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Report No: PAD5251

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED TRUST FUND GRANT

IN THE AMOUNT OF EUR 9.15 MILLION  
(US\$9.71 MILLION EQUIVALENT)

FINANCED BY THE EUROPEAN UNION INSTRUMENT FOR PRE-ACCESSION II

TO THE

REPUBLIC OF KOSOVO

FOR A

IMPROVEMENT AND REHABILITATION OF IRRIGATION SYSTEMS PROJECT

October 12, 2023

Agriculture And Food Global Practice  
Europe And Central Asia Region

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective September 30, 2023)

Currency Unit = EUR

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US\$1 = EUR 0.9426

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EUR 1 = US\$1.0609

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## FISCAL YEAR

January 1 - December 31

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## ABBREVIATIONS AND ACRONYMS

AM	Accountability Mechanism
ARDP	Agriculture and Rural Development Project
CCS	Climate Change Strategy
CSA	Climate-smart agriculture
CPF	Country Partnership Framework
E&S	Environmental and Social
ESMF	Environmental and Social Management Framework
EC	European Commission
EU	European Union
EUR	Euro
FAO	Food and Agriculture Organization of the United Nations
FM	Financial Management
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GoK	Government of Kosovo
GRID	Green, Resilient and Inclusive Development
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
HEIS	Hands-on Expanded Implementation Support
IMWC	Inter-Ministerial Water Council
IPA	Instrument for Pre-Accession Assistance
KFMIS	Kosovo Financial Management Information System
M&E	Monitoring and Evaluation
MAFRD	Ministry of Agriculture, Forestry and Rural Development
MESPI	Ministry of Environment, Spatial Planning and Infrastructure
MFF	Multiannual Financial Framework
MoFLT	Ministry of Finance, Labor and Transfers
PDO	Project Development Objective
PFM	Public Financial Management
PIU	Project Implementation Unit
POM	Project Operations Manual
PPSD	Project Procurement Strategy for Development
RDIC	Radoniqi-Dukagjini Irrigation Company
RDIS	Radoniqi-Dukagjini Irrigation Scheme
RISE	Resilience, Inclusion, Sustainability, and Efficiency
SCADA	Supervisory Control and Data Acquisition
TA	Technical Assistance
TF	Trust Fund



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DATASHEET

**BASIC INFORMATION**

Country(ies)	Project Name	
Kosovo	Improvement and Rehabilitation of Irrigation Systems Project	
Project ID	Financing Instrument	Environmental and Social Risk Classification
P179737	Investment Project Financing	Moderate

**Financing & Implementation Modalities**

<input type="checkbox"/> Multiphase Programmatic Approach (MPA)	<input type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input checked="" type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made Disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	<input checked="" type="checkbox"/> Hands-on Enhanced Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
19-Oct-2023	31-Mar-2026

Bank/IFC Collaboration

No

**Proposed Development Objective(s)**

The project development objective is to increase the efficiency of water utilization and boost agricultural productivity in the project area.

**Components**

Component Name	Cost (US\$, millions)
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Agriculture and Food

Water

**SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)**

Risk Category	Rating
1. Political and Governance	Moderate
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Low
4. Technical Design of Project or Program	Low
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Moderate
8. Stakeholders	Low
9. Other	
10. Overall	Moderate

**COMPLIANCE**

**Policy**

Does the project depart from the CPF in content or in other significant respects?

Yes  No

Does the project require any waivers of Bank policies?

Yes  No



**Environmental and Social Standards Relevance Given its Context at the Time of Appraisal**

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Not Currently Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Not Currently Relevant
Financial Intermediaries	Not Currently Relevant

**NOTE:** For further information regarding the World Bank’s due diligence assessment of the Project’s potential environmental and social risks and impacts, please refer to the Project’s Appraisal Environmental and Social Review Summary (ESRS).

**Legal Covenants**

**Sections and Description**

The Recipient shall, through MAFRD, not later than six (6) months after the Effective Date, establish and thereafter maintain, throughout Project implementation, a monitoring committee with composition, resources, terms of reference and functions acceptable to the Bank (“Monitoring Committee”), comprising representatives of MAFRD in charge of the irrigation sector, and of the RDIC, and the irrigation engineer hired under the PIU, to oversee the irrigation rehabilitation works.

**Sections and Description**

The Recipient, through MAFRD, shall not later than two (2) months after the Effective Date, update and adopt the Project Operations Manual, in a manner acceptable by the Bank, and thereafter carry out the Project in accordance with said Project Operations Manual.





**Conditions**

Type	Financing source	Description
Effectiveness	Trust Funds	The Recipient, through MAFRD, has established a Project Implementation Unit (PIU) with composition, resources, and terms of reference satisfactory to the Bank.

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## I. STRATEGIC CONTEXT

### A. Country Context

1. **Kosovo has experienced steady economic progress since independence, allowing its transition to upper-middle-income status in 2018.** The gross domestic product (GDP) averaged 4.6 percent growth between 2010 and 2019, translating into a nearly 50 percent increase in per-capita income and a 35 percent reduction in the poverty rate. Over the past decade, the country successfully transitioned away from a growth model based on high dependence on foreign aid inflows, outperforming peer countries of similar per-capita income thanks to a steady expansion in consumption and investment, with a strong impetus from diaspora inflows, public investment in infrastructure, and financial deepening, amid a stable fiscal stance and an environment of low inflation.

2. **In 2022, GDP growth moderated to an estimated 3.1 percent, after reaching a record of almost 11 percent in 2021.** After contracting by 5.3 percent in 2020, the economy rebounded quickly from the COVID-19 shock. However, the negative terms-of-trade shock driven by Russia's invasion of Ukraine constrained the growth momentum during 2022. Growth resulted at 3.5 percent for 2022, driven by exports and private consumption. As a net importer of food and energy, Kosovo remains highly vulnerable to imported inflation. Consumer inflation peaked at over 14 percent in July 2022 and averaged 11.6 percent for 2022, and price pressures remained elevated thereafter. At the same time, the external current account deficit deteriorated to 10.1 percent of GDP from 8.2 percent in 2021.

3. **Medium-term growth is expected to converge towards the potential of over 4 percent but is subject to significant risks.** Growth is expected to moderately accelerate to 3.7 percent in 2023 and return on the potential growth trajectory over the medium term. Continued uncertainties related to the wider impacts of Russia's invasion of Ukraine, including on international food and energy prices, entail significant downside risks. A rebound in energy prices could lead to significant fiscal and external sector pressures, negatively impacting growth. A further slowdown in the European Union (EU) growth could erode the incomes of the diaspora, with detrimental impacts on remittances, investment, and diaspora inflows.

### B. Sectoral and Institutional Context

4. **The agriculture sector is an important and strong contributor to Kosovo's economy, employment, and development of its rural areas.** Kosovo's agriculture sector contributes 7 percent to GDP and provides employment to approximately 25-35 percent of the population. Agriculture land amounts to about 39 percent of the total area, followed by forest and forest land (44 percent), urban land (4 percent) and other (13 percent). About 60 percent of the population lives in rural areas where the agriculture sector is an important income source. The sector is characterized by a high proportion of small-scale farming, with about 70 percent of farmers operating on less than 2 hectares (ha), 93 percent operating on less than 5 ha, and only 1.6 percent of farms being 10 ha or larger<sup>1</sup>. Many farms operate at subsistence or semi-subsistence levels and commercial farmers face obstacles to expansion. Agri-business, especially food processing, has grown steadily in terms of number of firms, annual turnover, and employment (Figure 1), and agricultural exports as a share of total exports increased in absolute and relative terms.

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<sup>1</sup> World Bank 2021 Kosovo Country Economic Memorandum.



Figure 1 Active businesses in agriculture<sup>2</sup>

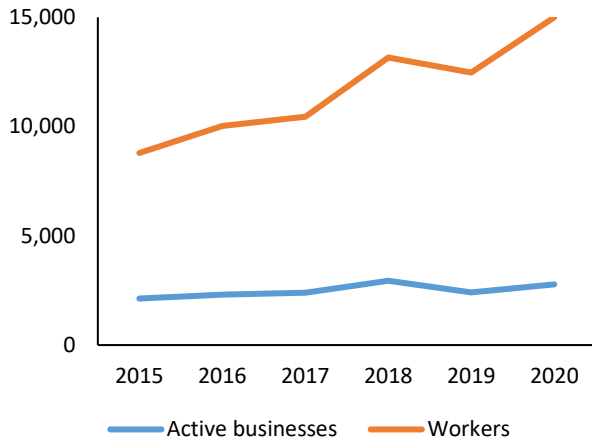
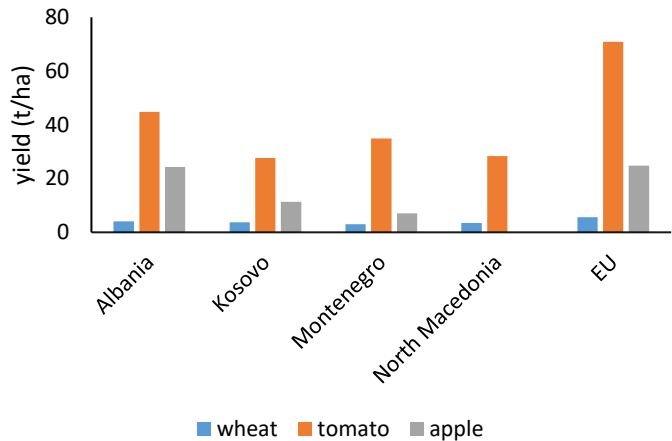


Figure 2 Yield of wheat, tomato and apple<sup>3</sup>



5. **Agricultural productivity in Kosovo is relatively low compared to Albania and EU average.** Statistical data shows that while some of its crop yields are comparable to neighboring countries such as Montenegro and North Macedonia, Kosovo is considerably lagging behind Albania and EU average (Figure 2). Impediments to better productivity include limited use of modern technology, land fragmentation, low financial liquidity, shortage of capital for investment (especially for smallholders), outdated production management practices, and limited product aggregators, storage facilities, and modern irrigation infrastructure. While the country has made some progress in expanding its product aggregators and storage facilities, the lack of modern irrigation infrastructure and technology is a major limitation for agricultural efficiency and productivity.

6. **Climate change poses significant threats to Kosovo’s agricultural production, which is highly dependent on water and increasingly subject to water risks.** Kosovo has about 1,900 m<sup>3</sup> per capita of renewable fresh water available per year. This identifies Kosovo as a “water-stressed” country, ranking it among those countries with the lowest level of water resources development and storage. A water resource availability assessment was conducted in the Kosovo Irrigation Master Plan, considering temporal and spatial distribution from a water security perspective to identify how the situation may be improved by irrigation investments. It identified sufficient water available for proposed irrigation investments in the western and central part of the country. Kosovo is very vulnerable to climate change, with major concerns posed by the predicted increase in temperature in summers (+2.5°C) and the decrease of precipitation in spring and summer (10 percent). These changes would strongly impact agriculture, as Kosovo is yet to develop a more climate-smart, resilient, and environmentally sustainable agricultural sector.

7. **Given Kosovo’s vulnerability to climate change, irrigation infrastructure is an important and critical contributor for increased resilience of the sector.** Kosovo’s potential for arable land under irrigation is much larger than what is currently being irrigated. This not only opens opportunities to increase agriculture productivity but also for further diversification of the crops grown. Kosovo’s irrigated area was estimated to be less than 5 percent of all agricultural land<sup>4</sup> in 2020. The total arable land area that could be under irrigation is estimated at 280,000 ha, or 67 percent out of the total utilized area of agricultural land (420,210 ha). Nevertheless, currently there are only about 21,000 ha irrigated, of which about 14,000 ha in formal irrigation and 7,000 ha in informal irrigation.

<sup>2</sup> Calculation based on data from the Green Report, 2020

<sup>3</sup> Yield in Figure 2 is calculated as the 3-year average of 2018-2020, based on official data from Kosovo, EU and FAO.

<sup>4</sup> The calculation is based on data from the Kosovo Green Report 2021, Ministry of Agriculture, Forestry and Rural Development.



8. **Irrigation improvements and rehabilitation of irrigation schemes support the agriculture sector in three important areas.** They help (i) minimize climatic risks affecting water resources; (ii) ensure quality of products essential to commercial agriculture; and (iii) provide adequate incomes and living standards in the rural areas. Irrigation in Kosovo is provided through various channels such as formal irrigation organized through irrigation providers (i.e., water/irrigation companies), informal irrigation, unorganized irrigation, and individual irrigation from water sources, including rivers, wells, etc. Irrigation is mainly used to irrigate cereals, fruits, and vegetables.

