Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: 10-Dec-2019 | Report No: PIDISDSA27603

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Project Name	Parent Project ID (if any)
Georgia	P171796	Additional Financing for Irrigation and Land Market Development Project in Georgia	P133828
Parent Project Name	**Region**	**Estimated Appraisal Date**	**Estimated Board Date**
Irrigation and Land Market Development Project	EUROPE AND CENTRAL ASIA	16-Dec-2019	21-Jan-2020
Practice Area (Lead)	**Financing Instrument**	**Borrower(s)**	**Implementing Agency**
Water	Investment Project Financing	Public Debt Management Department, Ministry of Finance of Georgia	Ministry of Environment Protection and Agriculture, Ministry of Justice

Proposed Development Objective(s) Parent

The Project Development Objective is to (i) improve delivery of irrigation and drainage services in selected areas and (ii) developimproved policies and procedures as a basis for a national program of land registration.

Proposed Development Objective(s) Additional Financing

The Project Development Objective is to: (i) improve delivery of the irrigation and drainage services in selected areas; and (ii) develop improved policies, procedures, and systems as a basis for a national land management program.

Components

Component 1 Irrigation and Drainage Improvement
Component 2 Land Market Development
Component 3 Project Management

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	20.00
Total Financing	20.00
of which IBRD/IDA	20.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	20.00

Environmental Assessment Category

B-Partial Assessment

Decision

The review did authorize the team to appraise and negotiate

Other Decision (as needed)

B. Introduction and Context

1. **This Project Paper (PP) seeks the approval of Executive Directors to provide additional financing (AF) equivalent of US$20 million from the International Bank for Reconstruction and Development (the Bank) for the Georgia Irrigation and Land Market Development Project (ILMDP; Project ID P133828; Credit No IDA-5456-GE). The PP also provides a rationale for the restructuring of the ILMDP.** The proposed AF responds to the official request received from the Ministry of Finance of Georgia on March 20, 2019. It will be used to support a mix of cost-overruns, scale-up and new activities. Specifically, it will support three activities under Component 1 (Irrigation and Drainage Improvement), namely: (i) modernization of up to 4,200 ha of secondary and tertiary networks of the Tbisi-Kumisi irrigation scheme; (ii) strengthening the National Agency for Sustainable Land Management and Land Use Monitoring (Land Agency); and (iii) assessment the feasibility of a proposed program for irrigation reservoir rehabilitation and construction. Component 2 (Land Market Development) will be supported through two activities, namely: (i) systematic land registration in irrigated pilot areas; and (ii) upgrading of the information technology (IT) system of the National Agency for Public Registration (NAPR).

2. **Both the Project Development Objective (PDO) and the Results Framework (RF) will be modified to capture the expanded Project scope**. The Project applies systematic land registration procedures and policies in the pilot areas and improves land management aspects and data processing as a basis for a national land management program. The strengthening of the new agency for Sustainable Land Management expands the scope of the Project beyond land registration into providing a basis for land use planning and monitoring. Therefore, as a part of the AF, the PDO and Intermediate Results (IR) indicators will be revised and target values for existing activities modified. Moreover, new IR indicators will be added, to: (i) account for additionally financed activities; (ii) monitor progress of identified gender-gaps addressing actions; and (iii) inform on the civic engagement progress.

3. **This PP also proposes an extension of the Project completion date by 15 months from July 2021 to September 2022**. This extension provides the additional time required for: (i) the installation of piped and

pressurized irrigation systems servicing some 15,700 ha of irrigated land; (ii) the successful institutional development of water users' organizations; and (iii) an upgrade of the IT system of NAPR. It provides the Bank and the Borrower alike reassurance that the Project achieves its PDOs successfully and without further AF requests or restructuring. The prolonged Project duration is a response to important lessons learned as summarized in Section D (Project Progress and Results to Date). It explains why three full irrigation seasons (2020-22) are needed to complete the rehabilitation works. Extended Project duration also allows NAPR to fully prepare for its task to roll-out a national land registration program and to assume its role as a host of the National Spatial Data Infrastructure (NSDI).

