



THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

FOR OFFICIAL USE ONLY

Report No: PAD5244

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED LOAN

IN THE AMOUNT OF EUR 64.6 MILLION
(US\$70 MILLION EQUIVALENT)

TO THE

REPUBLIC OF ALBANIA

FOR A

CLIMATE RESILIENCE AND AGRICULTURE DEVELOPMENT PROJECT

February 22, 2023

Agriculture And Food Global Practice
Europe And Central Asia Region

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.



The World Bank

Climate Resilience and Agriculture Development Project (P178715)

CURRENCY EQUIVALENTS

(Exchange Rate Effective January 31, 2023)

Currency Unit = EUR

ALL 1 = EUR 0.0086

US\$ 1 = EUR 0.92

FISCAL YEAR

January 1 - December 31

Regional Vice President: Anna M. Bjerde

Country Director: Xiaoqing Yu

Regional Director: Sameh Naguib Wahba Tadros

Practice Manager: Frauke Jungbluth

Task Team Leader(s): Silvia Mauri

ABBREVIATIONS AND ACRONYMS

ALL	Albanian Lek
AKSHI	National Agency for Information Society
BI	Business Intelligence
BIP	Border Inspection Post
CAP	Common Agricultural Policy
CBA	Cost-Benefit Analysis
COVID-19	Coronavirus Disease 2019
CPF	Country Partnership Framework
CSA	Climate-Smart Agriculture
CRAD	Climate Resilience and Agriculture Development
DA	Designated Account
DID	Directorate of Irrigation and Drainage
EIRR	Economic Internal Rate of Return
ENPV	Economic Net Present Value
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESS	Environmental and Social Standards
ERR	Economic Rate of Return
FRR	Financial Rate of Return
GoA	Government of Albania
GBV	Gender-based Violence
GCRF	Global Crisis Response Framework
GHG	Greenhouse Gas
GIS	Geographic Information System
GRM	Grievance Redress Mechanism
HACCP	Hazard Analysis and Critical Control Point
IFC	International Finance Corporation
IFR	Interim Financial Report
IPARD	Instrument for Pre-Accession Assistance for Rural Development
IPPC	International Plant Protection Convention
IPM	Integrated Pest Management
ISUV	Institute for Food Safety and Veterinary
LMP	Labor Management Procedures
MARD	Ministry of Agriculture and Rural Development
MFD	Maximizing Finance for Development
MoFE	Ministry of Finance and Economy
NAVPP	National Authority for Veterinary and Plant Protection
NDC	Nationally Determined Contribution
NFA	National Food Authority

NRL	National Reference Laboratory
OHS	Occupational Health and Safety
PFM	Public Finance Management
PMT	Project Management Team
POM	Project Operational Manual
RPF	Resettlement Policy Framework
SARDf	Strategy for Agriculture, Rural Development and Fisheries
SCADA	Supervisory Control and Data Acquisition
SEP	Stakeholder Engagement Plan
SOE	Statement of Expenditure
SPC	Shadow Price of Carbon
SPV	Solar Photovoltaics
SRSF	Smarter Rules for Safer Food
TWG	Technical Working Group
WRIP	Water Resources and Irrigation Project



TABLE OF CONTENTS

DATASHEET	1
I. STRATEGIC CONTEXT	6
A. Country Context.....	6
B. Sectoral and Institutional Context.....	7
C. Relevance to Higher Level Objectives.....	12
II. PROJECT DESCRIPTION.....	13
A. Project Development Objective	13
B. Project Components	13
C. Project Beneficiaries	23
D. Results Chain	23
E. Rationale for Bank Involvement and Role of Partners	24
F. Lessons Learned and Reflected in the Project Design	24
III. IMPLEMENTATION ARRANGEMENTS	25
A. Institutional and Implementation Arrangements	25
B. Results Monitoring and Evaluation Arrangements.....	26
C. Sustainability.....	26
IV. PROJECT APPRAISAL SUMMARY	27
A. Technical, Economic and Financial Analysis	27
B. Fiduciary.....	29
C. Legal Operational Policies.....	31
D. Environmental and Social	31
V. GRIEVANCE REDRESS SERVICES	32
VI. KEY RISKS	32
VII. RESULTS FRAMEWORK AND MONITORING	35
ANNEX 1: Implementation Arrangements and Support Plan	44
ANNEX 2: Irrigation Schemes Background Information	51
ANNEX 3: Overview of the Food and Veterinary Laboratories Network in Albania	56
ANNEX 4: Summary of Adaptation and Mitigation Benefits under the Project.....	58
ANNEX 5: Economic and Financial Analysis.....	62
ANNEX 6: Greenhouse Gas Emission Assessment	68
ANNEX 7: Map	70



DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Albania	Climate Resilience and Agriculture Development Project	
Project ID	Financing Instrument	Environmental and Social Risk Classification
P178715	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 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 type="checkbox"/> Hands-on Enhanced Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
16-Mar-2023	30-Sep-2028

Bank/IFC Collaboration

No

Proposed Development Objective(s)

The Project Development Objective is to increase competitiveness and climate resilience of priority agri-food value chains.

Components

Component Name	Cost (US\$, millions)
----------------	-----------------------



Promoting Climate Smart Agriculture and Access to Markets	44.00
Enhancing Compliance with Food Safety and Quality Standards	22.00
Strengthening Evidence-based Analysis Capacity of MARD and Municipalities	4.00

Organizations

Borrower: Republic of Albania
Implementing Agency: Ministry of Agriculture and Rural Development

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

Total Project Cost	70.00
Total Financing	70.00
of which IBRD/IDA	70.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	70.00
--------------------------------------------------------------	-------

Expected Disbursements (in US\$, Millions)

WB Fiscal Year	2023	2024	2025	2026	2027	2028	2029
Annual	0.00	7.00	7.00	9.00	12.00	15.00	20.00
Cumulative	0.00	7.00	14.00	23.00	35.00	50.00	70.00

INSTITUTIONAL DATA

Practice Area (Lead) Agriculture and Food **Contributing Practice Areas** Water

**Climate Change and Disaster Screening**

This operation has been screened for short and long-term climate change and disaster risks

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	● Moderate
5. Institutional Capacity for Implementation and Sustainability	● Low
6. Fiduciary	● Moderate
7. Environment and Social	● Moderate
8. Stakeholders	● Moderate
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 Borrower, through MARD, shall not later than thirty (30) days after Effective Date, hire and thereafter maintain throughout the Project implementation, a part-time environmental specialist and part-time social specialist with terms of reference and qualifications acceptable to the Bank.

Conditions

Type	Financing source	Description
Effectiveness	IBRD/IDA	The Borrower, through MARD, has prepared and adopted a Project Operational Manual in a manner satisfactory to the Bank.



Type	Financing source	Description
Effectiveness	IBRD/IDA	The Borrower, through MARD, has established the Project Management Team with staff, terms of reference and competencies satisfactory to the Bank.



I. STRATEGIC CONTEXT

A. Country Context

1. **Albania's economy has experienced a rapid but turbulent growth.** Albania achieved middle-income status in 2008. Between 2000 and 2008, the economy expanded by 6.2 percent and the poverty rate halved from 25.2 percent to 12.5 percent¹. However, emerging vulnerabilities threatened the sustainability of growth despite these high growth rates. Between 2008 and 2014, the impact of the global financial crisis and a sharp deterioration in the external environment weighed on Albania's exports, remittance inflows, and external credit conditions. Supported by a fiscal adjustment and macroeconomic stabilization, the GDP growth rate gradually recovered to 4.1 percent in 2018, before a devastating earthquake (2019), the COVID-19 pandemic, and most recently the Russia's invasion of Ukraine, hit the economy through supply side shocks.
2. **In 2021, real GDP increased by 8.5 percent, fully recovering from the recession caused by the COVID-19 pandemic.** Growth in 2021 was broad-based, however, post-earthquake reconstruction, a strong recovery of tourism and extractives, and favorable hydrological conditions for energy production were key factors determining the sectoral composition of growth. In 2022 growth continued strong at 3.5 percent although the economy suffered from the Russia's invasion of Ukraine. A key factor was a pick-up in services as a result of an exceptionally strong tourism season. Employment has fully recovered from the shock caused by the pandemic and unemployment reached a new record low of 11.3 percent in the third quarter of 2022. Wage pressures intensified: the formal wage increased by 16.7 percent year-over-year for the first three quarters of 2022, owing in part to the increase in the statutory minimum wage by 6.7 percent in 2022.
3. **Growing inflation and the Russia's invasion of Ukraine threaten economic prospects in 2022, particularly in the agriculture sector.** The Russia's invasion of Ukraine and the sanctions imposed on Russia disrupted supply chains and were reflected in surging prices of food, energy, and key minerals used in various industries. These developments gradually affected Albania's inflation: the annual inflation rate peaked at 8.3 percent in October 2022, the highest since March 2002, and reached an average of 6.7 percent for the year. Average food price inflation and transport inflation for 2022 increased at 12.4 percent and 16.6 percent, respectively. Such increases are adversely impacting the poorest citizens given the higher weights these items have in the consumption basket of the poor. The exchange rate against the euro appreciated by 3.4 percent in 2022, which restrained the transmission of imported inflation into the domestic economy. In addition, regulated prices of energy for business and consumers as well as temporary controlled prices for transport fuels and key food items have redistributed the burden of global price increases and prevented a full transmission to domestic inflation. Yet, these also had a negative fiscal impact². Although Albania's direct trade, remittance, and migration linkages with Russia and Ukraine are limited, Russia and Ukraine are key producers and exporters of several commodities which are of vital importance for Albanians including grains and fertilizers. Supply shortages and higher prices of energy are affecting the agri-food production and value addition activities due to increases in costs of agricultural inputs, irrigation and drainage, processing, transportation, storage, thereby affecting what is and can be produced, reducing the profit margins of farmers and agribusiness. All of these could dim Albania's growth prospects. In

¹ World Bank. 2021. Albania Country Economic Memorandum: Strengthening the Sustainability of Albania's Growth Model.

² World Bank. 2022. Western Balkans Regular Economic Report, No.22, Fall 2022: Beyond the Crises. Washington, DC.



turn, a sluggish job market combined with diminished purchasing power could dampen poverty reduction. In this context, the proposed project will design specific activities such as supporting short food value chain development, installation of Solar Photovoltaics, development of a Climate Smart Agriculture IT Platform, among other activities, aiming to contribute to the mitigation of the food and energy crisis.

B. Sectoral and Institutional Context

4. Agriculture is a key sector in the Albanian economy, contributing 19 percent to GDP and 36 percent to total employment in 2020³. Forty-one percent of the population live in rural areas of which the majority is engaged in agriculture. The wider agri-food system, including food-related services, processing and manufacturing, is directly or indirectly the source for almost half of the economy-wide jobs⁴. Between the 1990s and the early 2000s, Albania went on a path of rapid transition towards reduced contribution of primary agriculture to GDP and employment, but this progress has slowed significantly since the mid-2000s. Public expenditures for agriculture have been low compared to other sectors and regional peers. Between 2010 and 2017, agriculture spending represented 1.9 percent of total government spending and grew only by about one third of the growth in total public spending. Total budgetary transfers to agriculture averaged 0.27 percent of national GDP between 2010 and 2017, compared to 1.27 percent of GDP in North Macedonia, 0.72 percent of GDP in the EU-28, and 0.51 percent of GDP in Bosnia and Herzegovina.

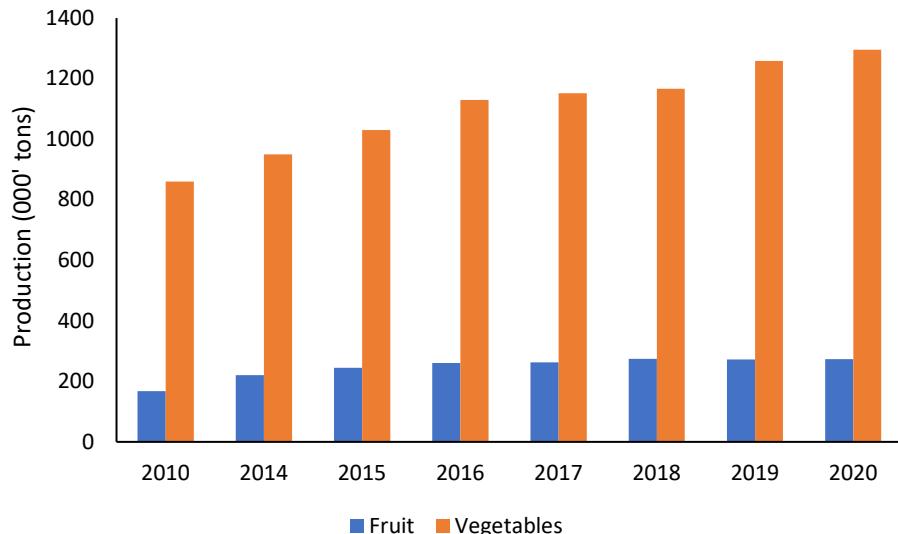
5. Agriculture production, in particular production of selected fruits and vegetables, has become increasingly competitive in the last decade because of increased cultivation area (including greenhouses), increased yields and improved technologies (Figure 1). The number of collection points and aggregators for trade, especially for the export of fruits and vegetables, has increased. Despite limitations in food safety management, Albania has achieved a considerable increase in agri-food exports as a proportion of total exports (14 percent in 2020⁵). The main exported food categories are edible vegetables; meat preparations; oilseeds; vegetables, fruits, and nut preparations; and edible fruits and nuts. The EU is Albania's most important trade partner for both exports and imports of agri-food commodities (67 percent of total agri-food exports and 62 percent of imports during 2019)⁶. Albeit these developments, Albania remains a net importer of agri-food products.

³ Institute of Statistics (INSTAT). Albania in Figures, 2020.

⁴ World Bank. 2017. Agriculture for Jobs and Growth in the Western Balkans: A Regional Report.

⁵ Institute of Statistics (INSTAT).

⁶ Joint Research Centre (European Commission). 2021. Recent agricultural policy developments in the context of the EU approximation process in the pre-accession countries.

**Figure 1. Fruits and vegetables production in Albania***Source: INSTAT*

6. Domestic and international markets present opportunities as high-value outlets for Albanian agriculture production. Opportunities include (i) the development of modern retail and the rising demand for more processed products in Albania; (ii) the growing interest in traditional products for agritourism and local sourcing in the HoReCa⁷ sector driven by the exponential growth of the tourism sector in the country (32 percent annual increase of foreign arrivals for personal reasons between September 2021 and September 2022 for a total of 6.34 million foreign arrivals⁸) as well as the rising demand of urban consumers for local products; (iii) the proximity to EU markets; and (iv) the increased trade within the Western Balkan countries. To capture these opportunities, agri-food operators require a continuous supply of sustainable, traceable, safe, and quality products.

7. However, the agri-food sector is constrained by several factors that prevent it from fully capitalizing on the opportunities presented by domestic and international markets. In Albania, the share of small-scale farming remains extremely high (Table 1). More than 95 percent are family farms, often engaged in subsistence production due to their small size and fragmented parcels. Market access of family farms is low due to the small quantities produced, missing links in value chains and low access to technology⁹. Thus, the supply of agricultural products is unable to meet the demands of high-end buyers. Weak compliance with food safety and quality requirements impedes the competitiveness of Albanian agri-food products. Furthermore, agriculture is a climate sensitive sector and projected climate change poses serious risks to the Albanian agriculture sector, affecting soil characteristics, seed genetics, pests and diseases. Coupled with continued inefficient agronomic practices, these risks are impacting crop yields. Agriculture production is heavily dependent on the network of irrigation and drainage infrastructure, which remains hampered by low water use

⁷ Hotel/Restaurant/Café.⁸ General Directorate of State's Police, INSTAT calculations.⁹ Ministry of Agriculture and Rural Development, Albania. The Strategy for Agriculture, Rural Development and Fisheries 2021-2027.



efficiency. These constraints need to be addressed in order to improve the competitiveness and climate resilience of Albania's agri-food sector.