9. **Kosovo needs to improve the sustainable development and management of the irrigation system to allow economic growth of the agriculture sector.** Along with increasing water use efficiency, expanding sustainable irrigation is needed for increasing the commercialization and value addition of the agriculture sector. This includes the revitalization and improvement of the current irrigated area and the expansion of equipped areas for irrigation, as well as the introduction of a modern management system that will enable the operation of the irrigation structures remotely and the reduction of operational costs and water losses. Modernizing the management of irrigation schemes would also require capacity building of irrigation providers to improve their reliability, adequacy of service, and cost recovery. Introduction of adequate, modern irrigation in critical production areas in Kosovo has led to many opportunities for uptake of higher value production and value chain integration.

10. **Water resource management in Kosovo involves many institutions and stakeholders.** Overall water resource management is the mandate of the Ministry of Environment, Spatial Planning and Infrastructure (MESPI), with key functions in sub-sectors managed by other line ministries, notably irrigation by the Ministry of Agriculture, Forestry and Rural Development (MAFRD), service delivery of three state-owned enterprises for irrigation and seven water supply companies by the Ministry of Economy Unit for Policies and Monitoring of Public Enterprises, and drinking water quality by the Institute of Public Health under the Ministry of Health. The River Basin Districts Authority, currently a department under the MESPI, has an executive role for water resources management for all the four basins in the country, and a number of other institutes in the areas of environment, service regulation, public health, spatial data, and emergencies have specific functions in the water sector. Intergovernmental sector coordination takes place through an inter-ministerial water council (IMWC), headed by the Prime Minister. IMWC Secretariat meets bi-monthly with all donors and development partners active in the water sector in Kosovo to coordinate irrigation-related activities being supported by donor funding or credit and, thus, prevents any overlapping in the sector.

11. **The Kosovo Irrigation Master Plan and Investment Framework has been developed under the support of the World Bank funded Agriculture and Rural Development Project (ARDP, P112526), to guide future investments and managements measures for the irrigation sector.** The Master Plan and Investment Framework for the irrigation sector, endorsed by the IMWC, provides recommendation for infrastructure and technical assistance measures for the short, medium and long-term to increase water/agricultural productivity. According to the Irrigation Master Plan and Investment Framework, to improve water/agriculture productivity support should envisage investments in irrigation infrastructure, building on successful experiences, complemented with capacity building activities. Kosovo would benefit greatly from prompt application of the irrigation master plan to assure the country's readiness for addressing its water-stressed situation and assure efficient and productive use of the available water.

12. **To support candidate countries in preparing for EU accession, the EU provides significant funds under the Instrument of Pre-accession Assistance (IPA).** The IPA 2020 program for Kosovo aims at fostering rural economic development through improved management of the natural resources and increased income generation opportunities related to cultural tourism and improved capacities and alignment to standards in the agriculture sector. Under this program, EUR 10 million have been allocated to support the further development of irrigation systems based on the



Kosovo Irrigation Master Plan and Investment Framework through indirect management modalities. These foresee the establishment of an EU funded Trust Fund to be administered by the World Bank financing both Bank Executed and Recipient Executed activities.

13. **The rehabilitation and modernization of the Radoniqi-Dukagjini Irrigation Scheme (RDIS) is ranked among the key priority irrigation investments identified in the Master Plan and Investment Framework.** The RDIS covers two separate irrigation infrastructures, which together represent the Regional Irrigation Scheme “Radoniqi-Dukagjini” as one integral irrigation system. The Radoniqi irrigation scheme is located in the territory of Gjakova and Rahovec municipalities, and the intake structure is Radoniqi Dam in the municipalities of Gjakova and Rahovec, with an irrigated area of 8,600 ha. The Dukagjini irrigation scheme is located in the Municipality of Prizren, with an area of 5,000 ha and the water is captured directly from the river Lumbardhi i Prizrenit. Currently, the RDIS is the best performing scheme in the country in terms of service provided to the farmers and percentage of fee collected for the service. RDIS has secure water resource for future expansion and represents the largest share of the country’s current actual irrigated area comprising most of its high value crop production (e.g., peppers, tomatoes, cucumber, etc.). Based on the assessment carried out under ARDP, the total estimated investment needed for the rehabilitation and modernization of RDIS is EUR 13.2 million. While about EUR 4 million were provided under the ARDP for the rehabilitation of part of the RDIS, additional funds are needed for the rehabilitation of the remaining part of the scheme and its modernization, introduction of a Supervisory Control and Data Acquisition (SCADA) system to ensure better water use efficiency, and institutional and financial sustainability of the irrigation system. These required funds amounting to EUR 9.15 million will be provided by the EU IPA 2020 program for Kosovo and will be channeled through the European Commission - World Bank Partnership Program Part III for Europe and Central Asia<sup>5</sup> Programmatic Single-Donor Trust Fund funded by the EU and administered by the Bank.

14. **Capacity building of key stakeholders needs to be an integral and essential part to improve the sustainability and efficiency of infrastructure investments.** The Master Plan identifies a number of capacity constraints which characterize the Kosovo irrigation sector. These include the uneven performance of irrigation providers in terms of governance and management, the weak capacity of the MAFRD and the municipalities to provide advice on irrigation and drainage, and the limited knowledge of farmers in terms of modern and climate resilient irrigation technology. Technical assistance and capacity building activities are needed together with the rehabilitation investment for the improvement of overall corporate governance, introduction of management best practices, provision of irrigation and drainage advisory services and to strengthen farmers knowledge on efficient on-farm water management. The technical assistance and capacity building proposed under the project for irrigation providers, MAFRD, municipalities, and farmers groups aims to ensure sustainability and proper maintenance of irrigation schemes implemented under the project.

### C. Relevance to Higher Level Objectives

15. **The proposed project is fully aligned with the current FY23-FY27 Country Partnership Framework (CPF)<sup>6</sup> which has a strong focus on sustainable management of water resources and modernizing and expanding irrigation for more productivity in agriculture.** The proposed project will respond to Government demand and help Kosovo rehabilitate and expand irrigation systems. It will directly contribute to CPF Objective 3.1 “Improve water security” by increasing the hectares of area provided with improved irrigation services and promoting the adoption of improved agricultural technologies. The proposed project is highly consistent with the World Bank’s overall development frameworks – Resilience, Inclusion, Sustainability, and Efficiency (RISE) and Green, Resilient and Inclusive Development (GRID), in terms

<sup>5</sup> A partnership agreement between the EU and the World Bank regulated through a financial framework.

<sup>6</sup> Report No. 180809-XK, May 9, 2023



of addressing long-term development challenges and contributing to post-pandemic “build back better” approach. The proposed project is also fully aligned with the vision and objectives of Kosovo Strategy for Agriculture and Rural Development 2022-2028 to develop a competitive and innovative agri-rural sector based on modern knowledge, technology, and standards, offering high-quality products in the domestic market, the region, and the EU, as well as to promote sustainable development of natural resources and the environment, providing economic activities and employment opportunities, social inclusion and quality of life for residents in rural areas.

16. **The proposed project will be funded under the European Commission - World Bank Partnership Programme Part III for Europe and Central Asia Programmatic Single Donor Trust Fund.** The European Commission (EC) and the World Bank share a common vision of building competitive and sustainable economies and of reducing poverty and social exclusion. These goals are outlined in the EU's Multiannual Financial Framework (MFF) (2014-2020) - "The EU as a global player" and in the proposed MFF for 2021-2027 – “Neighbourhood and the World”. The MFFs are designed to allow the EU to fulfil its responsibility both at global level and in its immediate Neighbourhood, and to help safeguard global public goods, i.e., fighting poverty and promoting democracy, peace, stability, and prosperity. The MFF 2014-2020 supports the EC’s approach under the "Agenda for Change", to focus the EU aid in fewer sectors supporting, inter alia, good governance and creating inclusive and sustainable growth. For the current MFF 2021-2027, the instruments offered by the EC, which the World Bank can help implement include the IPA which would finance the proposed project.

17. **Overall, the project's activities and objectives are in line with Kosovo’s Climate Change Strategy. There are no aspects of the project that clearly go against the country’s ability to meet their nationally determined objectives, nor hinder their progress in doing so.** According to the country’s Climate Change Strategy (CCS), it commits to “Developing Kosovo's capacity to meet its obligations under the United Nations Framework Convention on Climate Change and the EU” on mitigation, and “to increase capacities of central and local stakeholders, to integrate climate change issues and adaptation into development processes” on adaptation. The project contributes to this by improving and modernizing irrigation services and reducing water losses via the rehabilitation and modernization of the RDIS. The CCS also mentions the importance of water efficiency programs that can address the impacts of climate on water resources and reduce the energy use for water pumping and treatment, which the project will also contribute to by rehabilitating irrigation networks through regulating water flow and water use to ensure efficient water management. The establishment of the SCADA, which will allow for a broad modernization approach, ensures better water use efficiency and institutional and financial sustainability of the irrigation system. This also supports Kosovo in achieving its climate-related objectives.

## II. PROJECT DESCRIPTION

### A. Project Development Objective

#### PDO Statement

The project development objective is to increase the efficiency of water utilization and boost agricultural productivity in the project area<sup>7</sup>.

#### PDO Level Indicators

18. Key indicators to measure the achievement of the PDO are:

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<sup>7</sup> As defined in the Trust Fund Administration Agreement signed between the EU and the World Bank.



- (i) Area provided with new/improved irrigation or drainage services. (CRI, Hectare (Ha))
- (ii) Area rehabilitated by the project where high value crops are introduced. (Percentage)

**B. Project Components**

19. The proposed project includes the following three components:

20. **Component 1: Rehabilitation and Modernization of the RDIS (EUR 8.35 million).** This component will finance the rehabilitation and modernization of the RDIS, aiming to improve and modernize irrigation services, reduce water losses and production costs, and introduce higher value crops in the project areas to increase agriculture productivity. RDIS operates two independent irrigation schemes, namely the Radoniqi scheme, with an originally designed area of 9,350 ha supplied by the Radoniqi dam with its seven irrigation sub-systems, and the Dukagjini irrigation scheme, with an originally designed area of 4,500 ha with its six sub-irrigation systems. Currently, each scheme is managed respectively by Radoniqi and Dukagjini unit both under RDIS.

21. **Sub-component 1.1: Rehabilitation of the RDIS.** This sub-component would support (i) rehabilitation works to modernize and upgrade the RDIS, and (ii) supervision of the progress and quality of works. Works for the scheme’s rehabilitation include inter alia: (i) rehabilitation and upgrade of the regulating structure, aiming at regulating water flow and water use to ensure efficient water management for a total surface of an improved irrigated area of 11,750 ha<sup>8</sup> and (ii) rehabilitation of three irrigation sub-systems (for a total of 4,000 ha): Qerim with 1,800 ha, Janosh with 1,400 ha, and sector “D” in Dukagjini with 800 ha that have not functioned since the establishment of the irrigation scheme. The detailed design of the rehabilitation works has been completed, e.g., specific activities and the estimated costs, indicating a high implementation readiness.

Detailed activities under the RDIS rehabilitation works	
1.	Rehabilitation and upgrade of the regulating structure in Radoniqi scheme in the main canal;
2.	Construction of manholes and installation of flow meter on secondary and tertiary pipelines in Radoniqi scheme in function and new rehabilitated area;
3.	Rehabilitation of two irrigation sub-systems Qerim and Janosh (includes replacement of different profile of gate valves, broken pipes and fittings) in Radoniqi scheme increasing current area with 3,200 ha;
4.	Rehabilitation of two pump stations, Qerim & Janosh with their basins, including purchase and installation of vertical line shaft pumps in Radoniqi scheme;
5.	Power supply, electrical installations and automation for all structures in the main canal of Radoniqi scheme, enabling two-way communication including automation enclosures for the central SCADA system and backup automation enclosures;
6.	Rehabilitation of the G-2 intake and distribution gates manhole for irrigation sub-system “D” in Dukagjini irrigation system in Prizren;
7.	Rehabilitation of the administrative building and warehouse in Prizren, serving Dukagjini unit, as well as the warehouse in Xerxe serving Radoniqi unit;
8.	Mechanization for operation and maintenance of Dukagjini unit as foreseen in the feasibility study report.

<sup>8</sup> This include the 4,000 ha which would be rehabilitated in Qerim, Janosh and sector “D” in Dukagjini.



22. **Sub-component 1.2: Modernization of the RDIS.** This sub-component would support the development and establishment of the SCADA for the whole RDIS. Supporting SCADA allows to take a broad modernization approach to ensure better water use efficiency, and institutional and financial sustainability of the irrigation system. SCADA will allow to remotely enable the operation of the irrigation structures and reducing the operational costs and water losses. Hence, through the SCADA the Radoniqi-Dukagjini Irrigation Company (RDIC) will be able to manage the Radoniqi dam and regulating reservoirs (reservoirs B9, B10, B11), operate the pump stations and maintain water pressure, as required, in a remote manner. SCADA will allow centralized monitoring and control and detect irregularities in the network in real-time. In case of an emergency, including any potential flooding of the dam, SCADA will allow safer and faster operation of the valves in outlet structures and will avoid the manual operation which is very risky in emergency circumstances. SCADA operation would allow for better planning and water release with the ultimate goal of more efficient use of the stored water in the Radoniqi dam.