Country Context

4. **Georgia became an upper-middle income country in 2019. It has a population of 3.7 million.** Over the past decade, Georgia's economy has grown robustly at an average annual rate of 4.0 percent. Over this period, growth was driven by consumption and high rates of investment. This was despite numerous shocks, including the global financial crisis of 2007-08, the armed conflict over the occupied territories with the Russian Federation in 2008, and falling commodity prices since 2014. Like several countries in the region, Georgia has seen a decline in population - about 16 percent- since the country regained independence in 1991. In recent years, most of the decline has taken place in rural areas where about 50 percent of the population live; between the 2002 and 2014 census cycles, urban and rural areas shrank by 6 and 24 percent, respectively.

5. **Rapid economic growth in the last decade has been accompanied by a significant poverty reduction.** According to the national absolute poverty line, the poverty rate declined from 34.3 to 20.1 percent between 2004 and 2018. In 2018. Preliminary estimates indicate that 4.5 percent of the population faces extreme poverty, as measured by the US$1.9 PPP 2011 international poverty line, and 15.7 percent of the population lives under the US$3.2 poverty line (19.1 percent for rural areas and 13.7 percent for urban areas). The expansion of economic opportunities and social programs helped lift Georgians out of poverty and improve the overall well-being of the population. Poverty reduction has been driven by increased labor market opportunities. Pensions, social assistance, and agricultural incomes have also been key drivers of poverty reductions, though to lesser importance than labor market income.

6. **The agriculture sector remains a significant source of income, employment and export earnings for Georgia**. Approximately 46 percent of the total population currently live in rural areas and the sector still provides 45 percent of total employment (World Development Indicators, WDI 2018). Sector growth has been slow, due to the low priority given to sector development. Agricultural GDP growth averaged 0.6 percent per annum in real terms between 2009-2018, versus 4.0 percent for the overall economy. This slow sector growth has also inhibited rural poverty reduction, with rural poverty rates still doubling those in the urban areas (World Bank, 2015).

7. **Closing the productivity gap between non-irrigated and irrigated crop production**. Baseline data prepared under the Parent Project suggests that average crop yields for medium to large, and small to marginal farms are generally low under partially irrigated and non-irrigated conditions (e.g. wheat yields range from 2.20 to 2.50 tons/ha). In contrast, the productivity of irrigated crops is significantly higher for all types of annual and perennial crops. Under fully irrigated conditions, increases in crop productivity will principally arise from the increased supply of irrigation water (following rehabilitation of the irrigation infrastructure) as well as the adoption of enhanced agronomic practices such as improved fertilizer application, better weed control, and integrated pest management. It is therefore anticipated that crop yields would increase by between 45 and 50 percent for wheat, beans and fodder crops, which are mainly rain-fed at present, while the yields of partially

irrigated crops (e.g. maize, vegetables, orchard crops, and grapes) are expected to increase by between 20 to 25 percent with the provision of an adequate, timely and reliable supply of irrigation water.

8. **Georgia has a total land area of 6.97 million ha of which 36 percent is classified as agricultural land**. **Agricultural production in Georgia is concentrated among small-scale farming households.** There are 642.2 thousand agricultural holdings in the country; 571.9 thousand households operate agricultural land. Little of Georgia's agricultural land has been officially registered. Nevertheless, most land owners do possess documents that prove their property rights. One third of the agricultural land is privatized, one third is leased by the state to private persons, and the rest is land of low productivity (pastures, mowing land) in state ownership. There are up to 4 million parcels, which amount to approximately 1 million ha in private hands. The average area of a land parcels in private ownership amounts to 0.25 ha, and land owners have approximately 4-5 parcels in ownership each. The farms covering less than 0.9 ha represent 94.5 percent of agricultural farms. 5.4 percent of farms are 10 ha, and 0.1 percent out of them are farms of 90 ha and more (FAO, 2018).

