



The World Bank

Georgia Resilient Agriculture, Irrigation, and Land Project (P175629)

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Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 16-Feb-2023 | Report No: PIDA33724

**BASIC INFORMATION****A. Basic Project Data**

Country Georgia	Project ID P175629	Project Name Georgia Resilient Agriculture, Irrigation, and Land Project	Parent Project ID (if any)
Region EUROPE AND CENTRAL ASIA	Estimated Appraisal Date 06-Feb-2023	Estimated Board Date 27-Mar-2023	Practice Area (Lead) Water
Financing Instrument Investment Project Financing	Borrower(s) Georgia	Implementing Agency National Agency of Public Registry, Ministry of Environmental Protection and Agriculture	

Proposed Development Objective(s)

The Project Development Objective (PDO) is to: (a) improve irrigation, and drainage services, and agricultural production in project areas; and (b) strengthen national irrigation and land management institutional capacity for climate resilient planning.

Components

- Resilient Irrigated Agriculture
- Improved Land Management Capacity
- Project Management
- Contingent Emergency Response Component

PROJECT FINANCING DATA (US\$, Millions)**SUMMARY**

Total Project Cost	150.00
Total Financing	75.00
of which IBRD/IDA	75.00
Financing Gap	75.00

**DETAILS****World Bank Group Financing**

International Bank for Reconstruction and Development (IBRD)	75.00
Environmental and Social Risk Classification	
Substantial	
Decision	
The review did authorize the team to appraise and negotiate	

Other Decision (as needed)

B. Introduction and Context

Country Context

1. Georgia is an upper-middle-income country with an annual gross domestic product (GDP) per capita of US\$5,023 in 2021 and a population of about 3.7 million.¹ The country's economy grew at an average annual rate of nearly 5 percent between 2005 and 2021 despite numerous upheavals, including: the global financial crisis of 2007–08, conflict with the Russian Federation in 2008, the drop in commodity prices since 2014, the 2020 COVID-19 pandemic, and the Russian Federation's invasion of Ukraine in 2022. In 2021, the economy rebounded strongly (10.4 percent growth), driven by the recovery of consumption and exports. Georgia benefited from large inflows of money transfers and people in the aftermath of the war in Ukraine and the subsequent sanctions on Russia. In 2022, economic growth averaged 10.1 percent.

2. As a result of the war in Ukraine, global food and fertilizer prices have increased with negative impacts on agricultural exports. Domestic food price inflation in Georgia was 15.8 percent in August 2022. From January to November 2022, exports of fruits, nuts, and vegetables amounted to approximately US\$166 million, 17 percent below the same period in 2021. At the same time, domestic demand for fruit and vegetables increased, thus providing market opportunities for local produce. Physical access to Russian markets also has been constrained, affected by the financial sanctions. Nonetheless, the war highlights the importance of agriculture competitiveness to increase export diversification.

3. Climate change is a critical risk to Georgia's development and stability, particularly for the agriculture sector. Current trends, such as increasing temperatures, eroding soils, intensifying droughts, floods, and an increased occurrence of hail, are expected to reduce yields in major agricultural regions, including the eastern regions, where irrigation is prevalent. The availability of water resources is highly seasonal in Georgia. Rivers fed by glaciers and snow, such as the Khrami-Debed and Alazani, are projected

¹ National Statistics Office of Georgia (GeoStat) 2021.



to see reduced flows between 30 percent and 55 percent by the end of the 21st century, posing a threat to an important source of water supply. Precipitation is also projected to decrease during the farming season (June–August) and increase in autumn, spring, and winter.² Up to 30 consecutive dry days are expected by mid-century, increasing agricultural water scarcity, and reducing crop productivity during the summer months. Droughts are expected to exert further pressure on water availability. The annual risk exposure of the population to climate change is estimated to be between 1.5 and 6.6 percent of Georgia's national GDP (that is, between US\$238 million and US\$1.04 billion annually).

Sectoral and Institutional Context

4. Constraints and opportunities in Georgia's agriculture, water, and land sectors are interlinked.

Land and water are finite resources upon which agricultural production and productivity depend. While agriculture in Georgia is primarily rainfed, irrigation and drainage (I&D), investments are vital to guard against hydrological variability, and critical for high-value agriculture production. In most parts of the country, I&D infrastructure has deteriorated due to lack of maintenance and reduced financial resources allocated to I&D management. Pressure on fragmented land resources is also growing, making improvements in agricultural land management in Georgia critical for increasing productivity. Due to these interlinked challenges in the agriculture, water, and land sectors, interventions to address them must be implemented in the three sectors concurrently.

