Government of Armenia (GoA) launched an ambitious Government Program in 2021, which concludes in 2026, to tackle water sector reforms**. The five-year Government program (2021-2026) and its associated Action Plan, which comprised numerous actions related to water including: (i) improving irrigation system performance; (ii) enhancing efficiency, ensuring water savings, enhancing the crop yield, expanding irrigable lands, use of new technologies; (iii) improving the quality of services delivered in the irrigation water sector; (iv) improving WSS services in settlements not serviced by the Lessee; (v) strengthening local water institutions; (vi) elaborating the draft Law on Irrigation Water, to regulate the role of WUAs in developing irrigated agriculture in Armenia; and (vii) exploring models of Public Private Partnerships in irrigation and water resources management. However, since 2021, progress has been limited and most of the program objectives are not yet realized. This operation, therefore, aims to fill these gaps and support the government to achieve the objectives set out in Action Plan. Furthermore, in May 2024, the Prime Minister declared that Armenia's water sector needs urgent investment to address priority issues such as low efficiency of water use, cost recovery of water services, water losses, groundwater issues, lake Sevan quantity and quality issues, additional storage, etc. Given the urgency to tackle these priority challenges, the GoA requested the World Bank to consider financing a water sector Multi-phase Programmatic Approach (MPA) which focuses on securing reliable irrigation and potable rural water supply services in priority areas.

Relationship to CPF

9. **The proposed project is fully aligned with Armenia Country Partnership Framework (CPF) 2025-2029**[2] and with its High-Level Objective (HLO) 3: More Resilient Economy, CPF Objective 5: More Climate Resilient Economic Activity. HLO 3 focuses on increasing the resilience of Armenia's economy by prioritizing climate adaptation in key economic sectors, with particular emphasis on supporting sustainable and resilient irrigation services for the agriculture sector and enhancing and expanding water supply services in underserved areas. Objective 5 emphasizes strengthening the institutional governance of the water sector. The proposed project aligns directly with this objective, as it centers on enhancing climate-resilient irrigation systems and water supply services, while also strengthening institutional capacities to ensure sustainable and effective water resource management.

10. **The program is consistent with the World Bank's vision, fits into its Global Challenge Programs (GCPs), and advances the achievement of Sustainable Development Goal (SDG) 6 on clean water and sanitation for all; and SDG 4 on end hunger, achieve food security and improved nutrition and promote sustainable agriculture.** Water security and climate adaptation is the first of the World Bank GCPs that contributes to the creation of a world free of poverty on a livable planet. The water GCP aims to strengthen water security, increase access to safe water supply and sanitation, and invest in the scale-up of sustainable water management and disaster risk reduction solutions. Within the framework of the SDG 4, the project supports Armenia in advancing towards the target of *implementing resilient agricultural practices that increase productivity and production and strengthen capacity for adaptation to climate change.*

[2] Expected Bank Board Approval on January, 2025

Simultaneously, withing SDG 6, it supports the advancement towards the target of *universal and equitable access to safe and affordable drinking water, sanitation, and hygiene* (SDG 6.1. and SDG 6.2).

C. Proposed Development Objective(s)

11. **The proposed PrDO of the Program is to** provide improved access to efficient and financially sustainable irrigation and rural WSS services in selected areas of Armenia.

12. **The proposed Project Development Objective (PDO) of Phase 1 IPF of the MPA is** to provide improved access to efficient and financially sustainable irrigation and rural WSS services in selected areas of Armenia..

Key Results (From PCN)

13. **The Program will focus on three key results areas:** (i) improved access to efficient irrigation and rural WSS services; and (ii) improved irrigation and rural WSS financial and operational cost recovery for enhanced fiscal sustainability of the sector. Additional intermediary indicators will be identified during project preparation to regularly monitor progress and identify additional steps and adjustments to achieve the program development objective (PrDO). Additional intermediary indicators will be identified during project preparation to regularly monitor progress and identify additional steps and adjustments to achieve the program development objective (PrDO). The preliminary Program Results Chain is presented in Figure 1.

14. **At the end of the 10-year Program, the following outcomes are expected**: (i) 95,000 new people gaining access to improved irrigation and drainage services; (ii) approximately 115,000 new people gaining access to safely managed rural WSS services; (iii) at least 50 percent of the irrigation schemes achieving 70% cost recovery for operation and maintenance expenses from bulk irrigation tariff revenues; and (iv) a 15% increase in cost recovery ratio for rural WSS services that were part of the program.

D. Concept Description

15. **The MPA program is structured as a 10-year engagement through two phases to achieve the PrDO.** The PDO for each phase and PrDO target the same topics, and the phases are progressive; each phase maintains a similar structure and builds towards the achievement of the overall program development objective. The structure of the MPA is uninterrupted and overlapping to ensure that the Program's activities continue without a gap in the rollout of the key activities. The total Program includes: (i) a ***six-year Phase 1 (2025-2031)*** with focused investments in enhancing the institutional capacity of critical water sector entities, revision to the methodology and structure of irrigation and WSS tariffs, completing core water sector strategies, finalizing all infrastructure investment feasibility and design stage documents for all proposed investments in irrigation and RWSS, civil works to modernize 2-3 irrigation schemes, technical and institutional assessment of Vorotan-Arpa-Sevan Conveyance Tunnel and construction/rehabilitation of selected settlements for rural water supply on a pilot basis using performance-based conditions; and (ii) a ***six-year Phase 2 (2029-2035)*** to scale-up and expand infrastructure investments in systems selected from remaining irrigation schemes and priority settlements for rural WSS with a focus on operational and financial efficiency, and climate adaptation. The second phase will start preparation after the second or third year of implementation of Phase 1, and implementation of Phase 2 should start in 2029, at the fourth year of implementation of Phase 1.