9. **Women have more limited access than men to ownership and management of land and other assets and they are less actively involved in the representative roles for their management. The social assessment confirmed that special attention will need to be paid to gender issues under the Project**. Whereas 48 percent of women are employed in the agriculture sector, only 42 percent are registered owners or co-owners of the real estate property or land in rural areas. This number varies regionally reflecting ethnical and traditional factors rather than policy or legal framework application. While nearly one third of rural households are considered female-headed, this is not reflected in the number of female water users. Further analysis of underlying causes will be performed within the Gender Action Plan to compliment an already identified set of actions aiming at narrowing these gender gaps, such as: (i) social mobilization practices that ensure high levels of female participation in field level consultation on institutional options; and (ii) encouraging female participation in the governance structures of institutions responsible for on-farm water management. Under the Land Market Development Component, the Project will ensure the inclusion of female land owners in pilot registration. Recommended policies and procedures for registration already fully incorporate gender aspects, therefore an emphasis will be made on the gender-targeted awareness actions ensuring that women are fully informed about co-ownership benefits and are equally able to register land without discrimination, particularly in relation to transfers relating to joint ownership and inheritance of land.

10. **Georgia has abundant water resources but insufficient storage capacity to meet future supply needs for irrigation.** Flow rates of most rivers in Eastern Georgia peak in April and May and are low in July and August, when most crops need irrigation. The Tedzami River is an example. The river has a high flow in spring and very limited flow during the rest of the year. There are 9 irrigation canals diverting water from the river. If all schemes are fully operational, monthly irrigation supply needs would increase to as much as 3 million cubic meters during the months of July and August when average monthly flows represent only 2.5 to 3.5 million cubic meters. To alleviate supply deficits to irrigation, the Government of Georgia (GoG) considers the construction of the Tedzami reservoir, which would provide reliable irrigation supplies to some 7,000 ha of irrigated land. Elsewhere, more storage capacity will be needed to off-set the climate change effects on river flow impacting water supplies. Overall, the demand for irrigation is expected to rise from 150 million cubic meters in 2015 to 900 million cubic meters by 2025[1]. Out of 33 irrigation reservoirs previously constructed, only seven are currently considered operational. These are managed by Georgian Amelioration Limited Liability Company (GA LLC)[2] –a privately incorporated and 100 percent State-owned entity. GA LLC plans to gradually rehabilitate its non-operational

[1] Irrigation strategy for Georgia, 2017-2025, Ministry of Environment Protection and Agriculture
[2] GA LLC was created from United Amelioration Systems Company of Georgia (UASCG) in 2015.

reservoirs and thereby restore the storage capacity substantially. GA LLC also considers the construction of new reservoirs, which were previously planned.

11. **Climate change has aggravated supply deficits in Georgia**. Temperatures throughout Georgia have been consistently increasing since 1961. Temperatures in the west warmed by 0.3°C, while the mean annual temperature increased by 0.4–0.5°C in the east. Temperature increase and change of precipitation are two of the highest risks for agriculture. Near-term impacts will be an earlier start for vegetation seasons and a reduction in water availability for key agricultural zones. Decreased rainfall and warmer days in summer are likely to place an increasing pressure to shift from rain-fed agriculture to irrigation. However, changes in river flow patterns are a significant concern for Georgia's long-term surface water supply availability and the ability to deliver irrigation services. Given the likely effects of climate change on the river flow rates, periodic water shortages are expected to be more frequent, impacting the tenuous balance between supply and demand during these months. Thus, the need for the more strategic management of reservoirs and water storage options is paramount for decreasing risks from climate change and other pressures – which this AF will help begin to address.

Sectoral and Institutional Context

12. **Georgia has a complex institutional change history in the irrigation and drainage sector**. Primary irrigation and drainage canals and most secondary canals (off-farm systems) were owned and managed by the Department for Amelioration Scheme Management of the former Ministry of Agriculture until 2006 when the government abolished and replaced it with four regional state-owned limited liability companies (LLCs). Attempts to privatize these LLCs started in 2010, but did not attract enough interest. In March 2012 the companies were merged into a single state-owned entity called the United Amelioration Service Company for Georgia (UASCG), which in 2015 was renamed into "Georgian Amelioration" LLC.