Table 1 Farm structure (2019)¹⁰

Farm size (ha)	Share of farm types per farm size							
	Arable land	Field vegetables	Greenhouses	*Orchards	Olive farms	*Citrus farms	Vineyards	
0-0.2	45.00%	66.66%	60.34%	-	88.50%	-	92.94%	92.94%
0.2-0.5		22.26%	29.66%	77.07%		75.19%		
0.5-1.0		17.91%		17.91%		16.35%	5.46%	
1.0-2.0	41.00%	9.40%		5.02%	9.00%	6.20%	1.17%	
>2.0	14.00%	1.68%			2.50%	2.26%	0.43%	

*- only farms above 0.2 ha were considered (due to data availability)

8. Established agri-food businesses that have the capability to absorb greater quantities of products are often insufficiently supplied with the required quantity and quality of products by smallholder farmers. Fragmented production (350,000 small farms with an average size of one hectare), low productivity (the lowest in the Western Balkan region), and low compliance of production with quality standards and certification are all limiting factors. Without a strong supply, agri-food businesses are unable to compete effectively. Exports mainly concentrate around a small number of products in a few markets and for a limited time of the year (March-May), while the processing industry is facing strong competition from imports. To enhance access to domestic markets and improve exports competitiveness, it is crucial to leverage private sector investments into green and effective value chain development and build productive partnerships between producers and agri-businesses.

9. Local food systems and short supply chains that connect farmers and small-scale food producers in rural areas with buyers or consumers through direct marketing have yet to be developed to achieve a wide range of economic, social and environmental benefits, which can be also attractive to young farmers, rural youth and women. Short supply chains are more beneficial if they increase regional added value by contributing to stimulating local economic development cycles by linking agriculture with other sectors, e.g., agritourism and rural tourism, development of local markets and local fairs, and integrating them into local development initiatives. The Albanian government in its Strategy for Agriculture, Rural Development and Fisheries (SARDF) 2021-2027 foresees the building of trading platforms for agricultural products, which aim not only at trading agricultural products in optimal conditions, but at the same time to also strengthening the farmers' position in the value chain.

10. Weak compliance with food safety, plant health, veterinary, and (export) product quality requirements impede the competitiveness of Albanian agri-food products and create market access inequalities. Compliance with food safety, plant health, veterinary and quality standards is important given the relevant role of the food manufacturing sector and recommended increase in production of high-value agri-food products, as well as the increasing trend in agri-food exports. However, compliance in Albania is limited and most often achievable only by larger, better-equipped and better-informed producers. This leads to low (export) market integration particularly for smallholders. Cost and competitiveness

¹⁰ Aggregated data of MARD (2020), INSTAT (2020) and MARD (2021): Sector studies on fruits and vegetables, olives and wine; established by AGT International/ DSA in the frame of the GIZ-SRD Project, May 2021.



implications of food safety and products quality deficiencies can be significant and can lead to food markets disruptions and impediments to agri-food exports. Future investments and institutional strengthening efforts should address weak compliance and control mechanisms related to food safety, veterinary and sanitary and phytosanitary standards, and reduce the transactions costs related to market access and inclusion.

11. Financial sector financing for Albanian farms and agribusinesses remains low despite increasing budget allocation and European Union (EU) support in recent years. To support the medium- and long-term growth of the agriculture and agribusiness sectors, it is crucial for Albania to tap into more private funding from the financial sector. The total credit to agriculture primary production and related agribusinesses is currently very low, at less than 6 percent of total lending, compared to the agriculture sector contribution to the GDP of 19 percent. Access to commercial finance has been limited to large processors and aggregator businesses, while farmers and micro, small, and medium enterprises have only limited access to affordable commercial finance or grants. Agricultural insurance is not developed despite considerable exposure and increasing weather risks. Structural issues and demand issues are plaguing the supply of commercial agriculture finance from financial service providers. Albania's transition to green and digital agriculture requires that the right measures be taken both to actively encourage the entry of new financial services providers and to urge existing ones to increase their lending to the agriculture and agribusiness sectors. Following an assessment of agriculture finance in the country during Spring/Summer 2022, the World Bank's Finance, Competitiveness, and Innovation Global Practice is currently working with the Ministry of Agriculture and Rural Development (MARD) to prepare a World Bank-funded operation to increase the supply of affordable green and digital finance for Albanian farmers and micro, small and medium enterprises and strengthen the public policy to sustain this supply.

12. In addition to market instability, agriculture is a climate sensitive sector and projected climate change impacts pose serious risks in Albania. Temperatures are projected to continue increasing across South-Eastern Europe and Albania's summers are expected to experience the greatest degrees of warming in the region, with an increase of 2.4°C to 3.1°C during June to August¹¹. Heat waves are expected to increase in intensity, duration, and frequency, possibly by as much as six-to-eight times per year, which also increases risks of drought and greater fire risks. Albania will continue to experience a high degree of inter-annual rainfall variability. Changes to precipitation patterns and intensity can also lead to more frequent flooding in certain areas and to more droughts, landslides, or erosion along embankments and mountainous areas. The increase in extreme weather events, coupled with poor management and lack of investments in flood protection, irrigation and drainage infrastructure is also likely to pose a serious threat to agriculture production, water availability, food security and economic growth for most of the rural population who depend either directly or indirectly on agriculture. Extreme events may also impact agriculture production through an increased exposure to new pests and diseases. Climate change is likely to introduce emerging food safety, veterinary and phytosanitary risks, which may exacerbate existing inadequacies in the current system.

13. To increase the sector's resilience to climate change, it is essential to improve Albania's irrigation and drainage network. Agriculture production in the country is heavily dependent on irrigation and drainage. About 360,000 hectares (ha) of arable land were equipped with 25,000 kilometers of network irrigation canals¹². However, a large part of these irrigation canals and water control structures have deteriorated due to the lack of sufficient maintenance. Consequently, most of the irrigation systems have a conveyance efficiency of about 30-60 percent. About 280,000 ha of arable land

¹¹ World Bank. 2021. Climate Risk Profile: Albania.

¹² World Bank. 2021. The Future of Water in Agriculture in Albania - A Broad Sector Rethink.



have been equipped with drainage infrastructure, however most of the pumping stations have been in use for 30 to 45 years, with limited maintenance and upgrades. Currently, the irrigation and drainage network still lack a functional monitoring and evaluation framework at both the ministry and municipality levels and needs substantial transformation to align with the requirements of EU policies and strategies. Today, Albania's irrigation and drainage schemes are owned by MARD, while their operation and maintenance are transferred to respective municipalities. MARD, through regional irrigation and drainage directorates, operates and maintains main reservoirs and distribution of water in the primary systems serving more than one municipality.

14. Improving irrigation and drainage services could provide farmers with opportunities for increasing productivity and switching to higher value crops such as fruits and vegetables, which would enable them to provide a steady supply of agricultural products of the desired qualities and quantities to processors and markets. With support of previous Bank-funded projects, the amount of irrigated area in supported schemes is reported as increased by 30-50 percent, and yields increased by about 20 percent, mostly for irrigated maize, vegetables, fruits, and forage crops¹³. Due to relative improvements in the reliability of irrigation service delivery, the area under high-value crops has increased, while the area under rainfed subsistence crops has declined. Farm income has substantially increased - by about US\$750 to US\$1,500 per year - generating additional labor requirements of more than 30 person-days, with returns of US\$10 per day. The outcomes showed that irrigation and drainage infrastructure rehabilitation has had very positive economic and rural poverty reduction impacts.

15. Operation of irrigation and drainage pumping stations is costly due to high electricity prices. Albania is highly dependent on hydropower and a net importer of electricity. Electricity imports typically account for 30 percent of the annual electricity demand in a normal year and can increase to over 50 percent in a dry year. The electricity supply costs in Albania have significantly increased due to (i) the decline of domestic electricity production due to low and very seasonal rainfall and (ii) the increase in market prices of electricity in Europe, exceeding six times the prevailing prices prior to the crisis. Diversifying Albania's current energy supply with alternative clean sources and increasing energy efficiency would both increase its energy security and contribute towards climate neutrality goals. The "Promoting the Use of Energy from Renewable Sources" Law, from 2017, allows households and small and medium-sized enterprises (SMEs) to install wind and solar power systems with a capacity of up to 500 kW for own consumption. The Drainage Water Pumping Stations and the Irrigation Water Pumping Stations to be modernized under the project are significant seasonal electricity consumers, and the actual cost of electricity is a burden for the Government of Albania (GoA) and for the farmers. The investment in development of Solar Photovoltaics (SPV) installation, in every drainage and irrigation water pumping stations, is considered in the project as part of modernization. The contribution of SPV will significantly improve the energy savings and efficiency.

16. The proposed project will directly contribute to the mitigation of the rising food and energy prices, production constraints and enhancement of resilience. To address above mentioned challenges, the project would finance activities including (i) short value chains development under Sub-Component 1.1, which could create better links between farmers/producers and buyers, decrease transaction costs, and strengthen resiliency of food supply; (ii) installation of SPV to increase renewable energy source for operating irrigation and drainage schemes under Sub-Component 1.2, which could diversify Albania's current energy supply with alternative clean sources and increasing energy efficiency would both

¹³ World Bank. 2021. The Future of Water in Agriculture in Albania - A Broad Sector Rethink.



increase its energy security and contribute towards climate neutrality goals; (iii) support to increase institutional capacity to implement the food safety, veterinary and phytosanitary requirements, which could help Albania to confront the challenge of pandemic preparedness and building resilience to the threats associated with increased regional movement and trade; (iv) the development of IT Platforms on Climate Smart Agriculture and Business Intelligence to collect all the relevant information such as soil type, hydrometeorological data, agriculture practices (e.g., use of fertilizers, pesticides, irrigation, etc.), and to guide evidence-based decision making for more resilient and sustainable agri-food systems respectively.

C. Relevance to Higher Level Objectives

17. **The proposed project is fully aligned with the current Albania Country Partnership Framework (CPF)¹⁴ and the upcoming CPF FY23-27¹⁵ which attaches great importance to improving competitiveness, enhancing resilience and supporting a more sustainable growth.** The Albania Climate Resilience and Agriculture Development Project (CRAD) would contribute to Objective 3.2: “Depolluting the economy and better managing natural resources” for High Level Outcome 3 (HLO 3) “Enhanced resilience to climate change and natural risks and better management of natural resources”, as well as Objective 1.2: “Improved enabling environment for private sector growth” and Objective 1.3: “Improved quality and sustainability of public services” for HLO 1: ‘A more sustainable growth’. The proposed project is also highly consistent with the World Bank’s overall development frameworks – Resilience, Inclusion, Sustainability, and Efficiency (RISE) and World Bank Group Climate Change Action Plan 2021-2025: Supporting Green, Resilient and Inclusive Development (GRID), in terms of addressing long-term development challenges and contributing to post-pandemic “build back better”. The project is aligned with the Global Crisis Response Framework (GCRF) which outlines the World Bank Group’s operational response to the ongoing crisis to support medium-to long-term development needs. The GCRF consists of four interrelated pillars that are underpinned by the GRID agenda. The project would most directly contribute to two of GCRF’s four pillars, namely Pillar 3, “Strengthening Resilience” mainly by supporting the development of sustainable food systems and climate resilience infrastructure, and Pillar 4, “Strengthening Policies, Institutions, and Investments for Rebuilding Better” by supporting strengthening of evidence-based analysis capacity and energy efficient irrigation and drainage. The project also makes a contribution to the Albania’s National Strategy for Development and Integration (NSDI) in the focus areas of European integration, growth and competitiveness and sustainable use of resources. The project further strongly aligns with Albania’s revised Nationally Determined Contribution (NDC), prepared in accordance with the Paris Agreement, in which Albania committed to an unconditional emission reductions target of 20.9 percent by 2030 compared to business as usual, increasing from the initial goal to reduce emission by 11.5 percent by 2030 compared to 2016 levels. The project also aligns with the objectives of Albania’s SARDF 2021-2027 to promote sustainable food production and quality through the development of a competitive and innovative agri-food sector and strengthen the sustainable management of natural resources and the response to climate change.

18. **The project is highly relevant for the Maximizing Finance for Development (MFD) agenda.** In the context of Albania’s overall objective to promote private sector led agricultural development, the project will play a key role in fostering Private Capital Mobilization as part of the MFD agenda as it will (i) support the establishment of Micro Food Hubs and development of typical food products clusters which will foster the aggregation of smallholder farmers and their connection with value chain actors, capacitating agribusinesses and promoting future private investments into the

¹⁴ Report No. 98254-AL.

¹⁵ Forthcoming. *Country Partnership Framework for Albania FY23-FY27*. Report No. 177135-AL, World Bank, Washington, DC



value chains; and (ii) support the upgrading and modernization of public food quality and safety infrastructure, including improving traceability, food safety and quality standards which will contribute to removing bottleneck and fostering an enabling environment for commercial agribusiness. The project will also provide key public goods for the agriculture sector to increase its competitiveness through the irrigation investments.

II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

The Project Development Objective is to increase competitiveness and climate resilience of priority agri-food value chains.

PDO Level Indicators

19. Key indicators to measure the achievement of the PDO will include:

- (i) Sales of agricultural produce from farmers through the Micro Food Hubs and clusters. (Metric Tons)
- (ii) Farmers connected to the pressurized and on-demand public irrigation service in the project area. (Percentage)
- (iii) Total energy consumption of irrigation and drainage schemes covered by renewable energy generated by the project. (Percentage)
- (iv) Number of methods accredited at the National Reference Laboratory allowing for reliable analyses in the areas of food safety, veterinary and plant health, as specified by relevant international standards and EU legislation. (Number)

B. Project Components

20. The proposed project includes the following three components:

21. **Component 1: Promoting Climate Smart Agriculture and Access to Markets (EUR 40.62 million).** This component aims at supporting resilient and climate smart agriculture, productivity and quality improvements and improving market access through investments to shorten value chains, strengthen resilience of food supply, introduce digital technology and develop a modern and reliable irrigation delivery services and drainage network for high-value agricultural production. This component contributes to the GCRF Pillar 3 “Strengthening Resilience”.

22. **Sub-Component 1.1 Promoting Climate Smart and Resilient Value Chains (EUR 13.82 million).** This sub-component will support a resilient food distribution system and promote value addition of agriculture production. Activities under the sub-component include:

- (i) **Development of short value chains.** The objective of this activity is to strengthen resiliency of urban food supply, in particular through a better access to market of local products produced in the peri-urban areas of main cities



to meet HoReCa¹⁶ and consumers demand for local fresh and safe agriculture products supported in particular by an exponential rise of tourism sector in Albania these last years. The project will develop five Micro Food Hubs (MFH) in the peri-urban areas of main cities in the regions of Tirana, Shkodra/Lezha, Vlora, and Gjrokastra to provide better market access to local producers and linkages with urban outlets, while supporting short supply chains and resiliency in urban food supply¹⁷. MFH are defined as “a business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand”¹⁸. The MFH address different gaps namely: (i) create a link between farmers, producers, and buyers; (ii) provide individual farmers and producers the means to market and sell their products together as one larger entity, allowing them the opportunity to sell to high-volume buyers; (iii) offer farmers and producers the ability to receive fair and consistent pricing for their products; (iv) help farmers extend their season which, in turn, helps provide buyers with a more consistent supply of fresh local foods; (v) provide value adding services, including sorting and grading, basic processing, temporary (cold) storage, transportation, and/or packaging to improve products quality and marketability; and (vi) facilitate information flow and sharing. Finally, MFHs decrease transaction costs by providing a single point of purchase for source-identified products from local and regional producers for wholesalers, distributors, retailers, and food-service buyers; and contribute to the reduction of food loss and waste by providing refrigerated storage capacity. The MFHs will include a dedicated channel for sales from women farmers as well as information campaigns to recruit them. The typology identified for the project are small wholesale-type MFH as they focus on selling to small wholesale clients, such as restaurants and convenience and specialty stores. Specifically, the project will support: (i) technical assistance for the preparation of feasibility studies, business plans, environmental and social requirements, and detailed designs following climate-resilient design standards and construction supervision plans for all facilities; (ii) civil works for the construction of the facilities and associated equipment (e.g. sorting, grading and packing lines); and (iii) operational guidance for the start-up of activities. The facilities will be built on state-owned land and will be owned by the State. The MFH facilities will be managed through a subsidized concession agreement to a private operator (group of producers, agri-food sector companies, retailers or HoReCA actors). The concession will be granted according to the participation or association of a minimum number of local producers to the operations of the MFH. General criteria for the concession agreement (duration, number of producers associated, obligations of the operator, etc.) will be included in the Project Operational Manual (POM). The feasibility studies will propose a management model including drafting a preliminary concession agreement in accordance with the Albanian regulation, negotiable with future operators. This activity has been assessed through the MFD cascade approach, the establishment of MFHs by public expenditure will correct market failures to support transition towards short supply chains and improved local sourcing, benefiting the private operators in the retail and HoReCa sector as well as producers, leveraging private investments and enhancing business development.