23. **Component 2: Capacity Building to Increase Water Use Efficiency and Agriculture Productivity (EUR 0.4 million).** This component aims to improve the sustainability and efficiency of infrastructure investments supported under component 1 and increase the capacities of the MAFRD, municipalities, irrigation providers and farmers. It would provide technical assistance (i) to the irrigation providers on improving the overall corporate governance and best practices in management; (ii) to the farmers on introducing modern on-farm irrigation technologies and good practices for an efficient on-farm water management; (iii) to the MAFRD and municipalities to strengthen the capacities for the provision of irrigation and drainage advice to the farmers in an effective and sustainable manner; and support for knowledge exchanges in the irrigation sector.

24. Technical assistance to existing irrigation providers will be aimed at improving the overall corporate governance and best practices in management, and to prepare quality business plans.

25. Technical assistance to farmers will be aimed to: (i) support on-farm irrigation development, including activities to develop and operate a pilot farm in the RDIC area, promote several modernized on-farm irrigation technologies and display good practices for an efficient on-farm water management, and organize training programs for on-farm irrigation to group of farmers addressing the topics of technologies, costs, maintenance, financing mechanism, etc.; and (ii) support farmers agriculture practices, including activities to increase the added value produced by farmers and optimize production costs, ensure the transition to a more productive agriculture while introducing agro-ecological practices, develop value chains and support marketing, and empower farmer groups.

26. Technical assistance to the MAFRD and municipalities would focus on the provision of irrigation and drainage advisory services to the farmers on irrigation technologies, water use management depending on the crop production and increase of crop productivity. The activities would include training and coaching of MAFRD and municipal officials.

27. Knowledge exchanges will be carried out through study tours and site visits to relevant countries with advanced and automatized irrigation systems to enable farmers, irrigation providers and municipality staff to learn and benefit from the knowledge and experiences of other irrigation providers and on-farm water users. These exchanges will focus on introducing the beneficiaries to advanced practices and efficient use of water for irrigation for improving productivity, profitability and sustainability of their operations and on increasing their competitive potential in the sector. The project will support an average of two of such knowledge exchanges per year for about ten participants each, with particular attention given to the participation of women in each visit.

28. **Component 3: Project Management, Coordination, Monitoring and Evaluation (EUR 0.4 million).** This component will support the establishment of a Project Implementation Unit (PIU) which will build on the experience in





implementation of the ARDP and will be tailored to the needs of the project activities. The PIU will provide overall project management and coordination, technical support, including on capacity building, engineering, procurement, financial management, monitoring and evaluation (M&E), safeguards, and public awareness of project activities. Project staff will also be trained in capacity building on climate resilient irrigation, sustainable irrigation and climate adaptation solutions. The PIU will also manage the project's grievance redress mechanism (GRM), citizen engagement activities and participatory monitoring of the irrigation rehabilitation works. The latter will be implemented through one or more Local Monitoring Group(s) to be established in the areas where rehabilitation works will be implemented and will ensure the engagement of the project beneficiaries in monitoring of the works aiming at ensuring ownership and sustainability of the investment.

29. **Gender.** Fostering gender equality in access to economic opportunities is a key objective of the Government's social and economic development agenda. The Constitution of the Republic of Kosovo "ensures gender equality as a fundamental value for the democratic development of the society, providing equal opportunities for both female and male participation in the political, economic, social, cultural and other areas of societal life". The Kosovo public administration has considered the Recast EU Directive (2006/54/EC) on Equal Opportunities and Equal Treatment of women and men in employment and occupation. For women in agriculture, MAFRD has taken affirmative actions, such as higher scoring for grants and equal chances of accessing direct payments. Furthermore, Kosovo Strategy for Agriculture and Rural Development 2022-2028 states that women's participation in the decision-making process will be ensured along all stages of this Strategy preparation and implementation to give women an equal and real opportunity to access and benefit from funds and emphasizes the interventions which will seek to fully respect the rights of any individual, including minorities and vulnerable groups.

30. In Kosovo, women remain underrepresented in the agriculture sector. Only 4.9 percent are agriculture landowners, and another 3 percent of registered employed women are active in agriculture, forestry and fishing. However, this share is likely to be much higher since most women work in agriculture without registering. However, due to the requirements of the MAFRD support to the sector, most of the subsidies and grants have been awarded to men<sup>9</sup>. In addition to lack of financing, women experience lack of access to information technology and advisory services.

31. The project will focus on one key gender gap identified, namely inequality in the participation of women in targeted trainings and agricultural advisory support services to improve their knowledge in on-farm irrigation technologies and climate smart agriculture. Under component 2, the project will design the trainings and services based on participatory discussions to gather feedback from women farmers and rural women who are indirectly active in the agriculture sector, in order to improve the outreach and service provision to women in terms of advisory service topics and delivery mechanisms (e.g. taking into account women's schedules and other responsibilities to ensure maximum women participation). Gender disaggregated information will also be collected to help the MAFRD to prepare relevant gender-sensitive analyses and policy documents for future targeted interventions. The project will capture the reduction in gender gaps through the gender-disaggregated indicators recorded through the project results framework.

32. **Citizen engagement.** Based on the lessons learned from previous Bank operations in the sector and in the region, a multiple channel approach is planned under the project to support citizen engagement. This will include stakeholder consultations; perception surveys which will be carried out at completion of each training activity; and a project-specific GRM to receive feedback from beneficiaries, project-affected persons, and general public. The project's citizen engagement approach will also include a feedback mechanism to generate recommendations on how to strengthen participation based on gender representation of direct beneficiaries and other stakeholders, and how to strengthen

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<sup>9</sup> UN Women (2021). In Kosovo, gender-responsive budgeting raises hope for rural women.



implementation throughout the project's lifetime. Based on the lessons learned from ongoing operations during the COVID-19 crises restrictions, the project will explore information technology options for real-time beneficiary feedback. Furthermore, experience in the previous Bank funded ARDP supporting irrigation rehabilitation activities in RDIS, show that citizen engagement activities can be included continuously in project activities for example through participatory monitoring. This requires the establishment of local monitoring group composed of individual farmers, agriculture legal entities operating in the irrigation scheme area to help with the supervision of the works. The local monitoring groups help the ministry/irrigation companies keeping them informed with the progress of works and potential quality issues through a range of communication tools, including telephone, letters, email, WhatsApp, etc. Based on the above, the project will support the establishment of one or more local monitoring groups. The project also builds on the rich experiences and incorporates beneficiary feedback indicators in the results framework to measure beneficiaries' satisfaction with the project supported services.

### **C. Project Beneficiaries**

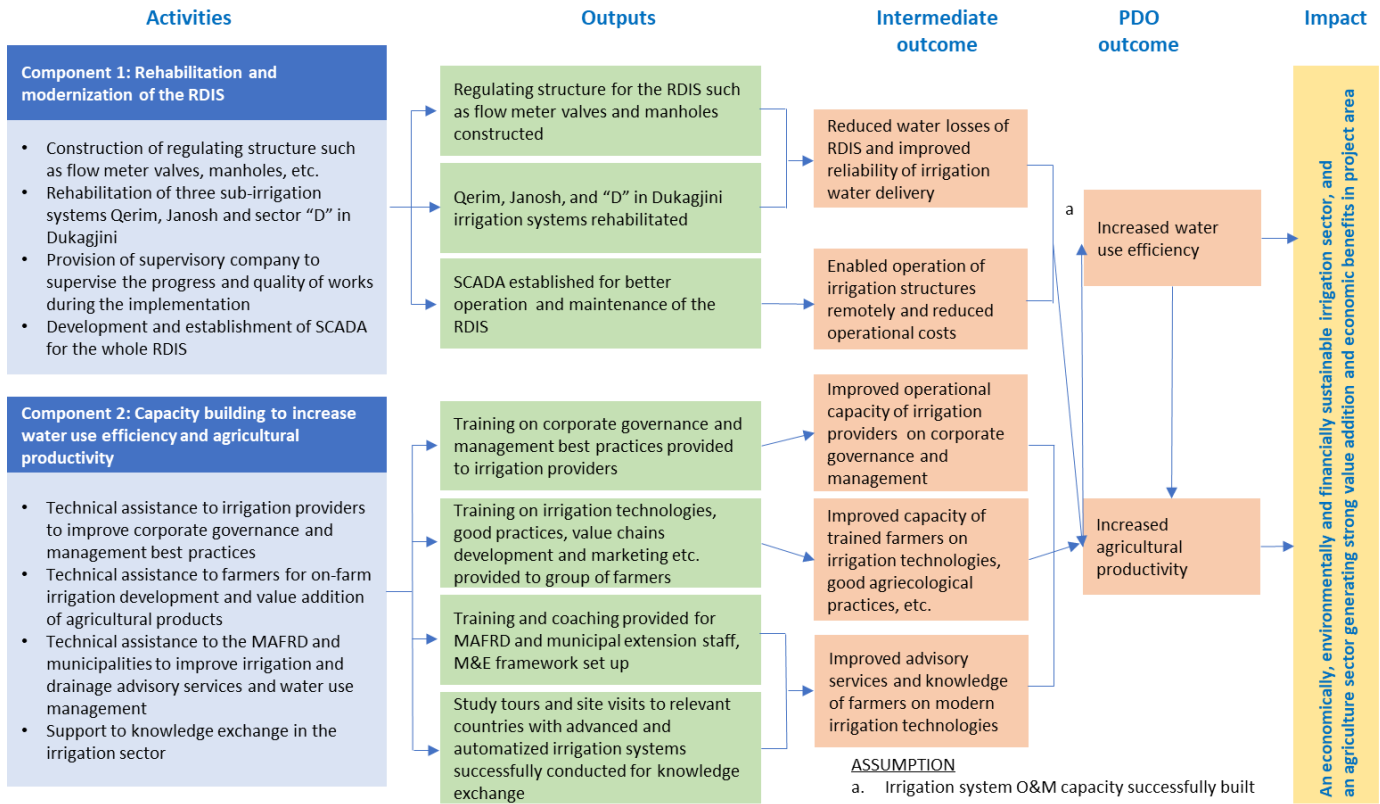
33. The main project beneficiaries will be farmers, as well as irrigation providers, MAFRD, and municipalities. The project will rehabilitate and modernize the RDIS in the selected project areas and main beneficiaries will be about 7,000 private farmers using the irrigation/drainage schemes and irrigation providers managing the schemes. The project will also provide technical assistance to various key stakeholders in irrigation and the main beneficiaries will be farmers, irrigation providers, MAFRD and municipalities for a total of about 400 people.

### **D. Results Chain**

34. The PDO will be achieved through the Theory of Change, illustrated in Figure 3, that can be summarized as follows: (i) upgrading and modernization of prioritized irrigation and drainage schemes will improve irrigation system and service, increase the efficiency of water utilization and enable diversification with high value crops, and in the long term contribute to an economically, environmentally and financially sustainable irrigation sector; and (ii) capacity building of irrigation providers, MAFRD, municipalities and farmers will lead to the increased water use efficiency and boost agriculture productivity in the project areas and lead to an agriculture sector generating strong value addition and economic benefits.



Figure 3. Theory of Change



### E. Rationale for Bank Involvement and Role of Partners

35. In Kosovo, large scale irrigation schemes such as RDIS are managed by public enterprises under Government authority. Furthermore, the Government plays a catalytic role to introduce innovative technologies and practices in the agriculture sector to exploit the commercial potential of the sector, increase incomes, and create jobs.

36. The World Bank Group has extensive experience internationally, and in particular in the Western Balkan region, and in Kosovo in supporting the development of the agriculture and irrigation sectors and strengthening public-sector institutions. Further, the Bank has long standing cooperation with other development partners in the area of irrigation and agriculture in Kosovo. Engagement under the ARDP in the irrigation sector, both through the preparation of the Irrigation Master Plan and Investment Framework and support to the MAFRD for rehabilitation of part of the RDIS, led to the alignment of the proposed project with the envisaged EU support to the sector. Thanks to the close coordination developed between the Bank and the EU, the opportunity for the cooperation and financing of the proposed project by the EU through a Trust Fund administered by the Bank was identified. The proposed project is designed specifically to support Kosovo in the implementation of short-term priorities identified in the Irrigation Master Plan and Investment Framework and strengthen the capacity of stakeholders in the provision of irrigation and advisory services to the farmers.