13. **An Irrigation Sector Strategy (2017-2025) was formulated and approved by the GoG in 2017 to restore the irrigable area to 200,000 hectares by 2025**. If fully implemented, annual water demands will increase from around 150 million cubic meters currently to around 900 million cubic meters, a value still well within the annual supply of water available in Eastern Georgia. However, a lack of storage and a progressive loss of snowpack storage may cause shortages later in growing seasons when demand is high and river flows are at their minimums. The strategy prescribes that GA LLC continues operating as a single private corporation over the medium term, taking advantage of the financial discipline and results-orientation which typically characterize such entities. As long as it is publicly-owned, GA LLC will aim to operate at a financial break-even point, covering all operation and maintenance, administrative, and depreciation costs, with return on capital (profit) set to zero. GA LLC is expected to assume the role of bulk water supplier to local level organizations, which will distribute water and operate local facilities supplying individual farms. To facilitate this process, a recently formed Water Users Organization (WUO) Support Unit takes the lead in forming and supporting local level organizations, which provide service to individual users. The primary local level organization responsible for managing water delivery to individual farms will be a farmer-governed WUO. In October 2019, a draft law for water user organizations passed the first reading by Parliament. Since GA LLC is a monopoly for-profit service provider, the new law provides for the Georgian National Energy and Water Supply Regulatory Commission (GNERC) to regulate irrigation tariffs. GNERC will assume its role fully after a four-year inception period.

14. **The environmental and social risk of the Parent Project was assessed as "moderate" and remains unchanged for the AF.** Environmental risks associated with physical works have decreased as compared to the

early stages of Parent Project implementation. Irrigation infrastructures rehabilitation will result in better yields, may lead to diversification of crops, and eventually increase incomes of rural families from agriculture. To mitigate a risk of exposure to pesticides, the Borrower has produced and disseminated handouts with information on sound pest and pesticide management. An awareness-raising campaign will be carried out. By ministerial decree, a Dam Safety Panel has been established, composed of 11 members with expertise in the various technical fields relevant to the safety aspects. Resettlement Action Plans (RAPs) for irrigation rehabilitation works are currently implemented by the authorities. This involves negotiation of servitude arrangements with individual land owners and the conclusion of compensation payment agreements before the construction works start.

15. **The stakeholder risk is rated as "Substantial" as the full participation of farmers in WUO activities is critical to the successful implementation of works and management of the systems**. Land owners and users of land plots within the service area of a WUO will become WUO members. They are expected to actively engage and contribute to the successful fulfillment of WUO responsibilities. During the construction period, WUO members are expected to tolerate possible short-term disruption of supplies and adjust irrigation practices. During operation of the systems, WUO members will be expected to payments for the provision of irrigation services to ensure long-term sustainability. Systematic registration of land property rights in the irrigated areas covered under Component 2 will substantially mitigate the risk of irrigation water users escaping from their responsibilities to become active members of WUOs. To mitigate the stakeholder risks the Bank team will engage more pro-actively with the WUO Support Unit of GA LLC to fully engage with local stakeholders.

16. **The Project will continue using the Grievance Redress Mechanism (GRM) as operated under the Parent Project and include some improvements**. NAPR will strengthen its grievance database to be able to filter more effectively grievances by area, type, and status to ensure that they are followed up on and resolved successfully. Currently, Component 1 has a GRM in place for the Zeda Ru irrigation scheme. This will be updated to reflect the new situation and it will be extended to the other schemes (Kvemo Samgori, Tbisi Kumisi). The GRM will be established for all levels – local, project and any other, if applicable. The decision regarding the most appropriate grievance mechanism will be consulted with the local population (farmers, WUOs, or alternative bodies, local authorities). Ideally local grievance redress committees will be established and composed of trusted representatives. The committees shall adopt protocols for handling grievances, GRM forms, and records, and be trained prior to the beginning of the Project. The Project-level GRM and GRM committee would review cases that cannot be resolved at the local level. Additionally, claimants will always have the right to approach the national court system if the Project GRM fails to resolve their concerns.