- (ii) **Promotion of typical products and value addition.** The objective of this activity is to enhance rural development through a better integration of the different actors and the development of value-added products. In the last years, Albania has witnessed a sharp increase in rural tourism which is key for rural development and drives the

¹⁶ Hotel, Restaurant and Café.

¹⁷ These locations have been strategically selected in areas of overlap of supply, growing urban, agri-business and tourism demand and in selected cases vicinity with location of the project-supported irrigation schemes.

¹⁸ Barham, James, Debra Tropp, Kathleen Enterline, Jeff Farbman, John Fisk, and Stacia Kiraly. Regional Food Hub Resource Guide. USDA.



demand for local food products from national and international visitors. It supports the objective of the GoA to diversify the current tourism focus on the seaside to a broader, sustainable development of the tourism sector. The project will support the development of two typical food product clusters in the regions of Berat and Dibra. The principle of a cluster is to bring together companies, researchers, trainers, and other partners all working within the same sector to combine their efforts in terms of research and development, promotion or training to benefit from the synergies and economies of scale. The main priorities of the clusters will be to create the enabling environment for the valorization of two typical food products (olive oil and processed fruits and vegetables) through the aggregation of producers (consortium), and the improvement of quality and market access with the development of their technical and marketing capacity. The clusters will support and ensure increased meaningful participation of women and integrate them into olive oil and processed fruits and vegetables value chains and markets, such as through creation of women's groups. The project will support: (i) the technical assistance to build consortium of producers, develop their technical and marketing capacities, and promote quality, branding and commercialization, and (ii) the construction of processing units to increase value-added of local products. The facilities will be owned by the State and given under subsidized concession agreement to a consortium of producers. Similarly to the MFH, general criteria of the concession agreement will be included in the POM and further tailored during the feasibility study.

- (iii) **Development of a Climate Smart Agriculture (CSA) IT Platform.** The objective of this activity is to collect all the relevant information such as soil type, hydrometeorological data, agriculture practices (e.g. use of fertilizers, pesticides, irrigation, etc.), and guide the farmers toward resilient agriculture practices. The CSA platform data acquisition will be automated via various sensors in weather stations, soil moisture sensors, cameras, etc. Stakeholders of the platform will also be able to enter data (e.g. results of pests monitoring devices) via a web interface and mobile apps. Based on the collected data and stored algorithms, the platform will provide automated recommendations, e.g. for fertilizer and pesticide use. Access to the platform will be provided via web and mobile applications to all interested parties. However, it is expected that, in particular in its initial phase its main users will be farmers and administrations. The project will support the implementation of the platform in pilot areas throughout Albania for a total estimated size of 2,000 ha. The selection of the area will be based, among others, on the agriculture production area and on potential synergies with other project supported activities. Criteria for the selection will be included in the POM. The project will support (i) the CSA platform software development, and (ii) the purchase of the necessary hardware and of the sensors to be installed in the pilot area to be covered under the project including maintenance. The platform will be hosted and run by the National Agency for Information Society (AKSHI) in charge of all IT systems in the country, while its procurement will be carried out by MARD as the main implementing agency in close coordination with AKSHI. The platform will also integrate irrigation information provided through the modernization of irrigation schemes supported under sub-component 1.2.

23. **Sub-Component 1.2 Modernizing Selected Irrigation and Drainage Schemes for High-value Agricultural Production (EUR 26.80 million).** This sub-component will support innovative structural interventions including technology innovations on renewable energy supply for irrigation and drainage pumping stations expected to reduce Greenhouse Gas (GHG) emissions, to advance resilience, productivity, and sustainability of the agriculture sector. Selected priorities have been assessed taking into consideration the government's development priorities, financial viability, technical feasibility (studies and detailed design for the modernization of the irrigation schemes were completed



in 2019 under the previous Water Resources and Irrigation Project [WRIP]) and implementation readiness. In particular, modernization of the Divjaka and Mursi irrigation schemes from open channels to pressurized irrigation will allow for better management of water resources and addressing of climate change impact in areas with high value agriculture crops production. The project will not provide support to farmers for on-farm irrigation investments as beneficiaries of the irrigation schemes have access to substantial amount of EU Instrument for Pre-Accession Assistance for Rural Development grant funds as well as national support for such investments. Background information on the irrigation schemes to be supported under the project is included in Annex 2. This sub-component contributes to the GCRF Pillar 4 "Strengthening Policies, Institutions, and Investments for Rebuilding Better". Activities under the sub-component will include:

- (i) **Modernization and pressurization of the Divjaka Irrigation Scheme.** The objective of this activity is to further enhance the competitiveness of irrigated agriculture through reducing water consumption and utilizing cheaper and cleaner energy sources. The project will support: (i) update of the detailed design and bill of quantities to reflect the current situation, and (ii) modernization of secondary and tertiary networks (up to 500 ha) by converting the open channel (or pumping from drains and wells) irrigation system to a new closed and pressurized network. The works will be complemented by installation of 468 pre-paid smart meters and distribution of cards to about 2,000 farmers. The command area of Divjaka has high agricultural production potential due to fertile land and favorable micro-climate. It has potential for year-round cultivation of vegetables such as broccoli, carrots, cabbage, and cauliflower provided there is access to reliable irrigation services. Since the water available for irrigation is scarce in quantity and quality, the farmers cultivate limited areas with vegetables and cereals (especially maize) and use low levels of inputs (i.e., improved seed, fertilizers, etc.) and harvest products of low quality. Through these activities the project will facilitate farmers' access to efficient on-farm water application technologies such as drips and sprinklers and conversion of area-based tariffs to volume-based tariffs. These interventions will allow the adoption of volumetric irrigation water pricing, which will lead to significant water savings, increase in farmers' contribution to the operations and maintenance (O&M) expenses and amelioration of the fiscal burden on municipalities and/or the State. The project will also support the installation of SPV of 500 kWp near the Divjaka pumping stations to decrease the irrigation costs. The estimated annual electricity production is 650 MWh while the current annual electricity consumption for the scheme is estimated at 917 MWh. If the electricity netting and reconciliation is made yearly, both stations will save ALL 15 million every year.
- (ii) **Modernization and pressurization of the Mursi Irrigation Scheme** downstream of the reservoir. The objective of this activity is to upgrade the scheme from open channel to pressurized irrigation. The project will support: (i) update of the detailed design and bill of quantities to reflect the current situation; (ii) construction of a new pumping station and pressurization of secondary networks at Mursi, Vrina, and Xarra fields (up to 2,300 ha); and (iii) installation of 500 kW SPV on the Mursi downstream dam wall¹⁹. The scheme is generally suitable for growing mandarins, oranges, olives, vineyards, lemon and fruit trees including peach, apricot, plum, quince, and figs. The domestic and export demand for citrus crops of high value varieties has increased thanks to the high quality of citrus production in this area. Some of the citrus growers have already applied an advanced cultivation package, where the irrigation is carried out with drips. The farmers also produce vegetables such as tomatoes, eggplants, peppers, cucumbers, onions, cabbage, leeks, potatoes, and green salads. Entrepreneurial farmers have small and

¹⁹ As in the case of the Divjaka scheme, if the electricity netting and reconciliation is made yearly, it will translate into saving of up to ALL 15 million every year.



old irrigation systems, often a single sprinkler, and pump water from drains or private wells. This allows them the flexibility needed for the irrigation process.

(iii) **Revitalization of the Lushnja Irrigation Scheme.** The objective of this activity is to develop new alternative irrigation water sources for farmers and re-initiate irrigation services to farmers previously served by the Lushnja branch. The project will support first an analysis of alternative options for supplying irrigation water to the 4,000 ha agriculture area of Lushnja, followed by a prioritization, and complemented by feasibility and detailed design to be developed for the entire arable area of about 4,000 ha. Second, the identified irrigation option could be piloted under the project in an area of up to 800 ha.

(iv) **Modernization of drainage systems.** The objective of this activity is to enhance energy efficiency, reduce operations and maintenance costs, enhance agricultural productivity and farm income. The project will support three major tasks: (i) upgrade and modernization, including the installation of more efficient and flexible modern pumps, of the two drainage pumping stations, namely drainage pumping station no. 2 (in Seman), and drainage pumping station no. 3 (in Darzeza). The two drainage pumping stations together drain about 9,600 ha of the Hoxhara plain in the municipality of Fier, where about 10,000 farmers practice agricultural activity with an average of about 0.8-1 ha per farmer. This activity will serve as a pilot for future investments in the modernization of drainage systems given the importance of drainage in the coastal area of Albania which serves not only for agricultural purposes but also for residential areas and economic activities that take place in this area; (ii) design and installation of SCADA (Supervisory Control and Data Acquisition) system in the modernized drainage pumping stations with the option to be expanded in the future to other stations, and installation of monitoring sensors in the remaining 25 drainage pumping stations to remotely measure water level, energy use from each pump, working hours, etc.; (iii) installation of SPV in all the 27 drainage pumping stations. A detailed estimation shows that for the 27 drainage pumping stations, the potential SPV capacity to be installed is 2,000 kWp and the annual electricity production is estimated to be 2,740 thousand kWh. In 2021, the electricity consumed by 27 drainage pumping stations was 9,750 thousand kWh and the cost was ALL 174 million. The electricity produced by SPV is estimated to be ALL 40 million without VAT and to cover 28 percent of total consumption.

24. **Component 2: Enhancing Compliance with Food Safety and Quality Standards (EUR 20.30 million).** Activities under this component aim at addressing weak compliance and control mechanisms related to food safety, veterinary and phytosanitary standards which currently impede competitiveness and create market access inequalities both in the local and export markets. The project will provide support to increase institutional capacity to implement the food safety, veterinary and phytosanitary requirements. Activities under the component will include:

(i) **Establishment and upgrading of Border Inspection Posts (BIPs).** The objective of this activity is to increase the Competent Authority's capacity to perform official controls (documentary, identity and physical checks) for live animals, products of animal and non-animal origin, plants and plant products as well as agricultural inputs. The project will support the rehabilitation and equipping of six BIPs (in Bllata, Kakavija, Kapshtica, Qafe Bota, Qafe Thana, and Vlora) of the 12 currently being in operation which have been identified as critical to be supported under the project due to the high volume of produces traded. Other BIPs will be supported under other sources of funding. Support for the establishment and upgrading of the BIPs is required even though in March 2022 Albania has received the greenlight to start the EU accession process. The BIPs in fact will continue to serve as EU external borders until the accession process has been completed - for which a timeline has not been set. Further, taking



into account the constantly increasing trade, their role in protecting the country from introduction of animal diseases, organisms harmful for plants, as well as food and feed that could pose threat for humans, animals and the environments is extremely relevant. Finally, one BIP supported by the project (i.e. Vlora seaport) will continue to serve on the EU's external borders even after the accession process will be completed. Rehabilitation of the BIPs will be guided by the Commission Implementing Regulation (EU) 2019/1014 of 12 June 2019 which lays down detailed rules on minimum requirements for border control posts, including inspection centers, and for the format, categories, and abbreviations to use for listing border control posts and control points. This concerns veterinary, food safety and plant health border controls, and in particular means an adequate office space with necessary devices (computers, copiers, scanners, printers, etc., as well as internet and telephone connections), separate area for servicing importers or their agents, adequate space for carrying out physical checks (e.g. a lit roofed ramp where goods can be unloaded, a forklift, etc.), diagnostic support (e.g. microscopes), premises for storage of samples (with refrigerators), premises for storage of seized goods (including cooling chambers), devices and tools for inspections, elements of security to avoid escapes of harmful organisms and pests, etc. Typically, for convenient operation the facilities have only one floor, and the required surface is about 500 m². Specifically, the project will support: (i) technical assistance for the preparation of detailed designs following climate-resilient design standards and construction supervision for the facilities as well as any necessary site-specific environmental and social instruments; (ii) civil works for the construction of the facilities and provision of associated equipment; and (iii) training and/or support for updating inspection procedures in the BIPs. The design and construction works will be tailored to individual BIPs (i.e. will take into consideration specific circumstances which are present in a specific BIP location). For the facilities to be energy efficient and environmentally friendly, SPV will be installed on each of the planned construction. As BIPs are principally managed by Customs, any investments will be consulted with all relevant stakeholders to identify solutions which would satisfy all the relevant border administrations.

- (ii) **Improvement of inspection capacities and diagnostic support in the areas of food safety, veterinary and plant health analyses.** The objective of this activity is to enhance the capacity to more effectively and efficiently carry out physical checks, sampling and sample delivery to laboratories, and laboratory testing of food safety, veterinary and plant health laboratories to enable them to implement the necessary monitoring systems and methodologies for testing according to relevant standards in line with EU pre-accession requirements. Specifically, the project will support: (i) technical assistance for the preparation of detailed designs and supervision for the rehabilitation of the laboratories as needed, as well as any necessary site-specific environmental and social instrument; (ii) civil works for the rehabilitation of the facilities; (iii) provision of equipment for inspections, sampling and sample delivery and testing in the laboratories; and (iv) training and/or support for performing accreditation of the laboratories/testing methods, so that methods that will be used will allow for reliable analyses of food, feed and plants in the areas of food safety, veterinary and plant health, as specified by relevant international standards and EU legislation. The project will also provide technical and financial support to facilitate operational compliance with the EU General Food Law (GFL) Regulation (i.e. EC 178/2002), and a set of EU regulations (i.e. the Smarter Rules for Safer Food – SRSF)²⁰ for the risk-based protection from diseases and pests which relate to Animal Health

²⁰ Smarter Rules for Safer Food (SRSF) - Animal Health Regulation (EU) 2016/429: a framework for the principles of European animal health (applies from 21 April 2021).



(EU 2016/429), Plant Health (EU 2016/2031)²¹, and the EU Official Controls Regulation (EU 2017/625)²² on monitoring and enforcing inspection controls across the agri-food chain. These and other corresponding regulations constitute the backbone of the EU Chapter 12: Food Safety, Veterinary and Phytosanitary Policy. Significant enhancement of all those elements will substantially contribute to the process of harmonization of the Albania standards and requirements with relevant EU legislation related to animal health, food safety and plant health. They will also be in line with the relevant international organizations agreements and standards, namely: World Trade Organization Sanitary and Phytosanitary (WTO-SPS) Agreement, World Health Organization and Food and Agriculture Organization (WHO/FAO) Codex Alimentarius, World Organization for Animal Health, Terrestrial Animals and Aquatic Codes, and International Plant Protection Convention (IPPC). This would greatly contribute to supporting the “One Health” approach which is particularly relevant for food and water safety, nutrition, control of zoonotic diseases, pollution management and combatting antimicrobial resistance. This will also support Albania with meeting internationally recognized food certification requirements, such as GlobalGAP, EurepGAP, Hazard Analysis and Critical Control Point (HACCP), etc. The MARD and NFA have divided analytical and diagnostics activities between the ISUV and the seven NFA laboratories. In principle, ISUV will play the reference role and will also support NFA in doing certain routine analyzes and those which require high expertise. All seven NFA laboratories will be involved in mass-scale routine analyses. However, three of them (Fier, Korca, and Tirana) will be equipped and prepared for more specific and specialized analyzes which require more sophisticated equipment, better facilities and higher competence. This will allow for better use of existing resources and for more efficient operation. An overview of the laboratories network and a detailed description of tasks attributed to each laboratory is presented in Annex 3.