### F. Lessons Learned and Reflected in the Project Design

37. Project preparation has benefitted from the implementation experience of similar agriculture and irrigation projects, as well as analytical work in Kosovo and the Western Balkans region, including the Bank-funded ARDP and the



Fostering and Leveraging Opportunities for Water Security Program (P169150)<sup>10</sup>, the Water Security and Canal Protection Project (P133829), in particular with regard to the successful experience with the development and introduction of the SCADA system, and the analytical work on the Future of Water in Agriculture in the Western Balkans - the Irrigation and Drainage (Eco)system Approach (2022).

38. The key lessons from these activities have been reflected in the project design, including (i) addressing sector weaknesses in a holistic manner at institutional, administrative, regulatory, and production levels to comprehensively improve irrigation efficiency and foster agriculture sector competitiveness; (ii) investing in the irrigation sector in a systematic and comprehensive approach to ensure system efficacy and efficiency; (iii) using cost estimates for civil works that are robust and reflect market prices at the time of appraisal; (iv) investing in irrigation taking into consideration agricultural value chains, institutional and financial arrangements to ensure delivery of services; (v) providing demand-driven training for project beneficiaries to enhance the effectiveness and impact of training workshops; (vi) ensuring promotion of climate smart agriculture practices and technologies for a green transition into higher agricultural productivity, increased resilience and lower emissions.

### III. IMPLEMENTATION ARRANGEMENTS

#### A. Institutional and Implementation Arrangements

39. The MAFRD will have the primary responsibility for overall project implementation. RDIC and the municipalities of Gjakova, Prizren, and Rahovec will be supporting implementing and beneficiary company/institutions. The project will be implemented by a PIU to be established under the MAFRD and which could benefit from the expertise of the well-functioning and experienced PIU which has been implementing the ARDP and its subsequent additional financing provided by the Bank and other donors since 2011 and closed in December 2022. The PIU will include professional staff (local consultants to be hired under the project) who will provide support to the Ministry in general project management and oversight, irrigation, capacity building, procurement, financial management, environmental and social (E&S) aspects, monitoring and evaluation and communication. The PIU will be headed by the General Secretary and its main responsibilities will include: (i) day-to-day project management; (ii) coordination and cooperation among various government agencies and institutions; (iii) preparation of annual work plans and budgets; (iv) preparation and regular update of the Procurement Plan; (v) preparation of quarterly unaudited financial reports and annual audited financial statements; (vi) M&E of project activities, including measuring and updating of the results framework indicators, and monitoring and reporting on ESF compliance; (vii) management of the project's GRM and citizen engagement activities; (viii) preparation of semi-annual and annual progress reports; (ix) briefing of MARD on the status of project implementation; and (x) systematic filing of all project-related documents, including procurement and financial management. Finally, the PIU will be provided with the ARDP PIU equipment and assets including a vehicle.

40. The existing ARDP Project Operational Manual (POM) will be revised by the MAFRD to reflect the project activities and any update required.

41. A Monitoring Committee will be established by the MAFRD to monitor the irrigation rehabilitation works. The Monitoring Committee will be composed of representatives of MAFRD in charge of the irrigation sector, of the RDIC and of the irrigation engineer hired under the PIU to oversee the irrigation rehabilitation works.

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<sup>10</sup> The Program funded by the World Bank with the objective to: (i) strengthen national capacity for managing water security, and (ii) improve water security in the Morava e Binces basin.



## **B. Results Monitoring and Evaluation Arrangements**

42. The project's M&E system will be aligned with the Results Framework and Theory of Change. M&E activities will focus on: (i) continuous data collection for the Results Framework and related indicators; (ii) regular results monitoring of all project component activities; (iii) a Mid-Term Review; and (iv) an end-of-project impact assessment. Data collected during project preparation will serve as baseline for some indicators, while for other baselines will be established early in project implementation and will be compared against follow-up data collected during and at the end of project implementation. Additional indicators that capture agricultural productivity increases will also be sought during project implementation. The project foresees to conduct a farm survey to monitor what is planted by the farmers, how much water is being used, what are the outputs and the increase in productivity as much as doable in the short time-frame of the project implementation.

43. The project's M&E will be undertaken by the PIU within MAFRD. An M&E specialist from the PIU will be responsible for updating the Results Framework targets and undertake additional monitoring and evaluation activities as may be warranted in support of informing project implementation and report and capture project achievements and progress on a regular basis. S/he will compile the information for all project components/activities obtained from the relative institutions and municipalities etc. and present the data in coherent semi-annual progress reports. This information will be further reviewed and confirmed by regular Bank supervision missions. Based on the data obtained, implementation and activities may be adjusted, or re-sequenced to take into account implementation experience.

## **C. Sustainability**

44. The sustainability of project activities beyond the implementation period is expected to be high. First, the irrigation schemes of RDIS are relatively sustainable as the company managing the irrigation system has had a continuous presence of key personnel even in the immediate post-independence era when many schemes collapsed. Cost recovery rates have enabled adequate O&M. Second, the rehabilitation and modernization of the RDIS under component 1, including the development of SCADA, will improve irrigation services, water use efficiency, and reduce water losses, production costs, and the operational costs. Third, capacity building of the MAFRD, municipalities, irrigation providers and farmers has been included under component 2, to improve the sustainability and efficiency of infrastructure investments supported under component 1. This broader approach will ensure longer term viability of the scheme infrastructure, improve resource utilization and water delivery service to users, and strengthen both institutional and financial sustainability.

## **IV. PROJECT APPRAISAL SUMMARY**

### **A. Technical, Economic and Financial Analysis**

45. The project is expected to have a significant development impact by improving the resilience of the agriculture sector in selected areas in Kosovo and by increasing water productivity and income among beneficiaries. The expected benefits from the project include: (i) increased agricultural productivity and production through upgraded and reliable irrigation infrastructure and services delivery, adoption of improved irrigation and other CSA/climate-resilient technologies and better farming practices, expanded cultivated area under improved irrigation and drainage, and facilitated access to markets; (ii) water savings and increased water productivity (both in physical and monetary terms); (iii) increased incomes of direct and indirect beneficiaries; (iv) lower net Green House Gas (GHG) emissions as a result of adoption of improved irrigation and farming practices and CSA/climate-resilient technologies; and (v) improved



agricultural water management in the medium and long run through strengthening technical and institutional capacity of irrigation providers including through adoption of digital tools to increase efficiency of service delivery.

46. Radoniqi and Dukagjini irrigation schemes are two independent functioning irrigation schemes managed by RDIC, with Dukagjini remaining in partial disrepair due to long years without maintenance. Radoniqi scheme commenced investment planning and implementation in late 70s and continued during 80s. The original investment design was not fully implemented during the 80s for a number of reasons. The scope of this project is to rehabilitate and modernize the Dukagjini scheme and to modernize the main Radoniqi network and complete the irrigation scheme by including in the system arable land originally planned to be irrigated from Radoniqi irrigation network.

47. The project will upgrade the new regulating structure aiming at regulating water flow and water use with approach to ensure efficient water management for a total surface of improved irrigated area of 7,750 ha, and rehabilitate three irrigation sub-systems: Qerim with 1,800 ha, Janosh with 1,400 ha and sector “D” in Dukagjini with 800 ha, providing irrigation to a total of 4,000 ha of agriculture land. The detailed design of the rehabilitation works has been prepared during the previous ARDP project. Specifically, the project will invest in the: 1) Upgrading of new regulating structure in Radoniqi scheme in the main canal; 2) Construction of manholes and installation of flow meters on secondary and tertiary pipelines in Radoniqi scheme in function and new rehabilitated area; 3) Rehabilitation of two irrigation sub-systems Qerim and Janosh (includes replacement of different profile of gate valves, broken pipes and fittings) in Radoniqi scheme increasing current area with 3,200 ha; 4) Rehabilitation of two Pump Stations, Qerim & Janosh with their basins, including purchase and installation of vertical line shaft pumps in Radoniqi scheme; 5) Power supply, electrical installations and automation for all structures in the main canal of Radoniqi scheme enabling two way communication including automation enclosures for the central SCADA system and backup automation enclosures; 6) Rehabilitation of the G-2 intake and distribution gates manhole for irrigation sub-system “D” in Dukagjini irrigation system in Prizren; 7) Rehabilitation of the administrative building and warehouse in Prizren, serving Dukagjini unit as well as the warehouse in Xerxe serving Radoniqi unit; 8) Mechanization for operation and maintenance of Dukagjini unit as foreseen in the feasibility study report.

48. **Financial analysis.** The financial analysis was conducted to estimate the ex-ante feasibility, risks and returns of the economic activities and investments supported under sub-component 1.1 for which the irrigation model can be elaborated and benefits can be quantified. The financial analysis examined the attractiveness of the proposed irrigation improvements to participating farmers in terms of additional agricultural income accrued based on representative crop and farm models that reflect changes in yields, cropping pattern, land use, etc., and the likely viability to ensure a sustainable operation and maintenance of the scheme. The analysis was conducted from the standpoint of the owner and operator of the irrigation system (RDIC) in charge of running the scheme (including organizing operation and maintenance of the scheme and the replacement of the investment items after their life period). The analysis was conducted over 20 years, taking into consideration annual maintenance costs in line with recommended standards (ranging from 0.5 percent to 3 percent of the investment cost, depending on the item).

49. **Economic analysis.** The economic analysis assessed the project impacts by aggregating project costs and projected benefits. The project economic benefits mainly come from capital investments in irrigation. The approach adjusted financial prices to get economic values from the irrigation model used in the financial analysis, and estimated the aggregated costs and benefits for the whole irrigation system. In addition, the GHG emission reduction benefits were computed using high carbon price and low carbon price assumptions.

50. *Project development impacts.* Economic benefits expected from the project are: (i) increased agriculture productivity and production, and introduction of higher value crops through upgraded and reliable irrigation



infrastructure and services delivery, adoption of improved irrigation and other CSA/climate-resilient technologies and expanded cultivated area under improved irrigation; (ii) water savings and increased water productivity (both in physical and monetary terms); (iii) better farming practices, enhanced quality of agricultural produce; (iv) lower net Greenhouse Gas (GHG) emissions as a result of adoption of improved irrigation and farming practices and CSA/climate-resilient technologies; and (v) improved agricultural water management in the medium and long run resulting from strengthening technical and institutional capacity of irrigation managing agencies, municipalities etc. including through adoption of digital tools to increase efficiency of public service delivery.

51. *Economic benefits considered in the analysis.* Activities under sub-component 1.2 and component 2 are well identified in scope and nature; however, their potential benefits are mostly non-quantifiable. Quantified economic benefits considered in the analysis are mainly those derived from irrigation improvements under Sub-component 1.1 (considering the incremental net value of agricultural production), and the value of net GHG emissions reduction.

52. *Results.* The economic returns from investments in RDIS were estimated over 20 years, considering the investments and operational costs, forecasted yield increases, input/output prices and changes in cropping pattern. Considering the schedule of irrigation upgrade works assumed in the project costing and all sub-component 1.1 economic costs, the sub-component 1.1 would yield an EIRR of 25 percent and an ENPV of EUR 12.4 million. GHG emissions reduction was estimated at 659,350 tons of CO<sub>2</sub> equivalent over 20 years, which would translate into an economic value of EUR 30 to 60 million using a low or high shadow price of carbon (respective EUR 16 to 32 million after discounting).

53. *The overall project economic return was estimated considering all project costs (although no benefits could be accounted for sub-component 1.2, and part of component 2 and component 3). Without GHG benefits, the project would yield an EIRR of 23 percent and an ENPV of EUR 12 million. Adding GHG benefits, the EIRR and ENPV would establish 20 to 30 percent and EUR 18 to 34 million using low and high shadow price of carbon (SPC). Sensitivity analysis was conducted to test the impact of increases in costs and reductions and delays in benefits on the “base scenario” that considers all project costs and GHG benefits at low SPC. It shows that a decrease in total project benefits by 20 percent and an increase in total project costs by 20 percent reduces the base ERR to about 17 and 18 percent, respectively. A one-year delay in project benefits reduces the ERR to about 18 percent. With a two-year delay in project benefits, the ERR falls to about 16 percent. Overall, the project demonstrates good resilience to the variations in benefits and costs.*

54. **The operation is aligned with the goals of the Paris Agreement on both mitigation and adaptation.** Overall, the projects activities and objectives are in line with the country’s Climate Change Strategy (CCS). There were no aspects of the project that clearly went against the county’s ability to meet their nationally determined objectives, nor hinder their progress in doing so.