5. The agriculture sector accounted for 41 percent of all jobs in 2017 and continues to be important in the poorer and more rural parts of the country, which are most vulnerable to climate risks. Approximately 41 percent of the total population live in rural areas, and the majority of those living in those areas rely partly on agriculture for their livelihoods. Subsistence agriculture makes up 73 percent of employment in rural areas.³ Almost 80 percent of rural farmers operate less than 1 hectare (ha) of agricultural land. Most smallholdings produce crops primarily for subsistence purposes and lack direct commercial potential. Productivity is low and stagnant for most crop and livestock products, both in absolute terms and relative to comparator countries. Present and future climate change pose further risks to production and livelihoods for these marginal groups. Past droughts (a severe event occurred in 2000) caused wheat yields to drop by more than half.

6. Following independence in 1991, Georgia experienced a turbulent transition period resulting in the deterioration of a large part of its irrigation infrastructure. This caused a sharp decline in the irrigated area. From 2012 to 2020, the public irrigable area steadily increased to about 130,000 ha,⁴ of which about 6,500 ha is served by pumping systems.⁵ In addition, some of Georgia's dams are aging and in need of repair or rehabilitation. Thus, in recent years, GoG took steps to improve dam safety in the country. The Ministry of Environment Protection and Agriculture (MEPA) established regulations and guidelines for the design, construction, and maintenance of dams. GOG also produced an upcoming draft law "on the safety of hydraulic structures and launched several projects to upgrade existing dams and build new, safer ones.

² <https://climateknowledgeportal.worldbank.org/country/georgia/climate-data-projections>.

³ Geostat. 2020. Based on International Labour Organization (ILO) methodology.

⁴ International School of Economics at TSU (ISET)-PI 2016), MEPA/GA

⁵ Between 2016 and 2020, approximately US\$50 million was invested in infrastructure projects with World Bank funding (under the Land Market and Irrigation Development Project).



7. During Soviet times, about 130,000 ha of the lowlands was equipped with drainage. In 2012, the Government began funding selective rehabilitation activities. The rehabilitated drains now provide primary drainage for 34,400 ha of agricultural land, 89 percent of which is in Western Georgia.⁶ GA currently estimates the total design area of pre-existing drainage systems in the country at 114,000 ha, with 34,400 ha partially rehabilitated and another 3,212 ha under rehabilitation. This leaves about 76,000 ha of service area yet to be rehabilitated. To prevent further deterioration, there is an urgent need to (a) rapidly expand the drained area through rehabilitation, and (b) improve the OMM of these drainage systems.

8. Land privatization reform conducted in the 1990s resulted in small, subsistence agriculture-oriented landholdings designated as private property, which could not be used for development of commercial agriculture. The land administration and management framework in Georgia today is still not conducive to commercial agriculture development because the average agricultural plot size in private property is less than 1 ha, and only about 50 percent of agricultural plots are registered by the National Agency of Public Registry (NAPR). In addition to the high-level of land fragmentation, there is a gender gap in land ownership. The plots owned by men are on average twice the size of those owned by the women alone or jointly with men. The state land lease system also requires improvement due to the absence of transparent land valuation methodologies as well as low taxation and tax recovery rates.

9. Women's access to land and water resources, finance, modern technologies, markets, and information is low compared to men. Consequently, women are more involved in low-income activities such as subsistence agriculture.⁷ Their contribution to agricultural production, which remains invisible and under-recognized, highlights a significant gender gap.⁸ On average, Georgian women receive 75 percent of men's income (MEPA 2019). Although the Constitution guarantees equal rights for men and women (including in inheritance of property), women in Georgia (particularly rural women) often are considered secondary heirs with fewer rights. This has been attributed to their limited involvement in economic decision-making within the family due to cultural reasons and a lack of awareness about their legal rights.