- (iii) **Development of storage capacity** for detained goods which do not comply with food safety, veterinary or plant health standards (such as meat, milk, eggs, food of plant origin, etc.). The project will support the construction of 4 highly energy efficient storage facilities, meeting specified safety and environmental requirements, to be placed in the fenced premises of the NFA Regional Directorates in Korca, Shkodra, Tirana and Vlora. This will allow for detention and storage of questioned commodities, either at frozen stage or in cooling conditions, and would fulfill the NFA needs in the easiest, cheapest, and most effective way forward. At the same time, proper storage of questioned commodities will provide NFA the required time to identify solutions for the use of such commodities alternative to incineration, such as composting, biofuel, alternative processing, etc. which will contribute to reduction of food and feed losses and waste. For the facilities to be energy efficient and environmentally friendly, SPV will be installed on each of the planned construction.

25. **Component 3: Strengthening Evidence-based Analysis Capacity of MARD and Municipalities (EUR 3.68 million).**

This component aims at establishing a sustainable and effective monitoring and evaluation (M&E) system for agricultural and rural development policy in Albania. Support will be provided to build the monitoring capacity of the MARD and municipalities to increase their ability to measure and analyze agricultural policy impacts to support evidence-based policymaking. This component contributes to the GCRF Pillar 4 “Strengthening Policies, Institutions, and Investments for Rebuilding Better”. Activities under the component would include:

²¹ Plant Health Regulation (EU) 2016/2031: controls for protecting plants from disease and pests (applies from 14 December 2019).

²² Official Controls Regulation (EU) 2017/625: how controls across the agri-food chain will be monitored and enforced (applies from 14 December 2019).



- (i) **Development of a consistent and comprehensive data collection system and enhancement of the MARD policy effectiveness and efficiency capacity.** The project will support the establishment of a Business Intelligence (BI) system which will collect and process data from different systems and databases into a single platform that will be used for pursuing evidence-based policy analysis and formulation. The system to be established would be consistent with the M&E framework of the Albania Agriculture, Rural Development and Fishery Strategy 2021-2027 and prepare for the Common Agricultural Policy (CAP) 2023-2027 strategic policy framework requirements as described in the recent legislative proposals of the European Commission. Technical support will aim to establish the recording of all relevant indicators (context, output, result, and impact) as envisaged in the CAP Performance Monitoring and Evaluation Framework to guide evidence-based decision making in both agriculture and rural development policy in Albania, including associated data collection, surveys, and evaluations. Within this context, the project will bring together and store into one integrated data platform for decision making at central level, all the necessary data associated with agriculture and rural development, compiled by various MARD Departments and Institutions as well as by other bodies. A mapping of data currently collected (in terms of both variables and software/hardware environment) will lead to an assessment of needs and the identification of data variables to be stored in the platform and the necessary software and hardware infrastructure. These actions will be followed by the installation of the necessary software and hardware and the migration of existing historical data into both the integrated platform and the satellite databases specific to MARD Departments and Institutions. In this manner, all databases will be compatible between them and at the same time, able to transmit data variables to the integrated platform, in accordance with future policy analysis needs. Finally, data update and quality control procedures will be specified in detail. The project will provide the necessary hardware and software as well as technical assistance and training as necessary. As for the CSA Platform, activities will be procured by MARD in close cooperation with AKSHI.
- (ii) **Strengthen of irrigation and drainage performance monitoring and management** at central and municipal levels, through scaling up the use of the Irrigation and Drainage Management Information System (IDMIS) and Geographic Information System (GIS) mapping, already installed in 35 municipalities, to the remaining municipalities. This activity will support the efficient utilization of IDMIS which was developed under the previous WRIP and installed in 35 municipalities, where the system is already set-up and expanding the system in the remaining 26 municipalities of Albania. This would entail digital mapping of all irrigation schemes and their respective intakes and associated assets that would be georeferenced and digitized. The same map digitalization would be done also for drainage. Finally, the project will provide for training of trainers to ensure the system is utilized by the additional municipalities. As indicated by AKSHI, the system will need to be upgraded and incorporated in the national information system structure. The integration of IDMIS into the national system will not only facilitate data sharing among institutions but also enable technical support from AKSHI and the Ministry of Interior in charge of local government.
- (iii) **Project management**, including, procurement, financial management, safeguards, monitoring and evaluation and reporting. Support will be provided to carry out project implementation including compliance with fiduciary (financial management, procurement), environmental and social framework, and M&E requirements according to the agreed implementation arrangements, i.e. through the establishment of a Project Management Team (PMT) which will be composed from both appointed civil servants and local consultants. Support for the project implementation will include provision of technical assistance for the day-to-day coordination, additional technical



support as needed, as well as for fiduciary (procurement and financial management) and environmental and social requirements; training, equipment, and incremental operating costs to support project management and monitoring, implementation of the grievance redress mechanism and citizen engagement activities. The component will also support surveys as required for monitoring and evaluation of project results and impacts.

26. **Gender.** Fostering gender equality in access to economic opportunities is a key objective of the Government's social and economic development agenda. Albania's National Strategy for Gender Equality 2021-2030 seeks to boost economic empowerment among women and men, with specific objective of economic empowerment of women in rural areas. Gender equality is also an important dimension of the country's economic and social development strategies, including the National Strategy for Development and European Integration 2022-2030, which stresses the need to advance the rights of women, children, people with disabilities, and other vulnerable groups through greater access to health care, education, employment, and social protection; and the National Employment and Skills Strategy 2019-2022 which focuses on job creation and skills development among youth and women.

27. A higher proportion of women is found working in the agriculture sector than men in Albania (41.6 percent vs. 32.3 percent)²³. Yet, more than 80 percent of land titles are in the name of the 'head of household' or former head of household (husband, father-in-law, brother, father, grandfather), limiting women's entitlements to productive resources and services that directly derive from holding a land title (such as registering as farming business, credit, and extension service). Only 5.6 percent of registered farmers in the Farm Registry are female. The share of women compared to men who directly access markets and sell farm's produce was reported significant lower, and women are twice less likely to visit the market individually²⁴. The main reasons include that access to the city and large markets is stereotyped as "men's territory"; women in family farms may have reduced access to family income due to their lack of participation in the markets, despite their work throughout the whole value chain; and women's lack of self-confidence in their capacity to bargain is well documented as a major reason for women not attending the markets, alongside the demands of housework, limited child care and a lack of access to transportation²⁵. Thus, women in rural areas having limited access to agricultural and market information has been identified as a gender gap. It was reported that women managing to sell personally in the market may have some additional cash to save and manage individually, and that when women engage in produce commercialization, it increases the likelihood to manage the money in the household²⁶. This particular constraint in reaching markets (information and selling) and the potential impact of setting up channels for sales that take into account women's lesser ability to get to markets and know about them, is one which the project will be addressing under component 1.

28. To close the identified gender gap on limited market access for women, under component 1, the operation of the MFHs and typical food clusters will support and ensure increased meaningful participation of women and integrate them into specific markets. This will be done through the creation and marketing of pre-identified business/opportunities for women, "women channels" for agri-food sales, the provision of trainings (for example in marketing and sales), support to the creation of women's groups to increase their capacity to access and tap into markets. The MFHs will include a dedicated channel for sales from women farmers (in groups or individually) as well as information and campaigns to

²³ UN Women (2020). Albania Country Gender Equality Brief 2020.

²⁴ UN Women. 2016. National study on Economic Diversification for Women Living in Albanian Rural Areas.

²⁵ FAO. 2016. Gender, agriculture and rural development in Albania.

²⁶ UN Women. 2016. National study on Economic Diversification for Women Living in Albanian Rural Area.



recruit these produce offerings. A specific gender indicator, 'Number of women selling agricultural produce through MFHs' is included in the results framework. Considering the low percentage of women registered in the Farm Registry, the target of this indicator will aim for 30 percent of farmers selling agricultural produce through MFHs being female (150 females).

29. Additionally, gender aspects will be closely monitored during implementation to ensure equal opportunities for women in all project activities. The project will design awareness campaigns targeted to women. Specific efforts will be made to ensure female staff and women farmers participate in training and capacity building activities, including on addressing reasons for less individual market access, information gaps, and mobility as needed. Gender disaggregated information will also be collected and recorded through project results framework to help the MARD to prepare relevant gender-sensitive analyses and policy documents for ongoing and future targeted interventions.

30. **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 at the beginning, mid-term, and project-end; a project-specific grievance redress mechanism (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 implementation throughout the project's lifetime. Based on the lessons learned from ongoing operations during the COVID-19 crisis restrictions, the project will explore IT options for real-time beneficiary feedback. Furthermore, experience in operations with irrigation rehabilitation activities in the region shows that citizen engagement activities can be included continuously in project activities, for example through participatory monitoring. This requires the establishment of local monitoring groups composed of individual farmers, agriculture legal entities operating in the irrigation scheme area, etc., to help with the supervision of the works. The local monitoring groups help keep the ministry/irrigation companies informed with the progress of works and potential quality issues through a range of communication tools, including telephone, letters, email, WhatsApp, etc.

31. Direct interventions at farmer and service provision levels will be designed and implemented based on gender-representative consultations with direct beneficiaries and other non-governmental stakeholders. Feedback will be incorporated into project implementation procedures to strengthen technical aspects and facilitate implementation. The creation of partnerships between producers, processors and traders will be based on market demands and needs of the beneficiaries, and this will provide a platform for dialogue and citizens' feedback. Further, to strengthen civic engagement, a systematic feedback mechanism will be institutionalized and become part of the regular project monitoring activities, and a project specific GRM will be set up and made known to all stakeholders. These approaches will complement and enhance more traditional forms of monitoring. The project will incorporate beneficiary feedback indicators in the results framework to measure beneficiaries' satisfaction with the project supported services.



C. Project Beneficiaries

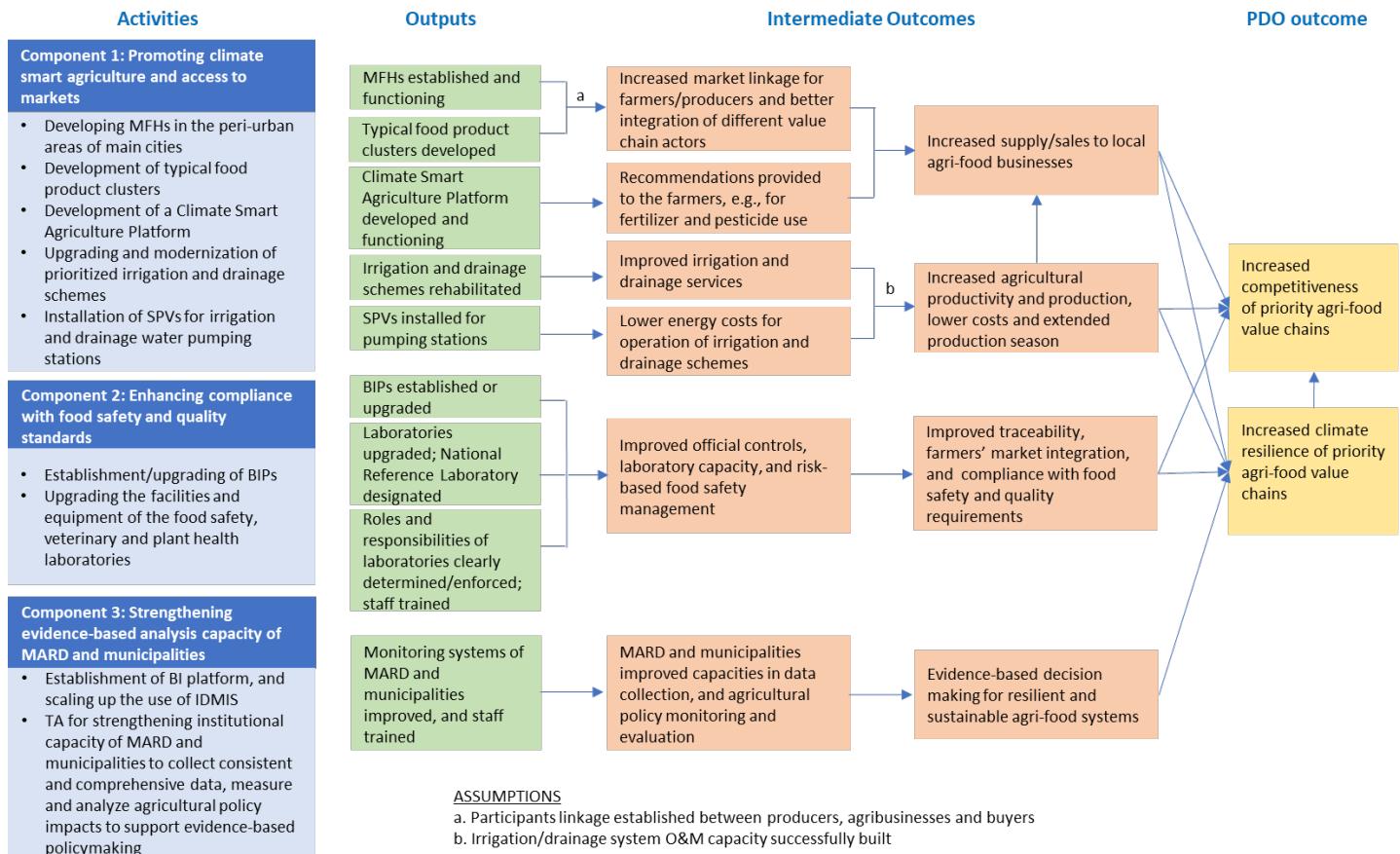
32. Project beneficiaries, of which 30 percent are targeted to be women, include direct beneficiaries (i.e. farmers, private enterprises, MARD, Directorates of Irrigation and Drainage, municipalities, and institutions such as NFA, ISUV, National Authority for Veterinary and Plant Protection (NAVPP) and indirect beneficiaries (i.e. HoReCa and tourism sector in the project areas). The value chain activities will provide technical and financial support to develop five MFH for local products' producers in the peri-urban areas of main cities to meet HoReCa and consumers demand, and to support the development of two typical food product clusters by bringing together companies, researchers, trainers, and other partners within the same product line. The project will improve the water management in the selected project areas and main beneficiaries would be private farmers using the irrigation/drainage schemes. In the public sector, the project will support institutional strengthening of the MARD, municipalities, as well as institutions such as the NFA, ISUV, NAVPP etc., aiming at reaching 50 percent of female extension and food safety staff trained. The nationwide farmers and enterprises will benefit from the support provided to the public institutions.