55. **Assessment and reduction of adaptation risks:** Kosovo is susceptible to various climate hazards—including droughts, wildfires, landslides, and most notably, floods. These hazards can cause significant damage to economic activity, fiscal balances, and the well-being of vulnerable populations. Projections suggest a reduction of snow cover by 50 days per year by 2050, and the possibility of more frequent spring flooding. Climate impacts on water resources are anticipated to affect the agricultural sector, which contributes 7 percent to the GDP and employs approximately 25-35 percent of the population. This sector is crucial for income security, especially in rural households where poverty is prevalent. Recent floods, linked to heavy rainfall, resulted in damages equivalent to 0.9 percent of the GDP. The primary climate and disaster risk that could impact project investments is flooding. Specifically, the vulnerabilities associated with floods due to climate change will be addressed through targeted adaptation measures for the RDIS, integrating both structural and soft adaptation solutions. The first component, rehabilitation and upgrading of the regulating structure, aimed at optimizing water flow and usage, will enhance resilience. Furthermore, the introduction of the SCADA system



for the entire RDIS will facilitate comprehensive modernization, ensuring improved water use efficiency and the institutional and financial sustainability of the irrigation system. This makes the system more drought-resistant and promotes water conservation nationwide. In emergencies, such as potential dam flooding, SCADA enables safer and quicker valve operations in outlet structures, eliminating the need for risky manual operations. This ensures better planning and water release, optimizing the use of stored water in the Radoniqi dam. The project also aims to boost the sustainability and efficiency of infrastructure investments by enhancing the capacities of the MAFRD, municipalities, irrigation providers, and farmers. Component 2 offers guidance to irrigation providers on corporate governance, educates farmers on modern irrigation technologies, strengthens the MAFRD and municipalities in providing sustainable irrigation advice, and fosters knowledge exchange in the irrigation sector. All these measures augment adaptation and resilience against flood-related risks. None of the project's activities are on the universally non-aligned list or contradict the country's climate goals.

56. **Assessment and reduction of mitigation risks:** The operation is not at a material risk of having a negative impact on the country's low-GHG-emissions development pathways. None of the project's activities fall under the universally non-aligned list. There are no carbon lock-in risks associated with any of the project components either. The project's components will lead to certain land use changes, specifically the rehabilitation of an area of 11,750 ha, out of which 4,000 ha is currently non-functional. Once rehabilitated, this 4,000 ha is expected to transition from primarily unirrigated cereals to a mix of cereals, vegetables, and alfalfa (similar to grassland). This will lead to an increase in GHG sequestration and will therefore contribute to the overall country's climate goals on the mitigation of greenhouse gases.

57. **On adaptation,** the operation adequately reduces the physical climate risks to the project outcomes, and the project's climate resilience and adaptation design considerations limit the exposure to a low level of residual risk.

58. **On mitigation,** the operation has a low risk of preventing the Country's transition to low-carbon development pathways, given its contribution to increasing the areas adaptation and resilience to flooding.

## B. Fiduciary

### (i) Financial Management

59. **The overall financial management (FM) arrangements meet the minimum requirements of the World Bank's Policy and Directive on Investment Project Financing (IPF).** Responsibility for the project's FM will remain with MAFRD, through the Budget and Finance Department, which will maintain an adequate project FM system capable of tracking all project operations, resources, and expenditures and generating regular financial reports. MAFRD will be supported by a PIU in carrying out the fiduciary function, same as with the previous project. The project will rely extensively on the various elements of Kosovo's public financial management (PFM) systems including organizational hierarchy, budget classification and program structure, reporting and expenditure monitoring systems, Treasury function, internal control framework, and external audit. As part of the project preparation, an assessment of the overall PFM environment, MAFRD organization structure, and FM staffing and systems in place for project implementation was conducted. The main findings consist of (i) no direct experience of MAFRD FM staff with the FM requirements of World Bank-financed projects and the FM staff are fully utilized; and (ii) external audit reports and previous experience indicate that there are areas for improvement of FM aspects controls implemented in MAFRD (fixed assets management, payment delays, misclassification, etc.). Limitation in internal controls across budget organizations are corroborated to some extent by broader PFM assessments. On the other hand, the risk pertaining to insufficient or untimely budgetary allocations is low considering the grant financing. In response to the identified risk, the following measures have been agreed to strengthen the FM systems for the proposed operation: (i) prepare an FM manual as part of the POM that will describe the FM,





disbursement, and enhanced internal controls policies and procedures; (ii) hire a part time qualified FM specialist as part of the PIU to support MAFRD Finance Department; and (iii) conduct periodic and on-the-job FM and disbursement training for FM staff, which is budgeted for under Component 3.

60. **Disbursements under the proposed project will be carried out in line with the World Bank Disbursement Guidelines for IPF (February 2017).** The grant will entirely finance all eligible expenditures. The funds will be disbursed following IPF disbursement methods, including advances, reimbursements, direct payments, and special commitments. The advance method and related Designated Account (DA) will be used only if required by the recipient. In that case, one segregated DA denominated in euros will be opened at the Central Bank of Kosovo, as sub-accounts linked to the Single Treasury Account. The DA ceiling and minimum amount for direct payments will be flexible. The advanced funds will be earmarked for the proposed operation. Eligible expenditures will be documented through Statements of Expenditures (SOEs) and records. The project's disbursement arrangements will be managed by MAFRD/PIU. Detailed disbursement arrangements are set out in the Disbursement and Financial Information Letter (DFIL).

61. **The project's unaudited interim financial reports (IFRs) and annual project financial statements (PFSs) will present all project sources and operations.** With regard to the FM requirements included in the DFIL, (i) quarterly IFRs, in the form and substance agreed with the World Bank, will be submitted to the World Bank no later than 45 days after the end of each quarter and (ii) annual PFSs will be audited by National Audit Office under terms of reference acceptable to the World Bank. The audited financial statements will be presented to the World Bank no later than six months after the end of the fiscal year and made publicly available in a manner acceptable to the World Bank.

#### **(ii) Procurement**

62. Procurement will be carried out following the requirements in the World Bank's Procurement Regulations for IPF Borrowers: Procurement in Investment Project Financing: Goods, Works, Non-Consulting and Consulting Services dated July 1, 2016, and revised in November 2020 (Procurement Regulations); Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants, revised as of July 1, 2016; and provisions stipulated in the Financing Agreement. The proposed project will use the Systematic Tracking of Exchanges in Procurement (STEP) tool.

63. A PIU to be established under the MAFRD to implement the project will benefit from the expertise and assets of the well-functioning and experienced PIU, which has been implementing the ARDP and its subsequent additional financing financed by the Bank, and other donors, since 2011. The PIU will be responsible for all procurement activities under the project. The Bank assessed the organizational structure for project implementation and the staffing and procurement systems to determine the risk and mitigation measures.

64. The procurement assessment concluded the following:

- (i) While the PIU has experience with the Bank's financial management requirements and procurement procedures, there are high risks associated with the magnitude and scope of the irrigation investment supported under the project.
- (ii) Hiring a procurement specialist with experience in World Bank procedures would be a challenge given that (i) the ceilings introduced in the salaries of PIU staff constrain the attraction of the most qualified staff, and (ii) there is a limited number of qualified procurement specialists with knowledge in World Bank procurement in the country.
- (iii) MAFRD and overall irrigation service providers need more capacity in implementing such works and managing works contracts of irrigation systems.



65. To mitigate the identified risks, the following actions are foreseen:
- (i) the Bank will provide support under the Hands-on Expanded Implementation Support (HEIS) program.
  - (ii) Procurement specialists with experience satisfactory to the World Bank should be identified early.
  - (iii) Additional technical staff should be hired to support the PIU on technical matters.
  - (iv) The internal processes and procedures for project procurement should be strengthened, and the PIU should set up Evaluation Committee to evaluate bids/proposals on time. Moreover, the PIU and MAFRD will ensure that the committee members have a solid knowledge of the assignment field.

66. A Project Procurement Strategy for Development (PPSD) has been developed by the Implementing agency with close support from the Bank team to identify fit-for-purpose approaches to the procurement expected within the project, including lessons learned from the previous operations. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

67. Based on the procurement capacity assessment and the complexity of the investments conducted for the PIU and MAFRD, it was determined that the procurement risk is Substantial.

**C. Legal Operational Policies**

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

68. The Policy on Projects on International Waterways (OP 7.50) is applicable to this project because the project will finance activities that may use or risk polluting waters of the Lumëbardhi i Deçanit, and Lumëbardhi i Prizrenit tributaries of the Drini i Bardhë (White Drin) River, which is a major tributary of the Drin River system, which is considered an international waterway. The exception to the riparian notification requirement according to paragraph 7(a) of the Policy applies because activities are limited to upgrading and modernization of existing schemes which will not cause changes in the existing use of water or in water quality. The exception to the notification requirement was approved by the Regional Vice President on March 24, 2023.

**D. Environmental and Social**

69. Project-related risks and impacts will mainly come from the rehabilitation and modernization of irrigation systems, and the installment of flow meter valves and poles for carrying electricity for the SCADA. As such, the anticipated key environmental issues are related to (i) consumption of water and raw materials for civil works; (ii) potential generation of asbestos waste; (iii) generation of construction-related wastes; (iv) nuisance related to traffic, dust generation, vibration, and noise; (v) occupational health and safety hazards for the workforce. Additional project-related risks are those of social nature and could be land acquisition impacts-though minor ones, labor and working conditions, and much less those related to the communities. One of the key social issues that is a prerequisite for a successful project is the inclusion of the beneficiaries, especially those from vulnerable groups, in the preparation and design activities for the rehabilitation of the irrigation network but also later during the operation. This proved to be one of the successful activities during the rehabilitation of the scheme with the previous ARDP and the same arrangements will continue which brings also the stakeholder engagement risk to a low but serves as a base for general moderate social risks for the project. Environmental risk is assessed as moderate which brings the joint ESF risk to moderate for the project. The counterpart



has prepared core project E&S instruments to assess and manage E&S risks and impacts; a draft Environmental and Social Impact Assessment (ESIA), Resettlement Policy Framework (RPF), Stakeholder Engagement Plan (SEP), and Labor Management Procedures (LMP). These instruments have been disclosed to facilitate stakeholders' review of the risks and proposed measures to manage these issues, and the same have been consulted in Rahovec and Gjakova municipality in February 2023. Additional site-specific ESIA/ESMPs will be consulted upon and disclosed before proceeding with activities. Engineering and design plans will be grounded in existing national laws and the World Bank's Environmental and Social Standards (ESS) and will comprise measures to assess and manage risks and impacts appropriate to the scale and nature of the activities. The counterparts will establish an appropriate institutional set-up for implementation with enough resources and capacity for proper project E&S management. The ESS1, ESS2, ESS3, ESS4, ESS5 and ESS10 are relevant standards for the project.

## V. GRIEVANCE REDRESS SERVICES

**Grievance Redress.** Communities and individuals who believe that they are adversely affected by a project supported by the World Bank may submit complaints to existing project-level grievance mechanisms or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted to the AM at any time after concerns have been brought directly to the attention of Bank Management and after Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the Bank's Accountability Mechanism, please visit <https://accountability.worldbank.org>.

## VI. KEY RISKS

70. **The overall risk of the project is considered to be moderate.** The considerations made for each risk category are presented below.

71. **Political and Governance risk associated with the project is rated moderate.** While past experience has shown that Kosovo is prone to frequent political changes, the current solid majority in Parliament ensures stability in the foreseeable future. Potential political changes may have spillover effects that may impact project activities, but overall the agriculture sector enjoys common intent, and in particular the need to further develop irrigation capacity of the country. With regard to the identified governance risk, the project will support capacity building to improve the governance of irrigation service providers.

72. **Macroeconomic risk is rated moderate.** Despite the major slow down, export of services and diaspora inflows have remained stable as well as the financial sector. Macroeconomic risk is being mitigated by policy dialogue for continued economic reforms, but is not expected to have any determining impact on the irrigation activities and agriculture crops grown and marketed.



73. **Institutional Capacity for Implementation and Sustainability risk is rated substantial.** The ARDP PIU has gained a lot of experience in the implementation of Bank-funded projects that could be leveraged. Additionally, the RDIC has extensive experience in developing and managing the irrigation system. However, the inherent institutional capacity risk is high, as the MAFRD and irrigation service providers have limited capacity in implementation of investments such as those under the project and in incorporating governance and best practices in management of irrigation systems. To mitigate the risks, the project will build capacities of participating institutions for the management and operation, and maintenance of the systems.

74. **Fiduciary risk is rated substantial.** While the PIU has experience with the Bank's financial management requirements and procurement procedures, there are risks associated with the magnitude and scope of the irrigation investment supported under project. To mitigate these risks, support will be provided by the Bank under the HEIS program. In addition, the Bank team will ensure regular and close supervision of project activities. Implementation support missions will include field visits to sites of grant beneficiaries to assess first-hand quality of investment. As per the experience under the ARDP, the PIU will undertake site visits and findings of these visits will be incorporated in monthly reports that will be shared with the Bank.