10. To address the productivity and climatic challenges faced by food producers in Georgia, there is a need to take an integrated approach by focusing on a joint program supporting concurrent investments in the agriculture, water, and land sectors. To provide adequate water for agriculture and to enhance the economic potential of all types of farms, the priority need is to increase access to irrigation by more farmers. This can be done by enhancing rehabilitation and modernization of main, secondary, and tertiary systems, which need to be complemented with a detailed Operations & Maintenance (O&M) plan for ensuring the sustainability of the infrastructure. Although irrigation investments are necessary,

⁶ Agriculture in Western Georgia is dominated by two crops—maize (50 percent) and hazelnuts (33 percent)—with vegetables and citrus also important.

⁷ MEPA. 2019. Agriculture and Rural Development Strategy of Georgia 2021–2027. p. 14 and 15, citing the United Nations Development Programme 'Gender Barriers in Georgia: Barriers and Recommendations'. Part II, p. 37 and FAO United Nations Food and Agriculture Organization (FAO). Gender, Agriculture and Rural Development. Country Gender Assessment Series. Rome. 2018. Pp. 51–54.

⁸ A report by the UN (United Nations) Food and Agriculture Organization (FAO) on 'Gender, Agriculture and Rural Development' states that 59 percent of self-employed women involved in small family farming remain unpaid. Even though women provide a significant share of the labor, they do not have an equal share in the benefits produced by irrigated agriculture. And when women are involved in irrigated production, they often lack access to markets because private means of transportation are not available to them. The overlooked contribution of rural women to agriculture is that their work is largely associated with family responsibilities and remains unpaid, and women employed in all sectors of agriculture receive less pay than men.



they are insufficient to accelerate Georgia's agricultural growth thus, measures are needed in the agricultural sector across agricultural value chains from farm to market. The measures should encourage market links and product aggregation between smallholders to agri-businesses, close knowledge gaps, increase access to finance, improve transport and agro-logistics, and foster small and medium farmers to transition from subsistence to commercial agriculture. Simultaneously, interventions in the land sector are critical, to develop agricultural land markets, encourage small landholders with fragmented plots to consolidate their land, which incentivizes farmers to shift crop and production practices towards more commercial agriculture resulting in increased income returns from irrigated agriculture.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

11. The Project Development Objective (PDO) is to: (a) improve irrigation, and drainage services, and agricultural production in project areas, and (b) strengthen national irrigation and land management institutional capacity for climate resilient planning.

12. The primary project beneficiaries comprise farmers and agricultural enterprises across the project targeted regions. Overall, the rural population will benefit from enhanced services provided by land management, irrigation services, and agricultural support. In the public sector, the project will support institutional strengthening of MEPA, including GA, the National Environment Agency (NEA), RDA, and LMA. The State Property Agency under the Ministry of Economy and Sustainable Development (MoESD) will participate in the capacity building and training activities as a beneficiary.

Key Results

- 13. Key results toward the specific PDO will be measured with the following indicators:**
- (a) Increase in gross value of agricultural production in project areas.
 - (b) Landowners with access to improved irrigation and drainage services (disaggregated by gender).
 - (c) Irrigation service delivery performance monitoring and decision support system established and operational in central office and selected service centers of Georgian Amelioration in project areas.
 - (d) Hydro-Agro Informatics Center established and operational for real-time monitoring and dissemination of water, land, agriculture, and climate information for water efficient and climate resilient planning.
 - (e) Multi-purpose agricultural land information system (MALIS) operationalized.

D. Project Description

14. The proposed project will finance three components having a total cost of US\$150 million. Due to the GoG's prudent external fiscal borrowing, the project is proposed to be financed by an IBRD loan of US\$75 million with the GoG providing counterpart financing of US\$75 million (equivalent) from budgetary resources. The GoG will allocate state resources for the project as part of its annual budget programming.



If there is a need to redeploy resources during project implementation, the GoG will explore alternative financing mechanisms with the World Bank.