C. Proposed Development Objective(s)

Original PDO

17. **The Project Development Objective is to: (i) improve delivery of irrigation and drainage services in selected areas; and (ii) develop improved policies and procedures as a basis for a national program of land registration**. The Project is structured into three Components: (i) Component 1 "Irrigation and Drainage Improvement"; (ii) Component 2 "Land Markets' Development"; and (iii) Component 3 "Project Management". The loan was approved on May 23, 2014 and became effective on May 13, 2015. The initial loan closing date was July 31, 2019, which was extended on June 7, 2018 to July 31, 2021, to reflect the initial delays with the effectiveness and the slow start of implementation of Component 1 activities.

Current PDO

18. **The New Project Development Objective is to: (i) improve delivery of irrigation and drainage services in selected areas; and (ii) develop improved policies, procedures and systems as a basis for a national land management program**.

Key Results

19. **The AF supports five technical activities**: (i) rehabilitation and modernization of secondary and tertiary irrigation infrastructure comprising 4,200 ha of the Tbisi-Kumisi irrigation scheme; (ii) strengthening of the National Sustainable Land Management and Land Use Monitoring Agency; (iii) assessment of the proposed irrigation reservoir rehabilitation and construction program; (iv) scaleup of systematic land registration to irrigated pilot areas; and (v) design and upgrade of the IT system of NAPR.

20. **A key activity of the AF Project is the registration of approximately 100,000 plots in the irrigation areas of the original Project**. This is likely to have positive impacts on enhancing not only tenure security, but also the information necessary to identify all beneficiaries of the irrigation systems, administer the collection of the service fees, organize the WUOs, assess their financial sustainability. Moreover, AF will support a technological upgrade of NAPR's data processing and inter-agency communication systems, and thereby provide capacity for its future role as host of the NSDI. It will also support the development of a new Land Management Agency, which is tasked to develop land related information, and to provide land mobility services to investors into agricultural land. Moreover, the AF will support the feasibility assessment of the proposed reservoir rehabilitation and construction program, which, if fully implemented, would increase the active storage volume available for irrigation from currently 550 million cubic meters to 990 million cubic meters per year.

D. Project Description

E. Implementation

Institutional and Implementation Arrangements

21. **The overall Project implementation arrangements remain unchanged**. The responsible implementing agency for Component 1 (Irrigation and Drainage Improvement) will remain the MEPA through its Project Planning and Management Department (PPMD), which will report to the Minister of Environment Protection and Agriculture. MEPA and the PPMD staff have sufficient prior experience in managing Bank Projects. The implementing agency for Component 2 (Land Market Development) will be the Ministry of Justice (MOJ) through the NAPR. The implementing agencies will undertake project management, including coordination and technical supervision of the implementation, financial management, procurement, monitoring, evaluation and progress reporting relating to their respective Project Components. With regard to Component 1 - Sub-Component 1.2 Irrigation and Drainage Rehabilitation and Modernization, GA LLC is the legal owner of the off-farm irrigation and drainage systems (dams, headworks, primary canals and most secondary canals). The MOE is the legal owner of on-farm irrigation and drainage systems (remaining secondary and all tertiary canals). GA LLC is responsible for service delivery, maintenance and rehabilitation relating to all irrigation and drainage infrastructure owned by GA LLC and the MOE.

22. **With this AF, the two Project Components will combine their efforts and concentrate activities in irrigated pilot areas**. The WUO support team of GA LLC will play a key role in the coordination of Project activities, while providing an interface between the Project teams, municipalities, water councils and WUOs. This will be extremely important for the negotiation of servitude agreements with individual owners of land plots, which may be affected by the irrigation construction works.