75. **Environment and Social risks are rated moderate.** The existing team in the PIU established and trained within ARDP, is well aware of the Bank's environmental and social safeguard policies, and has been successfully implementing all of the World Bank's social screening requirements including follow up on sites. For the activities that might require temporary/permanent land acquisition for the small-scale construction works, the Resettlement Action Plans (RAP) will be prepared in accordance with Resettlement Policy Framework (RPF). The PIU practice establishing Local Monitoring Committee representing the beneficiary farmers of various irrigation sub-systems and carrying out consultation of the works designs with the users enabled smooth implementation. It is anticipated that the risks will be mitigated and managed through adequate due diligence documents prepared prior to appraisal and by screening out activities with potential high risk.



**VII. RESULTS FRAMEWORK AND MONITORING**

**Results Framework**

**COUNTRY: Kosovo**

**Improvement and Rehabilitation of Irrigation Systems Project**

**Project Development Objectives(s)**

The project development objective is to increase the efficiency of water utilization and boost agricultural productivity in the project area.

**Project Development Objective Indicators**

<b>Indicator Name</b>	<b>PBC</b>	<b>Baseline</b>	<b>End Target</b>
<b>Increase efficiency of water utilization</b>			
Area provided with new/improved irrigation or drainage services (CRI, Hectare(Ha))		0.00	10,000.00
Area provided with new irrigation or drainage services (CRI, Hectare(Ha))		0.00	0.00
Area provided with improved irrigation or drainage services (CRI, Hectare(Ha))		0.00	10,000.00
<b>Boost agricultural productivity</b>			
Area rehabilitated by the project where high value crops are introduced (Percentage)		0.00	20.00



**Intermediate Results Indicators by Components**

Indicator Name	PBC	Baseline	End Target
<b>Component 1: Rehabilitation and Modernization of the RDIS</b>			
Water users provided with new/improved irrigation and drainage services (Number)		0.00	7,000.00
Water users provided with new/improved irrigation and drainage services - Female (Number)		0.00	2,100.00
Supervisory Control and Data Acquisition (SCADA) for RDIS established and operational (Yes/No)		No	Yes
Increase water use efficiency defined as value of output per cubic meter of water (Percentage)		0.00	20.00
<b>Component 2: Capacity Building to Increase Water Use Efficiency and Agriculture Productivity</b>			
Client days of training provided (Number)		0.00	1,500.00
Number of training days provided for women (Number)		0.00	300.00
Farmers trained for better on-farm water management and climate smart agriculture practices (Number)		0.00	300.00
Farmers trained for better on-farm water management and climate smart agriculture practices - Female (Number)		0.00	90.00
Staff of irrigation provider trained on improved corporate governance and best practices in management (Number)		0.00	10.00
Advisory services staff trained on improved irrigation/drainage technologies to farmers (Number)		0.00	70.00
Citizen Engagement – Direct Beneficiaries that feel project investments reflected their needs and provide feedback (Percentage)		0.00	80.00
Grievances responded and/or resolved within 90 days (Percentage)		0.00	80.00



Indicator Name	PBC	Baseline	End Target
Percentage of farmers reporting satisfaction with the training and using the knowledge gained (Percentage)		0.00	50.00

**Monitoring & Evaluation Plan: PDO Indicators**

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Area provided with new/improved irrigation or drainage services	This indicator measures the total area of land provided with irrigation and drainage services under the project, including in (i) the area provided with new irrigation and drainage services, and (ii) the area provided with improved irrigation and drainage services, expressed in hectare (ha).	Semi-annual	Project's M&E System	Project's progress reports	MAFRD, RDIC, PIU
Area provided with new irrigation or drainage services	Measures in hectares the total area of land provided with new or improved irrigation or drainage services in operations supported by the World Bank.				



Area provided with improved irrigation or drainage services	Measures in hectares the total area of land provided with new or improved irrigation or drainage services in operations supported by the World Bank.	Semi-annual	Project's M&E system	Project's progress reports	MAFRD, RDIC, PIU
Area rehabilitated by the project where high value crops are introduced	This indicator measures increased agricultural productivity. Given the demand-driven nature of the project, the actual crops supported will be evident. Based on the observations from the areas where irrigation rehabilitation works have been carried out under the previous Agriculture and Rural Development Project, and the shifts introducing high value crops that have taken place there, the project will measure increase in high value crop as a proxy to measure increased agriculture productivity. Preliminary analyses demonstrate that high value crop that may be introduced include peppers, tomatoes, and cucumbers. This	Semi-annual	Project's M&E system	Project's progress reports	MAFRD, PIU





	indicator has been chosen considering the short time frame of project implementation which will not allow increase in yield as a result of project activities.				
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**Monitoring & Evaluation Plan: Intermediate Results Indicators**

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Water users provided with new/improved irrigation and drainage services	This indicator measures the number of water users provided with new/improved irrigation and drainage services, with gender disaggregation.	Semi-annual	Project's M&E system	Project's progress reports	MAFRD, PIU
Water users provided with new/improved irrigation and drainage services - Female	This indicator measures the number of female water users provided with new/improved irrigation and drainage services by the project, with the aim of 30% of total are female.	Semi-annual	Project's M&E system	Project's progress reports	MAFRD, PIU
Supervisory Control and Data Acquisition (SCADA) for RDIS established and operational	Supervisory Control and Data Acquisition (SCADA) will be established to operate and monitor the RDIS.	Semi-annual	Project's M&E system	Project's progress reports	MAFRD, PIU
Increase water use efficiency defined as value of output per cubic meter of water	This indicator will measure the value of agriculture	Semi-annual	Project's M&E System	Project's progress reports	MAFRD, RDIC, PIU



	output per cubic meter of supplied irrigation water.				
Client days of training provided	This indicator will measure the total days of training provided by the project.	Semi-annual	Project's M&E system	Project's progress reports	MAFRD, PIU
Number of training days provided for women	This indicator will measure the total days of training for women provided by the project.	Semi-annual	Project's M&E system	Project's progress reports	MAFRD, PIU
Farmers trained for better on-farm water management and climate smart agriculture practices	This indicator will measure the number of farmers trained for better on-farm water management and climate smart agriculture practices under the project.	Semi-annual	Project's M&E system	Project's progress reports	MAFRD, PIU
Farmers trained for better on-farm water management and climate smart agriculture practices - Female	This indicator will measure the number of female farmers trained for better on-farm water management and climate smart agriculture practices under the project.	Semi-annual	Project's M&E system	Project's progress report	MAFRD, PIU
Staff of irrigation provider trained on improved corporate governance and best practices in management	This indicator will measure the number of staff of irrigation provider trained by the project to improve corporate governance and management.	Semi-annual	Project's M&E system	Project's progress reports	MAFRD, PIU
Advisory services staff trained on improved irrigation/drainage technologies to farmers	This indicator will measure the number of MAFRD and municipal advisory services staff trained on improved	Semi-annual	Project's M&E system	Project's progress reports	MAFRD, PIU



	irrigation/drainage technologies and better provision of services to farmers.				
Citizen Engagement – Direct Beneficiaries that feel project investments reflected their needs and provide feedback	Citizen engagement will include a feedback mechanism to generate recommendations on how to strengthen participation based on gender representation of direct beneficiaries and other stakeholders, and how to strengthen implementation throughout the project’s lifetime.	Semi-annual	Project's M&E system	Project's progress reports	MAFRD, PIU
Grievances responded and/or resolved within 90 days	Grievances responded and/or resolved within 90 days (percentage of total received).	Semi-annual	Project's M&E system	Project's progress reports	MAFRD, PIU
Percentage of farmers reporting satisfaction with the training and using the knowledge gained	This indicator will measure the knowledge gained and used by the farmers as a result of training provided under the project.	At the end of the project	PIU/MAFRD	Survey	PIU



## ANNEX 1: Implementation Arrangements and Support Plan

COUNTRY: Kosovo

Kosovo Improvement and Rehabilitation of Irrigation Systems

### Project Institutional and Implementation Arrangements

- 1. Ministry of Agriculture, Forestry and Rural Development (MAFRD).** MAFRD will be the lead project implementing agency and will have overall responsibility for project management, implementation, and monitoring and evaluation (M&E). The Radoniqi-Dukagjini Irrigation Company (RDIC), and the municipalities of Gjakova, Prizren, and Rahovec will be supporting implementing and beneficiary company/institutions. In particular while the formal client for the works is the MAFRD, represented through the PIU, the RDIC shall maintain day-to-day supervision of the consultant and works. They shall be involved in all stages of ToR development, consultant report reviews, bidding and contractor supervision. The design and management improvements shall be designed in a participatory manner involving water user representatives. This shall ensure full ownership of the process and results of the modernization effort, in terms of irrigation hardware and linked institutional support.
- 2. Project Implementation Unit (PIU).** A PIU will be established under the MAFRD. The PIU main responsibilities will include: (i) day-to-day project management; (ii) coordination and cooperation among various government agencies institutions; (iii) preparation of annual work plans and budgets; (iv) preparation and regular update of the Procurement Plan; (v) preparation of quarterly unaudited financial reports and annual audited financial statements; (vi) M&E of project activities, including measuring and updating of the results framework indicators, and monitoring and reporting on ESF compliance; (vii) management of the project's GRM and citizen engagement activities; (viii) preparation of semi-annual and annual progress reports; (ix) briefing of MARD on the status of project implementation; and (x) systematic filing of all project-related documents, including procurement and financial management.
- 3.** The PIU will be headed by the General Secretary and include: a Project Director, Irrigation Engineer, Capacity Building/M&E Specialist, Procurement Specialist (full time for the first year and part time for the remaining project life), Financial Management Specialist (part time), Environmental Specialist (part time, which will also cover the social aspects of the project) and a Communication Specialist (part time).
- 4. Monitoring Committee.** The MAFRD will establish a Monitoring Committee to monitor the irrigation rehabilitation works. The Monitoring Committee will be composed of representatives of MAFRD in charge of the irrigation sector, the RDIC, and of the irrigation engineer to be hired under the PIU to oversee the irrigation rehabilitation works.

### Financial Management

- 5.** An FM assessment was carried out to determine the FM implementation risk and help establish adequate FM arrangements for the proposed project. The assessment showed that the current FM arrangements, strengthened through the measures as described in the following paragraphs in response to the identified risks, are adequate and in compliance with the World Bank policies.
- 6. Country issues.** The project will rely extensively on the various elements of Kosovo's public financial management (PFM) systems: planning and budgeting, internal control, flow of funds and payments, accounting and reporting, and



external audit. Various reviews<sup>11</sup> have plotted the significant progress Kosovo has made in improving its PFM. The key strengths of the system are the sound legal framework, the integrated central Treasury system, and an increasingly effective external audit office. The 2022 Public Expenditure and Financial Accountability assessment recognized some improvements in revenue projections, internal controls (on payroll controls and commitment controls), and internal audit. However, weaknesses persist in the overall fiduciary environment, characterized by low and moderate scores in key indicators. These lagging areas include (i) multiyear perspective in fiscal planning and policy formulation, including poor alignment of strategic plans with medium term budgets, (ii) weaknesses in public investment management, including weak planning of capital spending, (iii) poor management of assets and liabilities, (iv) lack of legislative scrutiny of budgets and external audit reports, and (v) low response and follow up to audit recommendations.

7. **Country systems.** The Public Financial Management and Accountability Law provides the FM and accountability framework for public administration in Kosovo. The Medium-Term Expenditure Framework and the Annual Budget Law are the two main documents presented for assembly review and approval. PFM in Kosovo is highly centralized in relation to budget policy and institutional control. Budgetary organizations, such as the Ministry of Finance, Labor and Transfers (MoFLT) and municipalities, do not maintain separate budget, Treasury, and accounting systems. The process for planning and budgeting is enabled through the Budget Development Management System and the project implementation pipeline. The process of managing and executing the budget and accounting and financial reporting throughout budget organizations is enabled through the Kosovo Financial Management Information System (KFMIS). Budget execution is controlled through the setting of allocation limits, which are based on forecasts of available resources and individual needs of the spending institution, with due regard to seasonality of revenues and expenditures. The Treasury manages allocations throughout the year and controls budget execution and cash management, based on the cash plan submitted by the budget organizations themselves. In general, internal control procedures are well understood. The Treasury is serviced through the Single Treasury Account with the Central Bank of Kosovo, through which all government revenues and expenditures are recorded. The budget organizations enter financial records and information into the KFMIS, which produces the reports. Records and information are produced, maintained, and disseminated to meet decision-making control, management, and reporting purposes, as needed. Budget execution reports are structured according to the budget and present fund balance commitments on a monthly and quarterly basis for each economic category. Detailed books and records are maintained by each budget organization.