D. Results Chain

33. The PDO will be achieved through the Theory of Change, illustrated in Figure 2, that can be summarized as follows: the competitiveness of Albania's priority agri-food value chains is constrained by small farm size, fragmentation, limited access to market conditioned also by gaps in food safety standards and volumes, whilst the sector's high vulnerability to climate change is exacerbated by high dependency on outdated irrigation infrastructure. To improve competitiveness, the project will introduce a set of tailored activities, namely establishing Micro Food Hubs and clusters to better integrate different value chain actors, development of value-added products, establishment or upgrading of BIPs and upgrading the facilities and equipment of the food safety, veterinary and plant health laboratories to enhance compliance with food safety and quality standards. Aggregation of producers and reduction of their transaction costs should be expected to lead to increased supply, and increased compliance with food safety standards should make the produce more competitive in the domestic and external markets. To address resilience, the project will introduce activities such as development of a Climate Smart Agriculture Platform, upgrading and modernization of prioritized irrigation and drainage schemes. This will make the value chains more climate-resilient by extending the production season, increasing productivity and production, and ensuring more reliable and continuous supply. Furthermore, the use of solar power will increase resilience to climate change and decrease the cost of production and feed back into making the produce more competitive. Capacity building activities for MARD and municipalities, as well as development of monitoring systems, for data collection, and agricultural policy monitoring and evaluation will in general contribute to resilience, which will also be a competitive advantage.



Figure 2. CRAD Project's Theory of Change



E. Rationale for Bank Involvement and Role of Partners

34. The World Bank Group has extensive experience internationally, in the Western Balkan region, and in Albania in supporting different agents of the agriculture sector, enhancing competitiveness and market integration, and strengthening agricultural public-sector institutions. The World Bank also closely cooperates with development partners active in Albania (EU, FAO, GIZ, among others) and there is scope for mutual supportive operations and TA support.

F. Lessons Learned and Reflected in the Project Design

35. Project preparation has benefitted from the implementation experience of several similar projects as well as analytical work in the agricultural sector in countries of the Western Balkans with objectives associated with EU pre-accession or/and EU accession requirements, including in Croatia, Kosovo, Montenegro, Serbia, North Macedonia, and Bosnia and Herzegovina. Projects include Kosovo Agriculture and Rural Development Project, and Montenegro Institutional Development and Agriculture Strengthening (MIDAS) and MIDAS2; as well as the previous investment operations in Albania, namely WRIP and the Environmental Services Project. Analytical work includes Agriculture for Jobs



and Growth in the Western Balkans (2017); Exploring the Potential of Agriculture in the Western Balkans (2018), Gender Inclusion in Productive Investments in the Western Balkans (2020); and the Irrigation Ecosystem Approach for Western Balkans.

36. The key lessons from these projects and analytics have been reflected in the project design, including the need for (i) timely investments in strengthening capacity of the national agricultural/rural development agencies in meeting EU accession requirements; (ii) investment support to farmers, agri-business and institutions etc. in upgrading their activities in line with EU food safety, environmental and animal and plant health standards, climate change mitigation and cross-compliance requirements; (iii) supporting the development of market driven agri-food production models; (iv) demand-driven training for beneficiaries to enhance the effectiveness and impact of training workshops; (v) investment, training and extension services to promote climate smart agriculture for a green transition into higher agricultural productivity, increased resilience and lower emissions; (vi) investments in the irrigation sector should incorporate a systematic and comprehensive approach to ensure system efficacy and efficiency; (vii) use cost estimates for civil works that are robust and reflect market prices at the time of appraisal; (viii) investments in irrigation taking into consideration agricultural value chains, institutional and financial arrangements to ensure delivery of services.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

37. MARD will be the lead project implementing agency and will have overall responsibility for project management, implementation, and monitoring and evaluation (M&E). The NFA, the ISUV, the NAVPP, the Directorates of Irrigation and Drainage and the National Agency for Information Society (AKSHI) and any other institutions as requested by MARD during project implementation will be supporting implementing and beneficiary institutions/agencies.

38. A PMT will be established in MARD. The PMT will be headed by an appointed civil servant that will serve as Project Coordinator and include: a Project Manager, Component Leaders, Procurement Specialist, Financial Management Specialist, Environmental Specialist, Social Specialist/Gender focal point and Technical Specialists (i.e. engineer, IT, etc.) as deemed necessary to support the implementation of the project. The MARD will appoint civil servants as Project Coordinator, Component Leaders, and M&E Specialist. Civil servants in supporting implementing and beneficiaries' institutions/agencies will be appointed as focal points for the various project activities. Given the demanding specific requirement for the implementation of the project, technical assistance will be recruited for day-to-day project coordination, fiduciary and safeguards functions, and technical advisory needs. Training, office equipment, and incremental operating costs will also be provided to support overall project management.

39. The PMT's 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) preparation of semi-annual and annual progress reports; (viii) briefing of MARD on the status of project implementation; and (ix) systematic filing of all project-related documents, including procurement and financial management.



B. Results Monitoring and Evaluation Arrangements

40. 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.

41. The Project's M&E will be undertaken by the PMT within MARD. An M&E specialist from the PMT 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

42. The sustainability of project activities beyond the implementation period is expected to be high. Project activities are supporting Albania to build the capacity of MARD and relevant institutions to become EU compliant including through achieving compliance of IT systems with EU pre-accession requirements. Increasing the institutions capacity as well as establishing the required systems will help Albania access future EU funding for agricultural and rural development under the Instrument for Pre-Accession Assistance.

43. The project will invest in shortened value chains and Climate Smart Agriculture, including irrigation and drainage schemes, and the enhancement of an effective food safety system, to support a more sustainable growth. The investments to shorten the value chain (such as micro-food hubs) under sub-component 1.1 will be accompanied by technical assistance on the development of business plan and operational guidance, and leverage private sector, to ensure the sustainable operation and maintenance of the MFH facilities. Sustainability will be also ensured through better market orientation of local/typical products. For the irrigation and drainage schemes to be supported under sub-component 1.2, the project will support the installation of renewable energy systems (SPV) to reduce operations costs. The project will facilitate farmers access to efficient on-farm water application technologies such as drips and sprinklers and conversion of area-based tariffs to volume-based tariffs. These interventions will allow the adoption of volumetric irrigation water pricing, which will lead to significant water savings, increase in farmers' contribution to the O&M expenses and amelioration of the fiscal burden on municipalities and/or the Albanian government. Component 2 activities take into consideration and complement other ongoing activities supporting Albania in increasing its institutional capacity to implement food safety, veterinary and phytosanitary requirements. Fulfilling these requirements will continue to be critical in the long term both to increase competitiveness of agriculture production and to fulfill the EU accession negotiation benchmarks.



IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

Technical

44. The technical aspects of the selected irrigation schemes and drainage pumping stations have been reviewed and conform to good practice. The irrigation schemes are located in areas of high agricultural potential, due to favorable local climates, soils, farming skills, and existing market linkages, all of which are demonstrated by continued operation of the existing schemes or farmers' own investments in alternative irrigation water sources to realize the benefits of irrigation. Farmers' willingness to adopt efficient on-farm irrigation systems is also readily evidenced in the Mursi and Divjaka areas by farmers using private assets and EU Instrument for Pre-Accession Assistance for Rural Development (IPARD) grants to install pumps for operating drip and sprinkler irrigation systems. The engineering designs of the interventions in each scheme have been optimized for local conditions, especially expected cropping patterns. The designs are fairly robust to adaptive changes in technology and farming models. In all places it is designed for commercial agriculture instead of low value crops. Further, the selected interventions and the design parameters are robust to reduce O&M costs, reduce the irrigation cost to farmers, while allowing for water and energy efficiency improvements. Finally, the designs will be further revised based on consultations with farmers and municipalities, which is expected to enhance the technical soundness and sustainability of the planned irrigation and drainage services.

45. The project will provide about 20 to 25 percent of the total energy requirement for operating the drainage and irrigation systems through SPV. It will also ease the current pressure on groundwater resources in Mursi and Divjaka by providing the farmers with cheaper and superior quality surface water.

Financial analysis

46. The financial analysis assesses the project impact on increased average producer prices, decreased aggregation cost and avoided post-harvest losses (Sub-component 1.1) and farm performance of water users (Sub-component 1.2), in particular (i) improved crop performances, on the basis of crop budgets before the project and at full development after the project for each of the three irrigation and two drainage schemes and (ii) projected impact on household incomes, on the basis of typical farm models. The results of each models are presented in Annex 5.

Economic analysis

47. The abovementioned financial models were converted into economic values using the conversion factors and removing all taxes and subsidies. **The overall Economic Internal Rate of Return (EIRR) is calculated at 16 percent and the Economic Net Present Value (ENPV, with a 6 percent discount rate) is estimated at around US\$46.8 million.** It includes total project costs and all quantifiable benefits streams accrued from the project activities.

48. **Sensitivity Analysis.** Economic returns were tested against changes in benefits and costs and for various lags in the realization of benefits. In relative terms, the EIRR is equally sensitive to changes in costs and benefits. In absolute terms, these changes do not have a significant impact on the EIRR, and the economic viability is not threatened by both



a 20 percent decline in benefits and by a 20 percent increase in costs, since the EIRR in both cases remains well above the discount rate. A two-year delay in project benefits reduces the EIRR to 13 percent. The results are presented in Table 2. The analysis establishes that the estimated benefits will be greater than the costs of the project.

Table 2: 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	
EIRR	16.0%	15%	14%	12%	17%	18%	15%	14%	12%	14%	13%	
ENPV (000'USD)	46,805	43,902	40,999	32,289	54,389	61,973	39,222	31,638	24,489	38,651	31,002	

49. **GHG analysis.** The amount of total net carbon balance was estimated at -15,159 tCO₂-eq of mitigated emissions (which means that carbon sequestration outweighs emissions within the project) per year at full development or -303,176 tCO₂-eq during the whole project lifetime. Please see Annex 6 for more details.

50. Considering the estimated shadow price of carbon (CPI adjusted, 2022) that will evolve from year to year according to the World Bank Shadow Price of Carbon Guidance Note, the EIRR and the ENPV were re-calculated. The results of scenarios with low carbon price (starting from US\$51 and evolving over years), high carbon price (starting from US\$102 and evolving over years) and without carbon are presented in the table below.

	Without carbon benefits scenario	Low carbon price scenario	High carbon price scenario
ENPV (US\$ million)	46.8	57.1	67.5
EIRR	16.0 percent	18.4 percent	21.0 percent

51. The low shadow price of carbon scenario has a potential to improve the EIRR from 16.0 percent to 18.4 percent, while the high shadow price of carbon scenario will improve the EIRR up to 21.0 percent.

52. The proposed modernization/pressurization interventions have gone through technical feasibility and economic and financial viability tests as part of feasibility and detailed design analysis performed in 2019, which need to be revised and confirmed as part of the economic and financial analysis due diligence. These interventions entail significant positive externalities, which need to be quantified and valued to the extent possible. From the farmers point of view the interventions are proven to provide enough financial incentive as they avoid costly water pumping through individual petrol pumps.

53. Converting large irrigation schemes from open channels into pressurized system, would allow for better management of water sources. Furthermore, these irrigation schemes with open channels were designed when agricultural production in Albania was managed centrally with a strong focus on grains, while today farmers are more focused on intensive agriculture of high value crops.

54. Climate change in Albania has caused heavier rains and longer dry periods. MARD and farmers have reported stress caused by climate change requiring extension of irrigation season from 4-5 months (previously) to 7-10 months (currently).

**B. Fiduciary****Financial Management**

55. **The overall Financial Management (FM) arrangements meet the minimum requirements of the World Bank's Policy and Directive on Investment Project Financing (IPF)²⁷.** Responsibility for the project's FM will remain with Ministry (or MARD), which will maintain an adequate project FM system capable of tracking all project operations, resources, and expenditures and generating regular financial reports. The Ministry will be supported by a PMT in carrying out the fiduciary function. The project will rely on selected aspects of the country budget formulation and execution processes. The assessment includes a review of the overall public finance management (PFM) environment, MARD's organization structure, financial management staffing and systems in place for project implementation. The main findings include: (i) the MARD's FM staff are fully utilized, but lack certain skills required to maintain communication with Bank team; (ii) various PFM reviews and Supreme Audit Institution (SAI) audit reports indicate that FM controls and internal audits implemented across budget organizations, including MARD, are not fully effective, due to overall weak technical capacities; (iii) treasury workflow is not adequate for multiple currency transactions, and exchange rate difference, and for project accounting and reporting; (iv) frequent reallocations from the originally approved budgets are indicative of potential risk related to the implementation of public investments among budget organizations. 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) maintain external FM expert, part of the PMT, with experience and qualifications satisfactory to the Bank; (iii) instead of full treasury workflow, alternative funds flow arrangements will be adopted; (iv) a project FM system will be acquired that will automatically produce project financial information to meet the reporting requirements and inform decision making; (v) to manage risks associated with the budget, it is required that the project implements an effective and documented project planning and contract monitoring process, with proper oversight from the Bank team, of annual project workplans and budget process; and (vi) conduct periodic and on-the-job FM and disbursement training of the FM staff, which is budgeted for under Component 3. Finally, the budget adequacy risk is less pervasive to loan funded activities compared to counterpart financed ones, due to alternative arrangements used for the budget execution. Overall financial management risk is moderate.

56. **Disbursements under the proposed project will be carried out in line with the World Bank Disbursement Guidelines for IPF (February 2017).** The loan will entirely finance all eligible expenditures. The funds will be disbursed following IPF disbursement methods, including advances, reimbursements, direct payments, and special commitments. One segregated designated account (DA) denominated in the loan currency will be opened at the Bank of Albania. The DA ceiling will be fixed. Eligible expenditures will be documented through statement of expenditures and records. The project's disbursement arrangements will be managed by the MARD/PMT. Detailed disbursement arrangements are set out in the Disbursement and Financial Information Letter (DFIL).

57. **The project's unaudited interim financial reports (IFRs) and annual project financial statements (PFS) will present all project sources and operations.** With regards to the FM requirements included in the DFIL, (i) quarterly IFRs,

²⁷ An FM assessment was conducted in accordance with the Financial Management Manual for World Bank Investment Project Financing Operations (2010, revised 2017).



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 PFS will be audited by independent auditors 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. There are no overdue audits under the existing project implemented by the MARD.

Procurement

58. **Procurement will be carried out in accordance with the requirements in the Procurement Regulations for IPF Borrowers: Goods, Works, Non-Consulting Services and Consulting Services dated July 2016, revised as of November 2020;** The borrower will also observe the provisions in ‘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 Loan Agreement. The proposed project will use the Systematic Tracking of Exchanges in Procurement (STEP) system, including also the Contract Management Module.

59. **A Project Procurement Strategy for Development (PPSD) was prepared by the MARD.** The PPSD outlines the selection methods to be followed by the borrower during project implementation in the procurement of goods, works, and non-consulting and consulting services financed by the Bank and was finalized before negotiations. The underlying Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. Based on the composition of activities the procurement procedures will include (i) works contracts mainly under component 1 and 2 for the establishment of Micro Food Hubs, Border Inspections Posts, rehabilitation of secondary and tertiary canals in Mursi, modernization of irrigation scheme in Divjaka which are expected to follow mainly Request for Bids (RFB) (under open local and international market approach); (ii) goods contracts to be procured mainly under RFB for the drainage system/pumping stations, solar panels and also ICT supply and installation contracts for the establishment of climate smart agriculture IT platform; and (iii) consultancy services under component 1 for Promoting Climate Smart and Resilient Value Chains and component 3 for the monitoring and evaluation, and project management, to be selected under Quality and Cost Based Selection (QCBS), Consultant Qualification (QC) and Individual Consultant (IC). Project activities don’t represent any major technical complexity and the preparation of technical specifications will be supported by Components Leaders appointed by MARD. Considering the main scope of the project to support resilience, green public procurement will be considered for several investments (construction works, solar panels, drainage system, ICT contracts) by incorporating green elements in any of the following steps of procurement procedure: technical specification/selection criteria/award criteria/contract clauses. The experience from previous Bank project implemented by the former PMT at MARD shows that in similar contracts, the local construction bidders participate (usually 4-6 bidders are identified in each tender of similar works); foreign bidders have shown also interested and participated in such contracts. Therefore, the procurement risk related to complexity of procurement procedures and market responsiveness is assessed as moderate.