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F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)

Under Component 1, physical investments are made in three selected irrigation schemes: Kvemo Samgori scheme in Kakheti Region, Tbilisi-Kumisi scheme in Kvemo Kartli Region and Zeda Ru scheme in Shida Kartli Region. These schemes are located in the area transformed under anthropogenic impacts currently carrying rural settlements and agricultural fields. No natural or critical habitats are present in the Project's impact zone. Individual specimen of protected plant species may be encountered in the right-of-way of the irrigation schemes targeted for the Project intervention. Kvemo Samgori scheme receives water from Sioni reservoir fed by river Iori; Tbilisi-Kumisi scheme receives water from Algeti reservoir fed by river Algeti; and Zeda Ru scheme abstracts water from river Liakhvi. Rivers Algeti and Liakhvi flow to the international waterway - river Mtkvari draining into the Caspian Sea on the territory of Azerbaijan. River Iori flows into an international waterway - river Alazani which also drains into the Caspian Sea. Component 2 implement activities in the 3 irrigation areas under Component 1 and other 12 pilot areas situated throughout the Country.

G. Environmental and Social Safeguards Specialists on the Team

Darejan Kapanadze, Environmental Specialist
Sophia V. Georgieva, Social Specialist

SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	
Performance Standards for Private Sector Activities OP/BP 4.03	No	
Natural Habitats OP/BP 4.04	No	
Forests OP/BP 4.36	No	
Pest Management OP 4.09	Yes	

Physical Cultural Resources OP/BP 4.11	No
Indigenous Peoples OP/BP 4.10	No
Involuntary Resettlement OP/BP 4.12	Yes
Safety of Dams OP/BP 4.37	Yes
Projects on International Waterways OP/BP 7.50	Yes
Projects in Disputed Areas OP/BP 7.60	No

KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

Under Component 1, the ILMD Project seeks to improve irrigation and drainage efficiency in the selected existing deteriorated schemes through rehabilitating and safeguarding them from secondary damage after re-entry into operation. This implies repair or replacement of damaged hydraulic structures; cleaning and lining of canals; arrangement of gabions, check dams, embankments, and dikes for headworks; main canals, secondary canals and tertiary canals. No new schemes will be constructed and no new agricultural areas will be covered with irrigation/drainage services. Scheme rehabilitation will improve service provision to the areas currently covered and could allow service delivery to some of the areas which had been previously served, but later were cut-off due to deterioration of the infrastructure. The Project will improve efficiency of water use by decreasing water loss during transportation through the rehabilitation and upgrading of damaged canals, and by educating, training, and advising farmers on optimal planning of irrigation and the use of new technologies. Its expected environmental and social impacts are low to medium. The Project does not carry risks of destroying natural habitats, damaging forest stands, significantly altering hydrology of the natural waterways, or affecting other ecosystems in any tangible and/or irreversible ways.

Construction-phase impacts of the Project activities are typical for rehabilitation of the existing irrigation schemes, limited in time, and mostly contained within the work sites. Works in the sections of canals where encroachment to the right-of-way has happened in the past carry highest social sensitivity. If service roads are impassible, or access to irrigation infrastructure is otherwise restricted to the extent that the planned works cannot be undertaken without affecting people's economic activity and/or residence, then involuntary resettlement will occur. The Borrower will then be required to provide full compensation according to the guiding principles of OP/BP 4.12, Resettlement Policy Framework of ILMD Project, and the requirements of the national legislation.

Under Component 1, the AF will cover technical assistance, specifically a feasibility assessment of the proposed program for irrigation reservoir rehabilitation and construction. The AF does not include preparation of site-specific environmental and social documents beyond screening, which will be conducted under feasibility assessment Terms of reference. The Project Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF) will be amended and re-disclosed to explicitly cover activities under the AF including under the above-mentioned technical assistance.

Under Component 2, piloting of the land registration process may require resolving a small number of cases where landowners have extended their residences or land use onto State-owned land. Formalization of ownership could result in people losing access to State-owned land with adverse economic impacts. Addressing this scenario has implications for the Project, where the adverse impact will need to be mitigated, but also poses a land access issue with national level implications – requiring a strategic national policy response. Under the Parent Project a 'Country Systems' approach has been followed for this Component and the same practice will continue under the AF. Activities in this Component are guided by the "Strategy of Land Registration and Improvement of Cadastral Data in Pilot Areas" and the ILMD Project Operations Manual (POM), the latter covering both Components 1 and 2 of the Project. The POM will be updated by MEPA and NAPR to reflect activities covered by the AF.