8. **FM capacity.** FM function is the responsibility of the MAFRD's Finance and Budget Department. The department is properly staffed to conduct its daily activities as required by the PFM legislation in place. The assessment carried out during project preparation concluded that while MAFRD has experience with the implementation or FM of large-scale World Bank-financed projects, its FM staff is fully utilized and has not been directly involved in complying with FM and disbursement requirements for previous projects. As a result, a part time qualified FM specialist will be hired as part of the PIU and support the ministry to be in compliance with the World Bank requirements. Hiring of key PIU staff will be an effectiveness condition.

9. **Planning and budgeting.** In general, the mechanisms for budgeting and opening the budget (release of funds) in the MAFRD are considered adequate for the needs of the proposed project. The MoFLT instructions guide the budget preparation and budget execution process, including grant financing. The risk related to budget adequacy are less pervasive considering grant financing. Project budgets and forecasts would reflect inputs from the technical departments and will be based on approved procurement and implementation plans. These budgets would form the basis for allocating

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<sup>11</sup> Kosovo has participated in a number of detailed reviews of its PFM systems, such as several Central Government and municipal Public Expenditure and Financial Accountability assessments, annual reviews, and other analyses by the World Bank and International Monetary Fund.



funds to project activities and, after expenditures are paid, for requesting funds from the World Bank. To facilitate reporting and planning activities, a unique project code would be assigned, and all project activities would be captured by this code. The World Bank team will review the annual work plan and forecast.

10. **Accounting system and maintenance of accounting records.** MAFRD will maintain project financial records (budget appropriations, allocations, commitments, and actual expenditure) in the KFMIS (Free balance system) on cash basis. The project chart of accounts would be based on the KFMIS. Project funds and expenditures will be accounted separately and identified by the unique project code. The KFMIS can generate project reports by the nature of expenditure, institution, source of fund, and program. However, the existing chart of accounts does not enable recording of project expenditures by activity. The FM specialist would be required to maintain parallel contract monitoring financial data. The data would be cross-checked periodically with the KFMIS-generated statements.

11. **Financial reporting.** The consolidated unaudited interim financial reports (IFRs) will be submitted on a quarterly basis to the World Bank within 45 days after the end of each quarter. The PIU will be responsible for the preparation of the project's periodic financial reports annual financial statements on the basis of the financial information registered in the KFMIS. The IFRs will contain at least the following: (i) statement of sources and uses of funds (with expenditure classified by disbursement category), (ii) statements of sources and uses of funds (with expenditure classified by component), (iii) contract monitoring, and (d) KFMIS budget execution reports. Annual PFS would be prepared based on IPSAS<sup>12</sup> cash basis. The financial statements would cover the Government's fiscal year, which coincides with the calendar year. The first financial reporting period will be determined by the time payments for eligible expenditure are initiated. The functional and reporting currency is euro.

12. **Internal control.** For the proposed operation, MAFRD is committed to maintain an effective internal control system, which will be further strengthened with the support of the project. The existing system ensures that project expenditures are properly verified and authorized; supporting documents are maintained; accounts are reconciled periodically; and project assets, including cash, are safeguarded. External audit reports and previous experience indicate that there are areas for improvement FM aspects controls implemented in MAFRD (fixed assets management, payment delays, misclassification, etc.). Limitation in internal controls across budget organizations are corroborated to some extent by broader PFM assessments.<sup>13</sup> MAFRD will minimize the risk of misuse or fraud with respect to FM by strengthening internal controls with additional control activities that will be described in the FM section of the POM. These written standards are to clarify segregation of duties and responsibilities, including level of authority, maintain clear control over funds and assets, and ensure timely and accurate financial reporting. The PIU will be responsible for the preparation of the POM. The FM section of the POM will include (i) the financial and accounting policies and procedures for the project; (ii) the organization of the FM unit, functions, staffing, and relevant job descriptions (with special emphasis on the segregation of duties); (iii) the necessary templates for recording, monitoring, and reporting various transactions; (iv) project internal controls; (v) disbursement procedures; (vi) project budgeting, planning procedures, and financial forecasting; and (vii) project reporting. The adoption of the POM will be a dated covenant.

13. **Audit.** The project's financial statements, as described earlier, will be audited annually by Kosovo's National Audit Office, under terms of reference acceptable to the World Bank. The audits of the PFSs will be conducted by private auditors acceptable to the World Bank and the audit fees will be financed from project resources, in case the performance of the audits of National Audit Office is not satisfactory to the World Bank. The annual audited PFSs, together with the

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<sup>12</sup> IPSAS = International Public Sector Accounting Standards.

<sup>13</sup> The MAFRD regularity audit report issued by National Audit Office for 2021.



audit opinion and the Management Letter, will be submitted to the World Bank no later than six months after the end of each fiscal (calendar) year.

14. **FM implementation support and supervision plan.** During project implementation, the World Bank will supervise the project's FM arrangements in the following ways: (i) reviewing the project's IFRs and the annual audited financial statements and auditor's management recommendation letters; (ii) performing on-site supervision combined with virtual reviews at a frequency based on the project's risk and performance; and (iii) reviewing the project's FM and disbursement arrangements to ensure compliance with the World Bank's minimum requirements. As with technical oversight and support, the World Bank's fiduciary team will provide intense support at two points during project implementation: during the first 12 months (from approval to effectiveness and through early implementation) and at midterm.

15. **Disbursement.** Disbursements will follow the transaction-based method—that is, traditional World Bank procedures: advance, reimbursement, special commitments, and direct payments. All project eligible expenditures will be completely financed by the grant proceeds.

16. **Funds flow.** The GoK's preferred method of disbursement is reimbursement of funds prefinanced from the government budget to finance project expenditures. The advance and designated accounts may be used for the proposed operation, at Treasury's discretion. In that case, one DA denominated in euros will be opened and maintained in the Central Bank of Kosovo, as a sub-account linked to the Single Treasury Account. The disbursed funds will be earmarked for the proposed operation only. MAFRD, through its PIU, will initiate requests for disbursements from the grant account. The disbursement procedures, including paths for authorization of withdrawals, will be described in detail in the updated FM section of the POM. Authorized signatories will consist of the MoFLT, MAFRD officials, and PIU staff. A detailed DFIL explaining all arrangements will be issued and will include the minimum application size for withdrawal applications, the ceiling of the DA balance, the issuance of special commitments, documentation requirements, and the frequency of application. The DA ceiling and minimum amount for direct payments will be flexible enough to allow for quick emergency payments.

17. **Supporting documentation requirements for disbursement.** The eligible expenditures will be documented by SOEs for advance, reimbursement, and special commitments and by invoices for direct payments. The SOEs will follow the templates provided in the DFIL. If the DA is used, the bank statement will be required to document the account balance. For direct payments, the World Bank will require copies of the original documents evidencing eligible expenditures in the form and substance specified in the DFIL. Records include documents such as invoices and receipts. MAFRD is required to maintain original documents evidencing eligible expenditures, making them available for audit or inspection. These documents should be maintained for at least five years after the World Bank receives the audit report and for the period required by local legislation.

## **Procurement**

18. Procurement will be carried out following the requirements in the World Bank's Procurement Regulations for IPF Borrowers: Procurement in Investment Project Financing: Goods, Works, Non-Consulting and Consulting Services dated July 1, 2016, and revised in November 2020 (Procurement Regulations); Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants, revised as of July 1, 2016; and provisions stipulated in the Financing Agreement. The proposed project will use the Systematic Tracking of Exchanges in Procurement (STEP) tool.



19. A Project Implementation Unit (PIU) to be established under the MAFRD to implement the project will benefit from the expertise and assets of the well-functioning and experienced PIU, which has been implementing the ARDP and its subsequent additional financing provided by the Bank and other donors since 2011. The PIU will be responsible for all procurement activities under the project. The Bank assessed the organizational structure for project implementation and the staffing and procurement systems to determine the risk and mitigation measures.
20. The procurement assessment concluded the following:
- (i) While the PIU has experience with the Bank's financial management requirements and procurement procedures, there are high risks associated with the magnitude and scope of the irrigation investment supported under the project.
  - (ii) Hiring a procurement specialist with experience in World Bank procedures would be a challenge given that (i) in June 2016, the MoFLT issued a decision concerning the ceilings of salaries of civil servants, which reduces the interest of qualified staff to participate in the competition, and (ii) there are a limited number of qualified procurement specialists with knowledge in World Bank procurement in the country.
  - (iii) MAFRD and overall irrigation service providers need more capacity in implementing such works and managing works contracts of irrigation systems.
21. To mitigate the identified risks, the following actions are foreseen:
- (i) the Bank will provide support under the Hands-on Expanded Implementation Support program.
  - (ii) Procurement specialists with experience satisfactory to the World Bank should be identified early.
  - (iii) Additional technical staff should be hired to support the PIU on technical matters.
  - (iv) The internal processes and procedures for project procurement should be strengthened, and the PIU should set up Evaluation Committee to evaluate bids/proposals on time. Moreover, the PIU and MAFRD will ensure that the committee members have a solid knowledge of the assignment field.
22. A Project Procurement Strategy for Development (PPSD) has been prepared by the Implementing agency with close support from the Bank team to identify fit-for-purpose approaches to the procurement expected within the project, including lessons learned from the previous operations. Market analysis will be carried out for different contracts of works, goods, and consulting services to ensure adequate participation of bidders, firms, or individuals. Based on the PPSD, a procurement plan (for the first 18 months of the project) will be prepared to set out the selection methods to be followed by the Borrower during project implementation.
23. **Key procurement under the project.** The following procurement methods are anticipated under the project:
- *Procurement of Goods, Works, and Non-Consulting Services.* Works required under the project would include: (i) rehabilitation and upgrade of the regulating structure, aiming at regulating water flow and water use with the approach to ensure efficient water management, and (ii) rehabilitation of three irrigation sub-systems.
  - *Selection of Consultants:* Consulting services include supervision of works contracts, technical assistance to the irrigation providers on improving the overall corporate governance and best management practices, assistance to the farmers on modernization of on-farm irrigation technologies, and display of good practices for efficient on-farm water management; technical assistance to the MAFRD and municipalities to strengthen the capacities for the provision of irrigation and drainage advice to the farmers effectively and sustainably.
24. Based on the procurement capacity assessment and the complexity of the investments conducted for the PIU and MAFRD, it was determined that the **procurement risk is Substantial**.





**Table 1.1 Skills mix required for the duration of project implementation**

<b>Skills Needed</b>	<b>Number of Staff Weeks/Year</b>	<b>Number of Trips</b>
Task Team Leader/ Agriculture Specialist	8	At least 2 missions per year
Technical (Water Management Specialist)	4	At least 2 missions per year
Technical (Irrigation Specialist)	4	At least 2 missions per year
Technical (Agriculture Extension)	4	At least 2 missions per year
Operations/M&E Specialist	4	At least 2 missions per year
Project Assistant (Operations)	4	At least 2 missions per year
Environmental Specialist	3	At least 2 missions per year
Social Specialist	3	At least 2 missions per year
FM Specialist	3	Site visits as needed
Procurement Specialist	4	Site visits as needed



## ANNEX 2: Economic and Financial Analysis

### COUNTRY: Kosovo

#### Kosovo Improvement and Rehabilitation of Irrigation Systems

1. The proposed project development objective is to increase the efficiency of water utilization and boost agricultural productivity in the project area. This will be achieved by rehabilitation and modernization of the Radoniqi-Dukagjini Irrigation Scheme (RDIS), as well as technical assistance and capacity building of MAFRD, municipalities, irrigation providers and farmers. The expected benefits from the project include: (i) increased agriculture productivity and production, and introduction of higher value crops through upgraded and reliable irrigation infrastructure and services delivery, adoption of improved irrigation and other CSA/climate-resilient technologies and expanded cultivated area under improved irrigation; (ii) water savings and increased water productivity (both in physical and monetary terms); (iii) better farming practices, enhanced quality of agricultural produce; (iv) lower net Greenhouse Gas (GHG) emissions as a result of adoption of improved irrigation and farming practices and CSA/climate-resilient technologies; and (v) improved agricultural water management in the medium and long run resulting from strengthening technical and institutional capacity of irrigation managing agencies, municipalities etc. including through adoption of digital tools to increase efficiency of public service delivery.

2. This Annex presents the methodology for the economic and financial analyses (EFA) conducted to assess the impact and viability of the activities envisaged under the project.

#### Approach and assumptions for the analysis

3. The financial analysis assesses the attractiveness of proposed irrigation improvements to participating farmers (in terms of additional agricultural income it may generate based on crop, farm and irrigation scheme models with assumptions for increases in yields, changes in cropping pattern, land use etc.) with access to improved irrigation infrastructure and technologies thanks to the project support, and the likely viability at scheme level to ensure a sustainable use and maintenance of the scheme.