15. Component 1: Resilient Irrigated Agriculture (US\$120 million). This component encompasses implementation of high priority investments in I&D infrastructure, agriculture support, and institutional strengthening for national irrigation and rural development agencies aligned with the country's agriculture strategy, irrigation strategy, and climate change adaptation and mitigation agendas. It finances civil works, goods, equipment, and related services as well as technical training for agency staff and farmers to boost productivity of irrigated agriculture. The infrastructure investments will enhance the reliability of water supply for irrigation to reduce risks from climate-induced precipitation variability. The agriculture investments will promote Climate Smart Agriculture (CSA) technologies (for example, crop varieties adapted to crop water stress, on-farm water saving techniques and technologies, anti-hail, and frost protection equipment) that enhance farm-level productivity and promote agronomic practices that generate adaptation and mitigation benefits for smallholder farmers in water stressed areas. The digital decision support services to farmers, with improved access to water saving irrigation technologies, and training for rural water users will improve on-farm water use efficiency. The investments also will be designed to minimize GHG emissions through reductions in energy consumption by promoting water conservation through water metering and on-farm interventions

16. Component 2: Improved Land Management Capacity (US\$24 million). This component will finance activities aimed at improving national land administration and management systems and facilitating access to and use of geospatial data. It is expected that implementation of the activities would contribute to the activation of agricultural land markets, facilitate investments into the agri-businesses, and contribute in a meaningful way to climate change adaptation measures

17. Component 3: Project Management (US\$6 million). This component, divided into two subcomponents, will finance two Project Implementation Units that will be responsible for project management, including coordination and technical supervision of project implementation, financial management (FM), procurement, monitoring, and evaluation (M&E), social and environmental standards management and oversight including gender-focused activities, communications and outreach, and progress reporting. The first PIU will be established under MEPA, which is responsible for management of Component 1 and Subcomponent 2.1. The second PIU will be established under the NAPR and responsible for implementation of Subcomponent 2.2. This component will also finance oversight of detailed engineering designs and civil works with the support of a Technical Assistance (TA) firm for quality assistance on studies and works⁹ and compliance with environmental and social management measures for the PIU. This will mostly include staff and operational costs as well as consultancies for the TA. MEPA would rely on the experienced PIU that currently manages Component 1 of the GILMDP and was until recently responsible for an IFAD¹⁰ funded agricultural project. The Ministry of Justice (MoJ) would rely on the experienced PIU within NAPR that has successfully managed Component 2 of the GILMDP, with

⁹ The experience of the GILMDP (poor quality of some studies and of some cost estimates) and that of many donor-funded projects proves how critical this TA can be. The benefit of using such TA in the PK Sindh Water Sector Improvement Project Phase I (P084302, Pakistan) is one of the successful lessons learned mentioned in the draft Implementation Completion and Results Report (September 2021).

¹⁰ IFAD (International Fund for Agricultural Development).



additional staff (for example, in land management and gender) to be recruited to support the PIUs in project implementation.

18. Component 4: Contingent Emergency Response Component (US\$0 million). This component establishes a disaster response contingency funding mechanism that can be triggered in the event of an eligible crisis or emergency, such as a natural disaster involving a formal declaration of a national or regional state of emergency, or a formal request from the GoG in the wake of a disaster, health pandemic, or other types of disasters such as armed conflict. In such cases, funds from other project components can be reallocated to this component to facilitate rapid financing of goods and services related to Components 1 and 2 that would still be relevant to the achievement of the PDO.

Legal Operational Policies

Legal Operational Policies

Triggered?

Projects on International Waterways OP 7.50	Yes
Projects in Disputed Areas OP 7.60	No

Summary of Assessment of Environmental and Social Risks and Impacts

19. The overall residual risk rating of the project is Substantial. Although almost all project risks are rated Low or Moderate, the environmental and social risks, as well as stakeholder risks are rated Substantial. Thus, the overall risk rating for the project is Substantial.

E. Implementation

Institutional and Implementation Arrangements

20. MEPA and the MoJ through the NAPR will share overall responsibility for project implementation. Each implementing agency will take the lead on project elements under their respective institutional mandate and capacity.

21. Project implementation will be guided by a Project Operations Manual (POM), developed by the two PIUs acceptable to the World Bank. The development of the POM will be a condition for effectiveness of the legal agreement. The POM will include details on institutional and implementation responsibilities, technical aspects of all components and activities, guidance on M&E of project results and outcomes, environmental and social risk mitigation measures, disbursements, FM aspects, applicable procurement rules and plans, and project supervision and reporting provisions. The POM will also provide detailed guidelines for project coordination, especially the formal coordination mechanisms between MEPA and NAPR.

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**APPROVAL**

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