At the operation stage of the irrigation schemes to be rehabilitated under the Project, avoiding possible negative impacts of water logging, intensified agriculture, and excessive intake of water from natural aquifers would be important. The Borrower will also have to safely maintain dams that support reservoirs feeding the irrigation schemes, apply a basic mechanism for detecting and addressing irrigation water quality issues, provide enabling environment for affordability of water fees, and mediate conflicts for water use that may arise in future.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:
Implementation of the ILMD Project will not directly influence competition for water use, because rehabilitation of schemes under the Project will not imply increase of water intake by the schemes. However, operation of the rehabilitated schemes in future may be affected by intensified water use upstream, or economic development downstream may cause increase demand for water, which will be limited during irrigation season due to operation of irrigation schemes. This may potentially trigger conflicts between water users and hinder growth unless watershed management planning is consistently applied.

Flood irrigation is the main technique used in Georgia. Over extended periods of time, it may potentially cause soil erosion and salinization through water logging. Therefore, some areas under flood irrigation will require the existence and proper operation of drainage systems. The application of flood irrigation method, in the areas with highly percolating soils, high ground water table, and saline lower layers of soil will have to be excluded to avoid soil degradation and economic loss to agriculture.

Rehabilitation of the irrigation infrastructure will result in better yields, may lead to diversification of crops, and eventually increase incomes of rural families from agriculture. Along with highly positive social impacts of the above, activation of agro-production in better irrigated areas and land plots brought back to production as a result of resumed irrigation services may lead to increase in use of agrochemicals. The handling and application of pesticides carries risks to the heath of people exposed to pesticides, consumers of the products farmed with the use of pesticides, and may damage environment (soils, surface water, and ground water) with hazardous pollutants. In order to reduce public health and environmental risks of excessive, unsafe, or improper use of pesticides, the Project beneficiary farmers will be provided with information on the Integrated Pest Management (IPM) principles and guidelines on safe storing, handling, and application of pesticides.

The GA LLC will inform the MEPA on the needs of annual water extraction from natural water bodies and will receive Ministerial consent on the technical regiment of water intake. Georgia intends to adopt a new water law which will introduce permitting procedure for surface water intake, but while this law remains in draft, procedures regulating water use do not imply much environmental scrutiny. There is no formally adopted science-based methodology for defining an ecological water flow to be maintained in natural water bodies. Therefore, the risk of damage to river

ecosystems from water intake and discharge from irrigation and drainage schemes does exist.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.
The Project was designed to make interventions only to those irrigation schemes, rehabilitation of which would not lead to the increase of water abstraction as compared to the originally designed capacity of schemes. This choice was made to ensure that the Project-financed activities would not result in adverse environmental and social impacts, and would not affect water quality and quantity in international waterways.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.
The Borrower developed an ESMF and a RPF for Component 1. ESMF lays out guiding principles for carrying out environmental and social screening of the proposed sub-projects, assessing their potential impacts and developing site-specific Environmental Management Plans (EMP), which provide measures for mitigating negative impacts and for monitoring their outcome. ESMF also carries instructions for works providers on the course of action in an unlikely case of chance finds during earth works. RPF provides guidance on the development of Resettlement Action Plans (RAPs) if rehabilitation of irrigation canals cannot be undertaken without temporary or permanent restriction of the land use by its private owners, or if any other possible types of impacting private property occur. Three site-specific EMPs and one abbreviated RAP were produced for rehabilitation of the main infrastructure of the selected irrigation schemes. All of these safeguard documents were shared with and approved by the Bank and disclosed and discussed with stakeholders. For Component 2, the Borrower has developed a "Strategy of Land Registration and Improvement of Cadastral Data in Pilot Areas", which will continue to be followed under the AF. MEPA and NAPR will update the POM so that it specifically refers to, and covers the activities of, the AF. Furthermore, MEPA will update the Project ESMF and RPF to cover activities under AF relevant to Component 1.