60. **Assessment of the Agency’s capacity to implement procurement indicates that there is a need to strengthen procurement capacity of MARD, as implementing agency under the project.** The procurement assessment concluded that (i) in previous Bank financed project (WRIP, P121186) substantial staff turnover was observed in the PMT (including PMT fiduciary staff, and manager position). Also based on lessons learned from the implementation arrangements in the previous project, a strong coordination mechanism between Project Coordinator (staff of MARD) and PMT staff should



be in place to ensure that technical input is provided timely for all project activities; (ii) new appointed staff at MARD might lack previous experience under the new Bank's Procurement Regulations and any previous role during tender evaluation process. Continuous training will be provided by Bank procurement staff to members of Evaluation Committee; (iii) potential delays on preparation of technical specifications or terms of reference, as well as relatively large number of procurement activities to be financed under the project, may create delays in tendering process and/or contract implementation. The POM will include a clear description of responsibilities of PMT, Component Leaders and technical staff of MARD and will indicate the deadlines to complete main milestones of procurement procedures.

C. Legal Operational Policies

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

The Policy on Projects on International Waterways (OP 7.50) applies to this project because project activities involve the potential use and pollution of the Pavlla River. 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, small-scale schemes which will not cause change in existing use of water or in water quality. Approval of the exception to the notification requirement was obtained from the Regional Vice President on December 22, 2022.

D. Environmental and Social

61. The project is expected to have a significant development impact by improving the resilience of the agriculture sector in Albania and by increasing income and reducing poverty among beneficiaries. However, the project activities might have environmental risks that are mainly generated by the same. The irrigation rehabilitation will likely generate adverse site-specific risks and impacts, such as disposal of material excavated during construction/rehabilitation activities, the occupational health and safety of workers during construction and operational phases, increased levels of dust and noise and related community health and safety risks, and the risk of pollution to surface and groundwater sources during construction. The project's anticipated environmental impacts will be largely mitigated and managed through adequate due diligence to be prepared based on the initial screening and in line with the project's Environmental and Social Management Framework (ESMF). There will be no impacts on protected areas and habitats and cultural heritage and high risk activities will be screened out from being financed. The entire project is subject to an ESMF which defines (i) potential impacts on the environment and social and generic mitigation measures; (ii) eligible list of activities and social and environmental review (including screening, assessment, GRM, etc.); (iii) identifies requirements for Environmental and Social Impact Assessment (ESIA) and/or Environmental and Social Management Plan (ESMP), as well as for environmental and social supervision and monitoring; (iv) rules and procedures for ESIA and/or ESMP disclosure and public consultations; and (v) institutional arrangements for the implementation of the ESMF requirements, including capacity assessment and necessary training activities. An ESMF was prepared and publicly consulted prior to the appraisal and finalized before project negotiations.



62. The majority of adverse effects on human health and the environment can be managed effectively and readily through the project design features and instruments. Most impacts are temporary, including land-related impacts, and with unlikely impact on livelihood. The most important social risk is that the project may not reach the under-served agricultural stakeholders as mentioned. This social risk will be addressed through appropriate project design, including ongoing stakeholder/citizen engagement. GBV risk associated with this project in Albania is assessed as low, yet the project grievance mechanisms and labor grievance mechanism shall be strengthened with procedures to handle allegations of GBV/Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH) violation risks. The land acquisition needs, based on the information available, will likely not be relevant, however since the sub-projects have either not been decided or their physical footprint is not yet known, a Resettlement Policy Framework (RPF) was prepared to guide the preparation of site-specific resettlement instruments, as needed when more information for sub-projects is known. Other sub-projects will undergo the ESIA in accordance with the process outlined in the ESMF and RPF.

63. In sum, the Borrower developed, consulted, and disclosed the following core project instruments to assess and manage E&S risks and impacts, ESMF, RPF, Stakeholder Engagement Plan (SEP), and LMP. These instruments were disclosed to facilitate stakeholders review of the risks and proposed measures to manage these issues. Finally, to ensure that the project is carried out in accordance with the Environmental and Social Standards (ESSs) the Borrower prepared the Environmental and Social Commitment Plan (ESCP), which is part of the Loan Agreement. The ESCP lays out the E&S instruments that shall be adopted and implemented under the project, all of which shall be subject to prior consultation and disclosure. Once adopted, said E&S instruments may be revised from time to time with prior written agreement by the Bank. Relevant standards applicable to the project are as follows: ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, and ESS10. The set of due diligence documents was disclosed by the Borrower on December 19, 2022, and virtual consultations were held.

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

64. **The overall residual risk of the project is assessed as moderate.** The risks will be reassessed and adjusted if needed during project implementation. Key risks are described below. All other risks are inherently moderate or low. At this stage considerations made for the main risk category are presented below.



65. **Macroeconomic risk is assessed as moderate.** Russia's invasion of Ukraine and the sanctions imposed on Russia disrupted supply chains and were reflected in surging prices of food, energy, and key minerals used in various industries. These developments gradually affected Albania's inflation which registered the highest rate since 2002. Following robust growth in early 2022, GDP is likely to decelerate in the remaining part of the year, as rising inflation affects real disposable income, and a slowdown in the global economy translates into tighter financing conditions and lower foreign demand. At the same time the current account deficit narrowed mainly driven by an increase in exports (by 58 percent) in particular tourism inflows (by 70 percent). In response to higher food prices, the GoA has increased budget allocations for support to vulnerable groups, which are already benefiting from regulated electricity prices. The government's public debt is however set to decline during 2022 and onwards as the government is targeting a positive primary balance starting from 2023. Should the economic environment be more adverse, the government has secured contingency budgets through an EU grant of EUR 80 million which could be utilized in case any macroeconomic imbalances arise. Another mitigation factor is that the government is strongly committed to further development of the agriculture sector.

66. **Technical Design of Project or Program risk is assessed as moderate.** The inherent risk is substantial due to the technical complexity of some activities and number of areas the project will address. However, the design of the project has benefitted from extensive lessons learned from previous projects implemented in Albania, namely WRIP, and in other countries in the region covering similar activities, i.e. supporting the development of market driven agri-food production models, timely investments in strengthening capacity of the national agricultural/rural development agencies in meeting EU accession requirements; investment in institutions in upgrading their activities in line with EU food safety, environmental and animal and plant health standards, and importantly climate change adaptation and mitigation. In particular, experience under WRIP is reflected in taking into consideration agricultural value chains, and using cost estimates for civil works that are robust and reflect market prices at the time of appraisal. Based on the above the residual risk is assessed as moderate.

67. **Fiduciary risk is assessed as moderate.** The inherent procurement risk is substantial and associated with: (i) high number of procurement procedures expected under Component 1 and 2 mainly for construction and rehabilitation activities which might result in potential delays due to increased workload; (ii) different layers of central and local institutions involved in procurement (preparation of technical specifications and evaluation process) and contract implementation, for which strong coordination mechanisms need to be in place among the implementing agency and all other stakeholders; and (iii) limited number of staff at MARD with previous experience in implementing Bank financed projects. These risks will be mitigated through implementation procurement support that will be provided by the Bank team, equipping PMT with a seasoned procurement expert with experience in Bank procurement, continuous training provided to MARD staff on their role to contribute to preparation of procurement documents or evaluation of bids and describing clearly in the POM the roles and responsibilities of all implementing and beneficiary institution. After the mitigation measures the risk on procurement is assessed as Moderate. The inherent financial management risk is substantial as it reflects on: (i) overall weak technical capacities and gaps in the implementation of PFM regulations; (ii) weaknesses in budget and planning process and risk of budget ability to meet the project needs on a timely basis; and (iii) treasury workflow not adequate for multiple currency transactions and their accounting and reporting. These risks will be mitigated through FM implementation support, to be provided by the project management support budget, adoption of alternative FM arrangements instead of treasury system, adopting clear project governance arrangements, roles and responsibilities, and communication workflow between government entities involved, and adoption of FM



manual. To manage the risk pertaining to budget adequacy, it is required that the project implements an effective and documented project planning and contract monitoring process and monitoring by the World Bank team of the annual budget preparation process. In addition, the budget adequacy risk is less pervasive to loan funded operations compared to counterpart financed one, due to nature of records and flexibility provided. Overall, the FM risk after mitigations is assessed as Moderate.

68. **Environment and Social risks are assessed as moderate.** The environment risks are associated with small to medium scale civil works, which are likely to have a number of predictable and readily mitigated environmental impacts that will most likely be moderate in nature. The social risks are associated with potential effects on human health and the environment, and temporary land-related impacts with unlikely impact on livelihood. It is anticipated that these risks will be largely mitigated and managed through adequate due diligence documents to be prepared prior to appraisal and by screening out associated high risk activities.

**VII. RESULTS FRAMEWORK AND MONITORING****Results Framework**

COUNTRY: Albania

Climate Resilience and Agriculture Development Project

Project Development Objectives(s)

The Project Development Objective is to increase competitiveness and climate resilience of priority agri-food value chains.

Project Development Objective Indicators

Indicator Name	PBC	Baseline	End Target
Increase competitiveness and resilience			
Sales of agricultural produce from farmers through Micro Food Hubs and clusters (Metric ton)		0.00	6,000.00
Farmers connected to the pressurized and on-demand public irrigation service in the project area (Percentage)		10.00	80.00
Total energy consumption of irrigation and drainage schemes covered by renewable energy generated by the project (Percentage)		0.00	25.00
Number of methods accredited at the NRL allowing for reliable analyses in the areas of food safety, veterinary and plant health as specified by relevant international standards and EU legislation (Number)		3.00	10.00

**Intermediate Results Indicators by Components**

Indicator Name	PBC	Baseline	End Target
Component 1: Promoting Climate Smart Agriculture and Access to Markets			
Farmers participating in Micro Food Hub activities (Number)	0.00		500.00
Female farmers participating in Micro Food Hub activities (Number)	0.00		150.00
Number of women selling agricultural produce through MFHs (Number)	0.00		150.00
Farmers participating in cluster activities (Number)	0.00		100.00
Female farmers participating in cluster activities (Number)	0.00		30.00
Area served by Climate Smart Agriculture Platform (Hectare(Ha))	0.00		2,000.00
Area provided with new/improved irrigation or drainage services (CRI, Hectare(Ha))	0.00		12,300.00
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		12,300.00
Reduction in on-farm irrigation cost (Percentage)	0.00		30.00
Component 2: Enhancing Compliance with Food Safety and Quality Standards			
Border Inspection Posts established or upgraded to perform official controls and meet international standards (Number)	0.00		6.00
Number of new analysis performed in the regional laboratories supported by the project (Number)	0.00		1,000.00
Increased storage capacity for detained products (Metric ton)	0.00		80.00
Laboratory staff trained and prepared to carry out assigned set of laboratory analyses (Number)	0.00		75.00



Indicator Name	PBC	Baseline	End Target
Female laboratory staff trained and prepared to carry out assigned set of laboratory analyses (Number)	0.00		60.00
Component 3: Strengthening Evidence-based Analysis Capacity of MARD and Municipalities			
Business Intelligence platform established and connected with existing data platforms and functions (Yes/No)	No		Yes
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

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Sales of agricultural produce from farmers through Micro Food Hubs and clusters	This indicator measures the amount of agricultural produce from farmers sold through Micro Food Hubs.	Annual	Project's M&E system	Project's progress reports	MARD
Farmers connected to the pressurized and on-demand public irrigation service in the project area	This indicator refers to the number of farmers shifting from their current practice of pumping water from different sources (including groundwater, drains, and stream) using small fuel	Annual	Project's M&E system	Regular recording by respective municipalities	MARD



	pumps to irrigate their crops to publicly available irrigation service made possible by the project interventions				
Total energy consumption of irrigation and drainage schemes covered by renewable energy generated by the project	This indicator measures the percentage of total energy consumption of irrigation and drainage schemes covered by renewable energy generated by SPVs installed with the project support.	Semi-annual	Project's M&E system	Project's progress reports	MARD
Number of methods accredited at the NRL allowing for reliable analyses in the areas of food safety, veterinary and plant health as specified by relevant international standards and EU legislation	This indicator measure the number of methods accredited at the National Reference Laboratory supported by the project.	Semi-annual	Project's M&E system	Project's progress reports	MARD, AKU, ISUV

Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Farmers participating in Micro Food Hub activities	This indicator measure the number of farmers involved in Micro Food Hub activities.	Annual	Project's M&E system	Project's progress reports	MARD
Female farmers participating in Micro Food Hub activities	This indicator measure the number of female farmers involved in Micro Food Hub activities.	Annual	Project's M&E system	Project's progress reports	MARD



Number of women selling agricultural produce through MFHs	This is a gender tag indicator, and measures the number of women selling agricultural produce through MFHs, with a target 30% of participants are female. The MFHs and typical food clusters will ensure meaningful participation of women and provide trainings (such as marketing and sales training) to increase their accessibility to markets.	Annual	Project's M&E system	Project's progress reports	MARD
Farmers participating in cluster activities	This indicator measures the number of farmers involved in cluster activities	Annual	Project's M&E system	Project's progress reports	MARD
Female farmers participating in cluster activities	This indicator measures the number of female farmers involved in cluster activities.	Annual	Project's M&E system	Project's progress reports	MARD
Area served by Climate Smart Agriculture Platform	This indicator measures the pilot area covered by sensors and that will serve by Climate Smart Agriculture Platform.	Semi-annual	Project's M&E system	Project's progress reports	MARD, AKSHI
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	Semi-annual	Project's M&E system	Project's progress reports	MARD



	(ii) the area provided with improved irrigation and drainage services, expressed in hectare (ha).				
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.	Semi-annual	Project's M&E system	Project's progress reports	MARD
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	MARD
Reduction in on-farm irrigation cost	This indicator refers to the reduction in irrigation cost realized by beneficiary farmers due to the shift from costly own provisioning of irrigation water through pumping to the on-demand public irrigation service.	At the end of the project, measured by survey	Mid - term and final survey	Sample Surveys including baseline survey to determine the current on-farm irrigation cost, which shall be complemented by another survey after farmers shift to public service at least for one season.	MARD
Border Inspection Posts established or upgraded to perform official controls and meet international standards	This indicator records the number of Border Inspection Posts that will be	Semi-annual	Project's M&E system	Project's progress reports	MARD, AKU



	supported by the project with facilities such as premises, equipment etc.				
Number of new analysis performed in the regional laboratories supported by the project	This indicator measures the number of new analysis performed in the regional laboratories supported by the project.	Semi-annual	Project's M&E system	Project's progress reports	MARD, AKU, ISUV
Increased storage capacity for detained products	This indicator measures the increased storage capacity (in metric tons) for detained goods which do not comply with food safety, veterinary or plant health standards.	Semi-annual	Project's M&E system	Project's progress reports	MARD,AKU
Laboratory staff trained and prepared to carry out assigned set of laboratory analyses	This indicator measures the total number of laboratory staff trained and prepared to carry out assigned set of laboratory analyses, for both AKU and ISUV.	Semi-annual	Project's M&E system	Project's progress reports	MARD,AKU,ISUV
Female laboratory staff trained and prepared to carry out assigned set of laboratory analyses	This indicator measures the number of female laboratory staff trained and prepared to carry out assigned set of laboratory analyses, for both AKU and ISUV, with the target that 80% of staff trained will be female.	Semi-annual	Project's M&E system	Project's progress reports	MARD,AKU,ISUV
Business Intelligence platform established and connected with existing data platforms and functions	A Business Intelligence platform will be established for MARD and connected	Semi-annual	Project's M&E system	Project's progress reports	MARD, AKSHI



	with existing data platforms with the project support.				
Citizen Engagement – Direct Beneficiaries that feel project investments reflected their needs and provide feedback	Citizen engagement will include a feedback mechanism (e.g.: scorecards), 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	MARD
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	MARD



The World Bank

Climate Resilience and Agriculture Development Project (P178715)

**ANNEX 1: Implementation Arrangements and Support Plan**

COUNTRY: Albania
Climate Resilience and Agriculture Development Project

Project Institutional and Implementation Arrangements

1. **Ministry of Agriculture and Rural Development (MARD).** MARD will be the lead project implementing agency and will have overall responsibility for project management, implementation, and monitoring and evaluation (M&E). The National Food Authority (NFA), the Institute for Food Safety and Veterinary (ISUV), the National Authority for Veterinary Control and Plant Protection, the Directorates of Irrigation and Drainage and the National Agency for Information Society (AKSHI) will be supporting implementing and beneficiary institutions/agencies.
2. **Project Management Team (PMT).** A PMT will be established in MARD. The PMT 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) preparation of semi-annual and annual progress reports; (viii) briefing of MARD on the status of project implementation; and (ix) systematic filing of all project-related documents, including procurement and financial management.
3. The PMT will be headed by a Project Coordinator (appointed civil servant at the level of Deputy Minister/General Director) and include: a Project Manager, Component Leaders, Procurement Specialist, Financial Management Specialist, Environmental Specialist, Social Specialist/Gender focal point, M&E Specialist/Citizen Engagement and Technical Specialists (i.e. engineer, IT, etc.) as deemed necessary to support project implementation. The MARD will appoint civil servants as Project Coordinator and Component Leaders. Civil servants in supporting implementing and beneficiaries' institutions/agencies will be appointed as focal points for the various project activities. Given the demanding specific requirement for the implementation of the project, technical assistance will be recruited for day-to-day project coordination, fiduciary and safeguards functions, and technical advisory along with provision of training, office equipment and incremental operating to support overall project management.