4. The economic analysis aims to assess the project impact by aggregating all project costs and projected benefits. The project economic benefits mainly come from capital investments in irrigation. The approach is to adjust financial prices to get economic values from the irrigation model used in the financial analysis, and then aggregate costs and benefits for the whole irrigation system. In addition, the GHG emission reduction benefits were computed using low carbon price and high carbon price assumptions.

5. **Unquantifiable benefits.** The project will generate benefits of a less tangible nature that are difficult to quantify, some of which are associated with sub-component 1.2 and component 2. In case of sub-component 1.2 the establishment of SCADA is expected to remotely enable the operation of the irrigation structures, which is expected to reduce the operational costs and water losses. However, the benefits of reducing the operational costs and water losses also depends on many other factors which makes it difficult to estimate the attribution. The technical assistance and capacity building provided to MAFRD, municipalities, and irrigation providers under component 2 are expected to improve the sustainability and efficiency of infrastructure investments, improve corporate governance and the provision of irrigation and drainage advisory services to the farmers. However, the benefits of improved corporate governance and extension services are less tangible to quantify, but they can be considerable and have the potential to play a major role in project interventions.



6. **Key assumptions.** The project will support the rehabilitation of the RDIS with a total surface area of 11,750 ha, which includes 4,000 ha currently with an out-of-function system. Under the without project scenario, it is assumed no major shift in cropping patterns over the 20 years included in the analyses. The current cropping pattern information of RDIS is supplied by Radoniqi-Dukagjini Irrigation Company, and the current performance of the crops in RDIS is estimated according to recently collected information from the ARDP, and information gathered during the project design. With the project support, the 4,000 ha that will become serviced with irrigation is assumed to change from being wholly annual cropland (mainly unirrigated cereals) to adopt the cropping pattern of the currently serviced area (cereals, vegetables, alfalfa approximated as grassland), with a gradual transition over the course of 5 years. With the project support, improvement in irrigation service delivery will allow for increase in productivity by approximately 20 percent per ha<sup>14</sup>, with the transition occurring at the rate the work is expected to be completed.

### Financial Analysis

7. Financial analysis was conducted to estimate the ex-ante feasibility, risks and returns of the economic activities and investments supported under sub-component 1.1 for which an irrigation model could be elaborated.

8. **Rehabilitation of the RDIS (sub-component 1.1).** The project will support the rehabilitation of the RDIS with a total surface area of 11,750 ha, which includes 4,000 ha currently with an out-of-function system. With the project support, the 4,000 ha that will become serviced with irrigation is assumed to change from being wholly annual cropland (mainly unirrigated cereals) to adopt the cropping pattern of the currently serviced area (cereals, vegetables, alfalfa approximated as grassland). The cropping patterns With and Without Project are shown in the table below.

**Table 2.1 Cropping pattern With and Without Project in RDIS**

Crop pattern	Without/Before Project	With Project
Vegetable Irrigated	1,125	1,758
Cereal Unirrigated	6,642	4,006
Cereal Irrigated	2,997	4,543
Other crops	986	1,443
Total Area (ha)	11,750	11,750

9. Experience from the ARDP and similar projects in the region showed that with the availability of irrigation services and access to water: (i) yields were effectively improved; (ii) farmers that were not receiving water before the project to fully use their plots or farmers that were receiving only a partial water allocation that did prevent them to reach full yields and cropping intensity substantially increased their effective cropped area and yields, and, subsequently, their yield and production; and (iii) improving access to water allowed for a progressive change in cropping patterns from unirrigated staples to higher value horticulture crops (notably vegetables in RDIS).

<sup>14</sup> According to ARDP, an increase of 20 percent is considered conservative for the main vegetable peppers.



**Table 2.2 Net agriculture benefits per ha with and without project**

Crop type	Net Return per ha (EUR/ha)		
	Without/Before Project	With Project	Change (%)
Vegetables (pepper)	1,207	1,509	25
Cereals (wheat)	564	758	34
Other crops (Alfalfa)	458	581	27

10. With a 20-year period, the financial model of the irrigation rehabilitation of the RDIS shows a positive NPV of the incremental net benefits of EUR 14.0 million and an IRR of 23 percent at a discount rate of 6 percent.

**Economic Analysis**

11. The economic analysis has been conducted over a 20-year period in constant 2022 prices. Financial project costs have been converted into economic values applying an average conversion factor of 0.85 to eliminate taxes and transfers. Production costs and benefit streams have been converted into economic value applying conversion factors for internationally traded outputs, notably export products and imported inputs. Incremental costs after the project implementation period were also taken into account. Detailed calculations of economic benefits, investment costs and economic cash flows generated by components are being provided in the project file and are summarized in this Annex.

12. Economic benefits considered in the analysis. Quantified economic benefits considered in the analysis are mainly those derived from irrigation improvements under sub-component 1.1 (considering the incremental net value of agricultural production), and the value of net GHG emissions reduction. Activities under sub-component 1.2 and component 2 are well identified in scope and nature; however, their potential benefits are mostly non-quantifiable.

13. **Rehabilitation of the RDIS (sub-component 1.1).** The economic returns from investments in RDIS were estimated over 20 years, considering the investments and operational costs, forecasted yield increases, input/output prices and changes in cropping pattern. Recurrent costs of 5 percent of investment cost are assumed from year four to 20. Considering the schedule of irrigation upgrade works assumed in the project costing and all sub-component 1.1 economic costs, the sub-component 1.1 would yield an EIRR of 25 percent and an ENPV of EUR 12.4 million.

**Table 2.3 Summary of economic analysis of RDIS**

Irrigation scheme	Main agricultural crops	Command area (ha)	Total fin Cost (million Euro)	EIRR (%)	ENPV (million Euro)
RDIS	cereals, vegetables, alfalfa and meadow	11,750	8.35	25.0	12.4

14. **GHG emissions reduction benefits.** Project activities would generate a reduction in GHG emission estimated at 659,350 tons of CO2 equivalent over 20 years (see Annex 3) with the following progressive accumulation. This allowed to estimate the total and discounted value of net emission reductions over the project implementation using low and



high shadow price of carbon (SPC)<sup>15</sup>. GHG emission reduction benefits derived from the project would amount to EUR 30 to 60 million depending on shadow price of carbon used (respective EUR 16 to 32 million after discounting).

**Table 2.4 Summary of GHG emissions reduction**

Items	Parameter		Project Year				
			1	2	3	4	5-20
<b>I. HYPOTHESIS</b>							
Pace of accruing benefits (%)			-	20%	40%	80%	100%
<b>II. GHG EMISSIONS</b>	total over 20 years	yearly average					
(tons of CO2 equivalent)							
Without project	799,015	39,951	39,951	39,951	39,951	39,951	39,951
With project	139,658	6,983	39,951	31,961	23,970	7,990	2,237
Incremental balance	-659,356	-32,968	0	-7,990	-15,980	-31,961	-37,714

15. **Overall project economic return.** An indicative overall project economic return taking into account all benefits and project costs has been estimated. Base on the above-described assumptions and considering all project costs (although no benefits could be accounted for sub-component 1.2, and part of component 2 and component 3) but excluding GHG benefits, the project would yield an EIRR of 23 percent and an ENPV of EUR 12 million. Adding GHG benefits, the EIRR and ENPV would establish at respective 20 to 30 percent and EUR 18 to 34 million using respective low and high SPC.

16. **Sensitivity analysis.** The sensitivity analysis was conducted to test the impact of increases in costs and reductions and delays in benefits on the “base scenario” that considers all project costs and GHG benefits at low SPC. It shows that a decrease in total project benefits by 20 percent and an increase in total project costs by 20 percent reduces the base ERR to about 17 and 18 percent, respectively. A one-year delay in project benefits reduces the ERR to about 18 percent. With a two-year delay in project benefits, the ERR falls to about 16 percent. Overall, the project demonstrates a resilience to the variations in benefits and costs, as summarized in the table below.

**Table 2.5 Summary of sensitivity analysis**

Sensitivity Analysis ( 20-year period)	Base case	Costs Increase			Increase of Benefits		Decrease of Benefits			Delay of Benefits	
		+10%	+20%	+50%	+10%	+20%	-10%	-20%	- 30%	1 year	2 years
<b>EIRR</b>	<b>20.2%</b>	18.9%	17.8%	14.7%	21.4%	22.6%	18.8%	17.2%	15.4%	17.7%	15.6%
<b>ENPV (Million Euro)</b>	<b>18.4</b>	17.4	16.4	13.4	21.2	24.1	15.5	12.7	9.9	15.6	12.9

<sup>15</sup> Shadow Price of Carbon, US CPI adjusted (2022 \$US), was used.



### ANNEX 3: Greenhouse Gas Emission Assessment

#### COUNTRY: Kosovo

#### Kosovo Improvement and Rehabilitation of Irrigation Systems

1. The World Bank Group's Environment Strategy 2012-2022 articulates an agenda to support green, clean, resilient paths for developing countries, and adopted a corporate mandate to conduct GHG emission accounting for investment lending projects. The quantification of GHG emission is an important step in managing and ultimately reducing GHG emission and is becoming common practice for many international financial institutions. To assess the net carbon balance of its agricultural projects, the World Bank has adopted the Ex-Ante Carbon-Balance Tool (EX-ACT)<sup>16</sup> developed by FAO in 2010.
2. An ex-ante assessment of the impact of the proposed project on the GHG emission has been undertaken using the FAO EX-ACT tool. The project finances investments to increase the efficiency of water utilization and boost agricultural productivity in the project area. The net carbon balance is the difference between the gross results of with and without project scenarios for 20 years, including 3 years of project implementation and 17 years of capitalization periods. Several project activities can be captured with the GHG accounting tool.
3. First, sub-component 1.1 the rehabilitation of the Radoniqi-Dukagjini Irrigation Scheme (RDIS) is assumed to lead to a certain degree of land use changes. The project will support the rehabilitation of the RDIS with a total surface area of 11,750 ha, which includes 4,000 ha currently with an out-of-function system. With the project support, the 4,000 ha that will become serviced with irrigation is assumed to change from being wholly annual cropland (mainly unirrigated cereals) to adopt the cropping pattern of the currently serviced area (cereals, vegetables, alfalfa approximated as grassland). As the change is mainly between annual crop types (from cereals to vegetables)<sup>17</sup>, the resulting change in emissions is captured in EX-ACT's Cropland module, except for a slight increase in the area of irrigated alfalfa and meadow, approximated as an increase in grassland under EX-ACT's LUC module.
4. Second, component 2 capacity building to increase water use efficiency and agriculture productivity will provide TA to the MAFRD, municipalities, irrigation providers and farmers, especially TA to farmers, will lead to improved, climate smart agronomic practices for agricultural production, which are captured in EX-ACT's Cropland module as improved tillage and carbon input practices. Specifically, the area of annual cropping for the GHG analysis is 10,307 hectares (ha), and the adoption rate of improved agronomic practices and nutrient management is expected to be approximately 60 percent (6,301 ha), concentrated amongst areas which make use of the improved irrigation services.
5. Third, the increased proportion of area under alfalfa and meadow (457 ha), which will be converted from unirrigated cereals, in addition to the current existing alfalfa and meadow (986 ha), will contribute to the mitigation of greenhouse gases, which is captured in EX-ACT's Grassland module.
6. Forth, within sub-component 1.1, the construction of the irrigation systems contributes to emissions of greenhouse gases. It was estimated that the project will result in about 60,000 square meters of building area (pumping stations etc.), and the materials used in the construction works will be concrete, which is also estimated in EX-ACT's Inputs module.

<sup>16</sup> <https://www.fao.org/in-action/epic/ex-act-tool/suite-of-tools/ex-act/en/>

<sup>17</sup> See the cropping pattern change details in the Economy and Financial Analysis.



7. Considering the abovementioned, the total net carbon balance was estimated at 659,356tCO<sub>2</sub>-eq of mitigated emissions (which means that carbon sequestration outweighs emissions within the project) over the project duration of 20 years, or 32,968tCO<sub>2</sub>-eq per year at full development. Details of the results are shown in Table 3.1.

**Table 3.1: Results of the Ex-Ante GHG Analysis**

Project activities	Over the economic project lifetime (tCO <sub>2</sub> eq)			Annual average (tCO <sub>2</sub> eq/ year)		
	GHG emissions of "without project" scenario (1)	Gross emissions of "with project scenario" (2)	Net GHG emissions (2-1)	GHG emissions of "without project" scenario (3)	Gross emissions of "with project" scenario (4)	Net GHG emissions (4-3)
Non-forest LUC	0	-29,184	-29,184	0	-1,459	-1,459
Annual Agriculture	799,015	269,666	-529,349	39,951	13,483	-26,467
Grassland	0	-111,000	-111,000	0	-5,550	-5,550
Inputs and investments	0	10,176	10,176	0	509	509

Caveat. The project will finance technical assistance and capacity building activities that are client-oriented and demand-driven, which cannot be accurately estimated ex-ante.