Because the schemes being rehabilitated under the ILMD Project depend on the dam-supported reservoirs, the Borrower commissioned a qualified international consultant to assess dams' safety and recommend ways of addressing outstanding issues in the course of Project implementation. The Borrower established a dam safety panel (DSP) comprised of 11 members by the Government's Decree No 112 of March 6, 2018 "On Approval of the Statute of the Ministry of Environment Protection and Agriculture of Georgia", following the guiding principles of OP/BP 4.37 to oversee compliance with Bank dam safety requirements and to report its findings annually to the Bank. The DSP was re-established by Ministerial order no. 2-495 of the MEPA dated June 6, 2019 with broader functions and responsibilities.

Some agricultural areas, which had been out of irrigation due to deteriorated infrastructure, may be brought back to irrigation as a result of ILMD Project implementation and service delivery will improve for all current users. This is likely to stimulate agro-production and, subsequently, the use of pesticides. To address human heath and environmental risks associated with the use of pesticides, ILMD Project finances the promotion of sound pesticide use practices, including IPM.

All irrigation schemes selected for the Project intervention receive water from international waterways, however, the Project design excludes impacts on water quality or quantity in these water bodies because Project proceeds will not be used to increase water abstraction from the natural water bodies. Improved service delivery to irrigation water users will be achieved by cutting water loss, improving scheme operation and maintenance practices. Hence, the ILMD Project was granted an exception from the communication to riparians by the Regional Vice President on December 4, 2019 . AF proceeds will be used to carry out a feasibility assessment of proposed program for irrigation reservoirs rehabilitation and construction involving international waterways, therefore according to paragraph 7 (b) of OP 7.50

the technical assistance will include examination of any potential riparian issues.

Component 1 of the ILMD Project is implemented by the MEPA. It has acted in this capacity for several Bank-supported projects in the past. This Ministry also has vast experience of collaborating with other multilateral and bilateral development agencies. Project Planning and Monitoring Division within MEPA is mandated to manage Component 1 of ILMD Project and is responsible for financial management, procurement and contract management, environmental and social management, results monitoring and evaluation.

Component 2 of the ILMD Project is implemented by the MOJ. The key implementing partner is the NAPR, which acts as the Project Implementation Unit for this Component. NAPR recruits consultants with relevant experience to supplement insufficient in-house capacity to manage the Bank-financed operation.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

MEPA, MOJ, NAPR, Ministry of Regional Development and Infrastructure, GA LLC, municipalities of irrigation service-user settlements, Water User Councils and individual users of irrigation services are the Project's stakeholders.

The Borrower prepared an ESMF and a RPF for the ILMD Project, disclosed and discussed them with stakeholders. The same procedure was applied to the three site-specific EMPs and one abbreviated RAP, prepared for the rehabilitation of main infrastructure in the three selected irrigation schemes. MEPA will update ESMF and PRF for the needs of the AF, re-disclose these documents and open them for public feedback prior to finalization. Site-specific ESMPs and RAPs to be developed for rehabilitation of the secondary and tertiary infrastructure of the Kvemo Samgori, Tbilisi-Kumisi and Zeda Ru irrigation schemes will be prepared in a participatory manner, disclosed while in draft, discussed with stakeholders and finalized prior to the commencement of works.

B. Disclosure Requirements (N.B. The sections below appear only if corresponding safeguard policy is triggered)

Environmental Assessment/Audit/Management Plan/Other

Date of receipt by the Bank	Date of submission for disclosure	For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors

"In country" Disclosure

Resettlement Action Plan/Framework/Policy Process

Date of receipt by the Bank	Date of submission for disclosure

"In country" Disclosure

Pest Management Plan

Was the document disclosed prior to appraisal?	Date of receipt by the Bank	Date of submission for disclosure

"In country" Disclosure

C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting) (N.B. The sections below appear only if corresponding safeguard policy is triggered)

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