Financial Management

4. **A Financial Management (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 financial management arrangements in MARD, as adopted by the closed Water Resources and Irrigation Project (WRIP, P121186), are adequate for the implementation of the proposed project and comply with the World Bank policies. The conclusion is based on the following: (i) FM arrangements proposed are similar to the previous Bank financed projects and found to be adequate; (ii) no significant issues in the audits of the previous projects implemented by the MARD; and (iii) the MARD units responsible for financial management and project coordination are familiar with the implementation of World Bank funded projects. The following main risks were identified during the assessment: (i) overall weak technical capacities and gaps in the implementation of the public financial management (PFM) regulations; (ii) risk related to budget adequacy and inability to meet the Project needs on a timely basis; (iii) treasury workflow not being adequate for multiple currency



transactions and their recording and reporting; and (iv) FM staffing adequacy concerns and lack of technical knowledge with the Bank disbursement, reporting and FM requirements. These risks will be mitigated through FM implementation support, to be provided by the project management budget, adoption of alternative FM arrangements instead of the treasury system, adoption of clear general FM procedures, periodic monitoring and implementation support by the World Bank team as well as continuous fiduciary training. Overall, the FM risk level is assessed as Moderate.

5. Country issues. The various country PFM reviews and analysis available have plotted the significant progress that Albania has made in improving PFM. The last PEFA assessment for Albania, from 2016, concluded that Albania has advanced in some areas such as budget credibility, elements of fiscal transparency, monitoring of expenditure arrears and procurement. Despite significant progress lagging areas, include: (a) monitoring of extra-budgetary units, (b) public investment management, (c) better links between the sector strategies and budget, (d) systematic arrears monitoring, (e) implementation of internal audit and financial management and control, and (f) scope and nature of the external audit function.

6. FM staff. MARD organizational structure and existing financial management capacity was analyzed. The Department of Budget and Finance is responsible for overall financial management of MARD operations, including the closed Bank financed project²⁸. This unit was supported by an external FM expert, who was part of the PMT, to address increased demand on existing staff time and skills gap. Similar arrangements will be adopted for the proposed operation as the same gaps are noted. The workflow and shared responsibilities will be defined in the Project Operational Manual (POM). The funding for the expert will be provided through the project management cost in component 3. During the project implementation, the finance staff engaged in the project will attend periodic and on job training on Bank disbursement and financial management as part of the external or Bank training program.

7. Budgeting. The operation will rely on country public budget and planning systems. The budget structure is clear in terms of sources of funding, budgetary vehicles, and categories of expenditures. The medium-term budget program (MTBP), which is developed in the context of the Organic Budget Law (the current MTBP covers the period 2023-25 and is updated annually through the Annual Budget Law), helps ensure the sustainability of the project financing. The MTBP for the period 2023-25 and draft 2023 budget law include and articulate the project. However, frequent budget reallocations from the originally approved budget are indicative of underlying weaknesses in the PFM practice, and especially on planning and budgeting. In the closed WRIP project, the budget adequacy issues were more pervasive on counterpart financing than the loan, and were especially noted when project implementation first scaled up, but then smoothed out during the subsequent periods as the ministry became more familiar with budget requirements MARD is responsible for the preparation of the project's medium-term forecasts and annual budgets, in line with the approved implementation plans and Procurement Plan. The planning function will be closely linked with contract management (procurement, planning and implementation/management of contracts) to ensure that forecasts and budgets are realistic and updated frequently. The budget requests, at various stages during budget preparation and execution process, will be based on the forecasts and technical inputs provided by the project coordinator, engineers and procurement specialist. The annual project budgets will be reviewed and approved by the project management, including the structures responsible for strategic planning and budgeting within the Ministry. Such processes will be aligned with the Ministry's Medium Term Budget Program (MTBP) and annual budgeting preparation calendar. The proposed project should be included in MTBP and annual budget documents, identified and monitored separately from other activities, starting from the year of expected project effectiveness date. Variances of actual versus budgeted figures will be monitored on a regular basis, appropriately analysed and corrective actions taken.

²⁸ Water Resources and Irrigation Project (P121186)



8. **Accounting and maintenance of accounting records.** The previously used FM software appears to be outdated and the vendor discontinued support and maintenance services. To facilitate the accounting and financial reporting, a more modern and sophisticated accounting software may be necessary. The project funds and expenditures will be accounted separately, and the project chart of accounts will be defined based on the project activities. The accounting records for all project expenditures will be maintained by category and by component. Periodic reconciliation will be performed between general ledger and project bank accounts and the World Bank disbursement data.

9. **Periodic financial reporting.** Quarterly interim financial reports (IFRs), containing at least (a) the statement of sources and uses of funds (with expenditure classified by category and component) (b) contract monitoring, and (c) a designated account (DA) statement will be submitted to the World Bank within 45 days of the end of each quarter. The format and content of the IFRs will be agreed with the Bank and included in the POM. The annual project financial statements will be prepared in accordance with International Public Sector Accounting Standards on a cash basis. The financial reports will be prepared in the loan currency. The first quarterly IFRs will be submitted after the end of the first full quarter following the first disbursement. The IFRs will be reviewed and confirmed every quarter by the Bank team.

10. **Internal controls.** Details on institutional and implementation arrangements will be described in the POM. The POM will include a Financial Management section, covering key internal control mechanisms to be followed by the staff in the application and use of project funds. This section will elaborate on the fiduciary controls, fund flows, documentation flow and roles and responsibilities of staff involved. The POM will provide a detailed description of processes (budgeting, execution of expenditure, recording, reporting, auditing) and will depict the key control activities that will ensure proper verification, authorization and documentation of all project expenditures, proper contract financial monitoring, adequate segregation of functions, job descriptions for staff with different authority levels. The manual will also describe procedures for ensuring completeness of accounting transactions, reliability of accounting data, and regular financial reporting. A draft POM has been prepared and its adoption will be an effectiveness condition.

11. **Annual audit.** The project's financial statements will be audited annually by independent auditors acceptable to the World Bank. The audit service fee is covered by project budget. Specific terms of reference based on International Standards on Auditing are used for the projects covered by this agreement and are cleared by the World Bank. The audited project financial statements will be submitted not later than six months after the end of the reporting period. Pursuant to the World Bank Policy on Access to Information (July 2010), MARD will have to disclose the audit reports within two months of their receipt from the auditors, by publishing the reports on their website. Following formal receipt of these reports, the World Bank will make them publicly available as well. At present, there are no overdue audits from the MARD.

12. **FM implementation support and supervision plan.** During project implementation, the World Bank will supervise the project's FM arrangements in two main ways: (a) reviewing the project's IFRs and the annual audited financial statements and auditor's management recommendation letters and (b) performing on-site supervision combined with virtual reviews at a frequency base on the project's risk and performance and (c) 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 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.



13. **Disbursement.** The project would be completely financed by an IBRD loan. The loan proceeds will be disbursed on the basis of standard World Bank disbursement methods for investment projects. The currency of disbursements will be the same as the loan currency. A Designated Account (DA), denominated in the loan currency, will be opened at the Bank of Albania, specifically for this project, where the World Bank will advance loan proceeds.

14. **Project's funds flow.** Project funds will flow from the World Bank, either (a) through the DA, which will be replenished on the basis of the documentation specified in the Disbursement Letter or (b) by using the direct payment method or the special commitment. Once the funds have been deposited in the DA, the treasury department at the MoFE, on the request of the MARD, will transfer loan proceeds from the DA to the project bank accounts that will be maintained in a commercial bank, acceptable to the MoFE, to make project expenditure payments to third parties, that is, consultants, contractors, and suppliers. These bank accounts (one denominated in the loan currency and one in Albanian lek) will be managed by the MARD. The treasury systems will not be used for funds flow.

15. **Supporting documentation requirements for disbursement.** The World Bank will require either copies of the original documents evidencing eligible expenditures ('records') or statement of expenditure, as specified in the Disbursement Letter. The use of the advances would be documented by a detailed list of expenditures (SOE). Withdrawal applications would be sent to the Bank every three months. However, for Direct Payments records would be required, consisting of documents such as invoices and receipts. In all cases MARD is required to maintain original documents evidencing eligible expenditures and making them available for audit or inspection. These documents should be maintained for at least two years after receipt by IBRD of the audit report and for a period required by local legislation.

Procurement

16. **Under the Procurement Regulations, the Project Procurement Strategy for Development (PPSD) will be used to analyse and determine the optimum procurement approach to deliver the right procurement result.** The PPSD carried out for the project entailed a strategic assessment of the operating context and beneficiaries' capabilities, as well as the market, the different stakeholders, and the risks impacting procurement processes, and informed the Procurement Plan.

17. **Most of the works under Project would involve open and International Competition** (under Request for Bid method), but during the project life a few other packages may also involve the use of and Request for Quotation. The project will use the online tool STEP including the Contract Monitoring Module.

18. **Project Procurement Strategy Development.** As per the requirement of the Procurement Regulations, a PPSD was prepared by MARD and finalized and reviewed by the Bank before negotiations. The PPSD was agreed at negotiations. Market analysis was carried out for different works contracts, goods contracts and consulting services to ensure adequate participation of bidders, firms, or individuals. Based on the PPSD, a procurement plan was prepared to set out the selection methods to be followed by the Borrower during project implementation in the procurement of works, goods and consulting services financed by the Bank.

19. **Major procurement categories.** The project's total value is EUR 64.6 million (US\$70 million equivalent). The composition of activities include works contracts mainly under component 1 and 2 for the establishment of Micro Food Hubs, Border Inspections Posts, rehabilitation of secondary and tertiary canals in Mursi, modernization of irrigation scheme in Divjaka; goods for the drainage system/pumping stations, establishment of climate smart agriculture IT platform, solar panels; consultancy services under component 1 for Promoting Climate Smart and Resilient Value Chains and 3 for the monitoring and evaluation, project management etc.



20. **Market analysis for major contracts.** The experience from previous PMT implementation the WRIP shows that in similar contracts, the local constructions bidders participate (usually 4-6 bidders are identified in each tender of similar works); foreign bidders have shown also interested and participated in such contracts.

21. **Advertisements.** A General Procurement Notice (GPN) will be published through STEP in the UNDB on-line and in the Bank's external website. Specific Procurement Notices (SPN) will be published as the corresponding bid documents become available. All these advertisements shall be made through STEP system.

22. **Debarments.** The Borrower will respect debarment decisions by the Bank and will exclude debarred firms and individuals from the participation in the competition for Bank-financed contracts. Current listing of such firms and individuals can be found at the following website address: <http://www.worldbank.org/debarr>.

23. **Assessment of the Agency's capacity to implement procurement:** The Bank's team has carried out an assessment of the procurement capacity of MARD, as implementing agency under the project. The procurement assessment concluded that:

- In previous Bank financed project (Water Resources and Irrigation Project, P121186) substantial staff turnover was observed in the PMT (including PMT fiduciary staff, and manager position). Also based on lessons learned from the implementation arrangements in the previous project, a strong coordination mechanism among Project Director (staff of MARD) and PMT should be in place to ensure that technical input is provided timely for all project activities.
- New appointed staff at MARD might lack previous experience under the new Bank's Procurement Regulations and any previous role during tender evaluation process.
- Potential delays on preparation of technical specifications or terms of reference, as well as relatively large number procurement activities to be financed under the project, may create delays in tendering process and/or contract implementation.

24. **Based on the above, the procurement risk is assessed as Substantial.** To mitigate the identified risk, the following measures are proposed: (a) hiring of technical staff with experience as part of the PMT, to increase technical capabilities; (b) The PMT of the new project will procurement specialist who is experienced with Bank's procurement, (c) MARD should set up in timely manner the evaluation committee for evaluation of bids/proposals; also, given the large number of activities under the project, as well as the contract implementation time. In addition, the PMT staff should attend the procurement trainings/workshops organized by the Bank in the region. After the above mitigation measures are taken, the procurement risk will be Moderate.

25. **Frequency of Procurement Supervision.** In addition to the prior review supervision to be carried out by the Bank's team, the procurement supervision missions are planned to be conducted every six months during the first year of implementation, and once every subsequent year. Post reviews will be carried out regularly with a minimum sampling of two into ten.

26. **Procurement methods and prior review thresholds.** The procurement plan shall set forth those contracts which shall be subject to the World Bank's mandatory Prior Review. It is proposed to follow the procurement thresholds applicable effective July 2016, as part of the Regulation. All other contracts shall be subject to post review by the Bank. The prior review thresholds will be periodically reviewed and revised as needed during the project implementation period



based on implementation of risk mitigation measures, reports from procurement post-reviews, and improved capacity of the implementing agencies.

27. The Procurement Plan sets forth those contracts which shall be subject to the World Bank's prior review. All other contracts shall be subject to post review.

Strategy and Approach for Implementation Support

28. The implementation support will focus on accomplishing the following objectives: (i) provide necessary technical advice to the client and bring international experiences and good practices to ensure that the project meets the Bank's technical standards; (ii) ensure that the Implementing Agency's measures meet the standards approved by the Bank in terms of project supervision; and (iii) ensure that the required fiduciary, social, and environmental standards are put in place and implemented per the Financing Agreement and other project documents.

29. Given the diversity of activities that the project supports, the Bank task team will require a corresponding range of skills covering general agriculture, agribusiness and value chain, water management and irrigation, IT systems, food safety, veterinary and phytosanitary policies and services (Table 1).

30. The Bank team will review implementation progress at least two times a year, provide recommendations and guidance, and agree on the action plan/next steps. More frequent interaction will be carried out by the staff based in the region as needed.

31. **Procurement Supervision and Ex-post Review.** Routine procurement reviews and supervision will be provided by the procurement specialist based in the country. In addition, two supervision missions are expected to take place per year during the first year of implementation, and once every subsequent year during which ex-post reviews will be conducted for the contracts that are not subject to Bank prior review on a sample basis (20 percent in terms of number of contracts). One ex-post review report will be prepared per fiscal year, including findings of physical inspections for not less than 10 percent of the contracts awarded during the review period.