16. **Phase 1** will focus on the following components:

17. **Component 1: Water Sector Reform and Institutional Strengthening** will provide support to the Ministry of Territorial Administration and the Water Committee to develop and approve a comprehensive national water strategy and a standalone ten-year national irrigation and WSS strategy. This subcomponent will also examine all existing legal

frameworks for water sector management in Armenia including the Water Code, the WUA law, and other related legislative acts. The component will also include (i) a review of tariffs and subsidies and development of an implementation plan for revised tariff roll out, (ii) support for the transformation of central and regional units of the Water Supply Agency (WSA) or "JRAR" into a more efficient and customer-oriented irrigation service provider, (iii) support for the institutional and organizational strengthening of the Ministry of Territorial Administration and the Water Committee to enhance their planning, monitoring, and financial management of the irrigation sector, (iv) support for the development of a national program of support for existing Water User Organizations including O&M, water allocation, water use efficiency, financial, and governance related functions of WUAs; and (v) finance the establishment of a National Irrigation Water Accounting and Adaptation Center. IWAAC will provide essential information, tools, and applications required for climate-adaptive water management, such as water accounting, crop monitoring, weather and climate information, weather forecasting services for farmers, flood and drought monitoring, groundwater monitoring in Ararat artesian basin, and irrigation management planning, among others.

18. **Component 2. Rural Water Supply and Sanitation Enhancement** will focus on enhancing access, efficiency, and financial sustainability of the WSS subsector. It will do so by improving regulatory frameworks and institutional capacity to advance the sector reform and promote sustainable service delivery, duly accounting for current and expected climate change impacts. It will furthermore support the Government of Armenia in improving access to safely managed WSS in unserved rural settlements through rehabilitation and construction of water supply infrastructure, in conjunction with establishing community-driven water supply service provision. The main activities under this component focus on developing the capacity of water supply institutions at all levels of government, supporting policy improvements and drinking water tariff reform, implementing a subsector-wide monitoring program, supporting the government in building its technical and contract management capacity to allow it to strengthen its relationship with private sector operators, and identifying and preparing for future rural water supply investments, including those investments identified for Phase 2 of the program.

19. **Component 3. Modernizing Irrigation Infrastructure & System Management.** will finance rehabilitation and modernization of selected irrigation systems at main, secondary, and tertiary canal levels currently managed jointly by WSA at the large main canal and reservoirs level and by WUAs at the secondary and tertiary distributary level. In cooperation with the Water Committee, a sample of nine irrigation schemes are short-listed for consideration under the project (see Table 1) from which 2-3 schemes will be selected for financing under Phase 1, under a Framework Approach. The activities to be carried out in schemes selection include detailed feasibility studies, including Economic and Financial Analysis, and Environmental and Social Impact Assessment for rehabilitation/modernization. Final selection of schemes will be based on technical feasibility, estimated investment cost, financial and economic viability, and allocated budget. The following structures will be considered for rehabilitation and/or reconstruction/modernization across the selected schemes: headworks; inverted syphons; aqueducts, secondary and tertiary network (pipeline or lined); water control/distribution; outlets; mudflows; flood protection; flow and/or volumetric measurement structures, bridges, maintenance roads, and related pump stations with aim of identifying technological advancements that can modernize selected systems (e.g., conversion from pumping to gravity or transition from gravity to pressurized pipe networks, where feasible, or construction of daily regulating reservoirs to improve water supply for canals during periods of low flow or low water levels), and other required ancillary structures. Wherever feasible, the project will maximize elevation to convert from pumped to gravity systems, to reduce energy consumption and minimize GHG emissions. While a large part of the rehabilitation/modernization will involve reconstruction/modernization of original systems, the feasibility and detailed design studies will systematically examine the opportunities to consider water control and delivery structures, that are operated to maintain a constant canal water levels over time – regardless of the flow rate. This shall also include automation of headworks or introduction of Supervisory Control and Data Acquisition (SCADA) to monitor and control water distribution of the larger canal systems.

20. **Component 4: Project Management.** An interim WISE Project Coordination Team (PCT) will be housed within the Water Committee and will assume primary responsibility for project implementation, including implementation of civil works and related procurement and financial management (FM), compliance with agreed environmental and social management measures, and project monitoring and evaluation (M&E). This component will finance staff costs; coordination of the project-financed activities with other ongoing International Financial Institution (IFI) projects in the water sector; design, implementation, and reporting of baseline and project completion surveys; and the preparation of assessment studies (e.g., pre-feasibility and feasibility studies), detailed engineering designs, and construction supervision.

Legal Operational Policies

Policies	Triggered?
Projects on International Waterways OP 7.50	Yes
Projects in Disputed Area OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts

21. **The overall Environmental and Social (E&S) risk is Substantial**. The E&S risk classification reflects the proposed activities under Phase 1 of the MPA. The following Environmental and Social Standards (ESSs) 1, 2, 3, 4, 5, 6, 8 and 10 are considered relevant for the operation. The main environmental, social, health, and safety risks and impacts are associated with the activities under components 2 and 3 which aim to improve access to water supply and sanitation services in rural areas through the rehabilitation and construction of infrastructure, as well as the rehabilitation and modernization of irrigation systems. The risks will be mitigated through the preparation, implementation, and monitoring of E&S instruments and capacity-building for project staff and service providers. Specific risks under Phase 2 of the MPA are generally unknown and will be assessed during the preparation of this phase in the future.

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