32. **Financial Management.** The Bank will supervise the project's financial management arrangements in two main ways, namely through: (i) reviewing the project's interim un-audited financial reports for each calendar quarter, as well as the project's and implementation entity's annual audited financial statements and auditor's management letter and (ii) performing on-site supervision and reviewing the project's financial management and disbursement arrangements to ensure compliance with the Bank's minimum fiduciary requirements. The on-site supervision will include monitoring of agreed actions, review of randomly selected transactions, review of internal controls, and other specific supervision activities.

33. **Environmental and Social Implementation Support.** The Bank's Environmental and Social Specialist each will monitor the environmental and social performance of the project and the implementation of material measures and actions required under the Environmental and Social Commitment Plan (ESCP) including the timeframe for implementation of activities specified therein. The Environmental and Social Specialists will provide implementation support to the Borrower by reviewing information on implementation progress including implementation of the ESMF, RPF, LMP, SEP and any of the site-specific instrument developed to manage and mitigate the E&S risks of the project. The review will be complemented by providing guidance to the MARD PMT to ensure compliance with the Bank's Environmental and Social Framework and Operational Policies applicable to the project. Even though the MARD has



experience in Bank funded projects, the extended scope of the ESF requires the capacity of the staff appointed to manage the E&S risks of the project to be assessed along implementation. Based on the assessment, arrangements will be made for capacity building on the ESF.

Table 1: Skills mix required for the duration of project implementation

Skills Needed	Number of Staff Weeks/Year	Number of Trips
Task Team Leader/ Agriculture Specialist	8	At least 2 mission per year
Technical (Agribusiness and Value Chain)	4	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 (IT Specialist)	4	At least 2 missions per year
Technical (Food Safety, Plant Health, and Veterinary Specialist)	4	At least 2 missions per year
Operations Specialist	4	At least 2 missions per year
Project Assistant (Operations)	4	At least 2 missions per year
Environmental Specialist	3	At least 1 mission per year
Social Specialist	3	At least 1 mission per year
FM Specialist	3	Site visits as needed
Procurement Specialist	4	Site visits as needed

**ANNEX 2: Irrigation Schemes Background Information****COUNTRY: Albania**

Climate Resilience and Agriculture Development Project

Overview of the Irrigation Sector in Albania

1. Currently, the main institutions concerned with irrigation and drainage (I&D) development and management in Albania are the Ministry of Agriculture and Rural Development (MARD), the Directorates of Irrigation and Drainage (DIDs), and the respective municipalities. MARD defines irrigation policies and plans; proposes the establishment of DIDs; conducts overall monitoring and supervision of I&D development and management; and provides technical guidance to the sector. DIDs oversee the maintenance of I&D main channels and flood protection infrastructures, the rehabilitation and reconstruction of I&D main infrastructure under their administration, and supervision of the safety of irrigation dams, reservoirs and flood protection works. Municipalities take care of the management of irrigation systems within their territory and assume rehabilitation and reconstruction of I&D infrastructure as well as flood protection works in residential areas.

2. Before 2016, Regional Drainage Boards (now transferred to DIDs) were responsible for managing the intake and primary canal of I&D systems. Water Users Organizations established since the mid-90s were responsible for secondary and tertiary canals, but most failed due to lack of partnership and low capacity. Following the new Territorial Reform of 2016, Albania was divided into 12 counties, 61 municipalities, and 373 administrative units. The municipalities are responsible for economic, social, and cultural activities inside the counties. Following the approval of the new irrigation law in 2017, the I&D systems were transferred to the DIDs and to the municipalities to own, maintain, and operate the systems. Namely, the I&D schemes that serve more than one municipality are administered by the respective DID, while the I&D schemes that serve only one municipality are administered by the respective municipality. The transfer was done although, in many cases, the systems needed serious repair and upgrading. Nowadays, while the DIDs are fully supported by the central government, the municipalities receive financial support based on capacity and needs to complement municipality budgets for investments to rehabilitate and improve systems as well as for operations and maintenance (O&M).

3. The transfer of the functions and competencies for I&D from central government to local government has produced an overall positive net result. The transfer of function of I&D was also accompanied largely with the transfer of staff of former Regional Drainage Boards in the respective municipalities. Such a transfer ensures the continuity of knowledgeable staff. One of the main results achieved by decentralization is the rehabilitation of drainage canals, which were not addressed for decades. Previously, the central government was focused mainly on irrigation canals and had neglected the drainage canals. The impact of drainage canals on the protection of agricultural land has been positive. However, the issue of tertiary canals remains a challenge, especially in the case of drainage. Data collection and data management in municipalities remains very poor and such a situation impacts also the ability for efficient planning and execution of the I&D function.

Rationale for selection of the irrigation schemes

4. The main criteria used for identifying and prioritizing the irrigation schemes for inclusion in the project were leveraging past investments and implementation readiness. The schemes have benefited from the Bank financed Albania Water Resources and Irrigation Project (WRIP). The project improved water level control through duckbill weirs and



improved measurement capacity, with flume reorientation of canal layouts in specific cases. In one scheme (Divjaka), there was a wholesale shift from surface irrigation to pressurized irrigation, which improves the system's delivery efficiency and water productivity. In the Mursi scheme, the original design was modified to address farmers' requests for more efficient storage to allow progressive elimination of pumped water from the drainage canals.

5. The proposed project aims to finance three schemes studied and designed under the WRIP project, but not pursued due to financial shortfall (Divjaka and Mursi) and environmental and social safeguard related challenges (Lushnja). Divjaka and Mursi are agriculture intensive areas where farmers extensively use drip irrigation and individual fuel pumps for lifting water from various sources including shallow wells, drains, and streams. The proposed interventions would allow farmers to access on-demand public irrigation water services, avoid excessive pumping of groundwater, which exacerbated salinity problem, and putting a larger area to be under drip and sprinkler irrigation. According to the Feasibility Study for Janjari (Mursi) and Divjaka scheme, it is foreseen that there will be enough pressure for farmers to run sprinklers or drippers without the need for a booster pump. Currently farmers have access to Governmental and IPARD grant programs, which include funding for on-farm irrigation improvement. The detail designs that were prepared for Divjaka and Mursi schemes under WRIP will undergo a design review process prior to commencement of the tendering procedures for civil works implementation.

Divjaka Irrigation Scheme

6. The Divjaka command area was initially developed by construction of the drainage system. During the 1970s, Divjaka irrigation scheme was separated into two sub-schemes (i.e., South, and North Divjaka) of 1,500 hectares each. On the Western part the scheme is bordered by the salty Karavasta lagoon. The scheme has access to the market due to its proximity to the state highway, Durres port, and southward Vlora harbor. The Divjaka irrigation scheme is supplied by Divjaka, Xengu 1, Xengu 2, and Miza reservoirs. Divjaka's reservoir is the largest of these with a capacity of 4.5 million m³ with the small reservoirs almost non-functioning. The Divjaka reservoir has a small direct catchment area of 2.2 km² - not enough to fill the reservoir. Thus, the reservoir is augmented by water pumped from Terбуji main drain by means of booster pumps. The North Divjaka sub-scheme originally was designed as gravity and pressurized irrigation scheme, while the South Divjaka sub-scheme was designed as gravity irrigation scheme. In this project, the North Divjaka sub-scheme, which is fed by two pumping stations constructed under the WRIP, the tertiary canals will be piped, pressurized, and equipped with pre-paid water meters. The "hydromodule" for the old Divjaka irrigation scheme with open channels was designed for a unit flow rate of 1.15 l/s/ha as specified in the Albanian Manual of Irrigation. According to the feasibility study for the pressurization of the scheme, the pressurized network is calculated for a unit flow rate of 0.7 l/s/ha, which will be applied to the pilot irrigation scheme of 500 ha.

Mursi Irrigation Scheme

7. The water source for this scheme is the Mursi Reservoir, which has a capacity of 4.5 million m³ and serves the plains of Xarra, Vrina, and Mursi. The dam was assessed for safety during the implementation of WRIP; dam safety instruments were installed, and safety monitoring plan were prepared. The system has primary and secondary irrigation canals with a length of about 55 km covering the fields of Xarra, Vrina and Mursi. The reservoir is fed by a canal that diverts the flow of the river Pavlla with a capacity of 700 l/sec. Currently, the irrigation canals in the Mursi fields are largely damaged with numerous blockages, which leads to poor functioning of the canal. The Siphon was built with steel pipes over 30 years ago. Consequently, the farmers are coping with water shortage problem by pumping water from drainage ditches supplied by the Pavlla River, water released from the Mursi reservoir, and wells. The project will support



among others construction of a new pumping station near the Mursi dam, a 1,500 m³ header tank, and the level raising weir on the Pavlla River; and pressurization of secondary networks at Mursi, Vrina and Xarra fields.

Lushnja Irrigation Scheme

8. Lushnja irrigation scheme is a 29,000-ha scheme supplied by the Muriz Thana reservoir. However, the area proposed to be included under the CRAD project is 4,000 ha. The main canal supplying water to the 4,000 ha area passes through the town of Lushnja, which is affected by construction on and near the main canal. This causes limited amounts of water with poor quality to pass through the main canal. Initially, the canal was planned to be rehabilitated as part of the WRIP but dropped due to the complex social and environmental safeguard compliance issues.

9. In the proposed project, alternative water sources for supplying the identified 4,000 ha irrigation area will be explored. During the pre-appraisal, MARD experts have identified several potential water sources to provide irrigation water for this area with significant agriculture potential, such as Shkumbini river, groundwater, Kasharaj reservoir, etc. The project will support first an analysis of alternative options for supplying irrigation water to the 4,000 ha agriculture area of Lushnja, followed by a prioritization, and complemented by feasibility and detailed design to be developed for the entire arable area of about 4,000 ha, including extensive consultations with farmers and other stakeholders. However, actual investment for the identified irrigation option could be piloted under the project in an area of up to 800 ha due to budget limitation.

Modernization of drainage pumping stations

10. The CRAD project will finance the reconstruction and modernization of the two Hoxhara drainage pumping stations as follows:

- Drainage pumping station no. 2 (Drainage pumping station in Seman), with an installed power of about 2,070 kW and a designed water removal capacity of about 41 m³/second, which enables the drainage of about 6,000 ha of agricultural land in the municipality of Fier.
- Drainage pumping station no. 3 (small drainage pumping station in Darzeza), with an installed power of about 1,320 kW and a designed water removal capacity of about 16.5 m³/second, which enables the drainage of about 3,600 ha of agricultural land in the municipality of Fier.

11. The drainage pumping stations together drain about 9,600 ha of the Hoxhara plain, where about 10,000 farmers practice agricultural activity with an average of about 0.8-1 ha per farmer. The proposal for the reconstruction and modernization of these drainage pumping stations is justified based on technical, agricultural, and flood protection considerations. This activity will serve as a pilot for future investments in the modernization of drainage systems given the importance of drainage in the coastal area of Albania which serves not only for agricultural purposes but also for residential areas and economic activities that take place in this area. The DID in charge of the drainage pumping station to be supported by the project has demonstrated capacity in O&M of the pumping station. The project intervention will reduce the O&M costs through installing modern and efficient pumps and providing solar energy to reduce the electricity costs.

12. **Agricultural aspects.** Crops produced in the Hoxhara plain comprises cereals about 25 percent, vegetables about 10 percent, other crops (beans, potatoes, sunflowers, etc.) about 7 percent, fodder about 48 percent and fruit trees about 10 percent. Given the plain's surface with depressed areas, ensuring drainage is a primary necessity to pave the way for irrigation and all agricultural and livestock activities that take place in this area.



13. **Flood protection.** The two drainage pumping stations as well as drainage pumping station no. 1 (in Darzeza, rehabilitated in 2005 under a World Bank project) are jointly operated firstly to guarantee the drainage of the Hoxhara field (in total about 17,100 ha), which is characterized as a low depressed area and drainage is necessary not only for agricultural purposes but also in the service of residential areas and economic activities that take place in this area. Secondly, the drainage pumping stations are part of the flood protection scheme of the Vjosa river in the Hoxhara plain. This is due to the fact that the frequent exits from the bed of the Vjosa river, on the right side of the stream, flood the Hoxhara fields and the only possibility to remove the water from those is through joint operation of these drainage pumping stations.

14. **Technical aspects.** In the two drainage pumping stations, nine electric pumps are installed with a usage time of about 35 years. Despite frequent repairs, there was a significant decrease in pump capacity and energy efficiency, where for the same amount of removed water the electric consumption has been higher than normal. The longtime use and the very corrosive work environment due to the presence of salt water and wastewater from some residential areas caused wear of joints, wear of pump blades, the enlargement of the diameter of the funnel where the blades rotate, the misalignment of the control mechanism of the blades, and increase of the space between the working wheel and the funnel. The cumulative effect has been a substantial increase in O&M costs.

15. Improving the performance of these electric pumps by replacing worn parts is currently almost impossible due to obsolescence and unavailability of replacement parts. Consequently, two electric pumps in Hoxhara drainage pumping station no. 2 have been out of order for several years. Until now, these pumps have been kept in operation by using some spare parts stored in warehouses. Also, due to heavy corrosion, removing a pump from its base, repairing, and reassembling is practically impossible. All parts of the pump in contact with water have lost their stability. Under these conditions, it was assessed that the nominal capacity of these pumps has decreased to about 30-40 percent, which translates into a decrease in the designed drainage hydro-module indicators, which should be about 6 l/s/ha.

16. Replacing these electric pumps with models of current production working with inverter regimes would create the possibility for an efficient operation with lower consumption of electricity for the same work that is done today. The reconstruction of these drainage pumping stations is intended to be in a contemporary dimension, simultaneously including the modernization/automation of the work processes of the electric pumps. The specific technical interventions include the replacement of nine electric pumps, the reconstruction of the building and all the electromechanical systems of the building, installation of modern cleaning and waste removal equipment in the suction rooms of the electric pumps, and installation of the system of control and monitoring of electric pumps (SCADA). The replacement of the electric pumps would enable not only the achievement of the designed capacity but also improvement of the capacity over the designed one by about 20 percent, which would increase drainage hydro module to about 7.3 l/s/ha, which enhance flood safety.

17. **Innovations.** In addition to the modernization of drainage pumping at two stations, solar panels will be installed at all of the 27 pumping stations, which will contribute about 20-25 percent to the annual balance of energy consumption from hydropower compared to the total annual consumption. The total area of the territory of the two drainage pumping stations (no. 3 and no. 2) is about 5,680 m², while the area occupied by the buildings is about 670 m². The use of the surfaces for the installation of solar panels will be specified during the preparation phase in order to comply with:

- Normal operation of the hydropower;
- the rules of technical insurance at work; and
- auxiliary infrastructure for the performance of relevant maintenance services inside and outside the drainage



pumping stations.

18. Regarding the implementation of the SCADA system, initially this system will be operationalized in the two drainage pumping stations. Subsequently, MARD will decide the timing of scaling-up of the system to other drainage stations and the source of financing.

**ANNEX 3: Overview of the Food and Veterinary Laboratories Network in Albania****COUNTRY: Albania**
Climate Resilience and Agriculture Development Project

1. Albania has one laboratory located in the Institute for Food Safety and Veterinary (ISUV) and seven National Food Authority (NFA) laboratories throughout the country which are expected to carry out analyzes for food safety, veterinary and plant health purposes. These facilities are however below standards. The ISUV laboratory carries out a number of routine analyses and fulfills the role of the national reference laboratory. While the laboratory facilities in ISUV and their level of expertise is generally good (although there are still some needs, such as purchase of certain equipment and implementation of specific diagnostic methods), the NFA laboratories are below standards: they are understaffed, provide very limited range of rather simple analyses (and in general test a quite low number of samples, below the current capacity), and their equipment is rather simple and obsolete (although well maintained).
2. Maintaining all laboratories at the same level of operation does not seem reasonable nor cost effective and may also not be required. Due to diversification of agricultural production, not all laboratories need to carry out the full range of analyses. Therefore, it is planned to concentrate the majority of analyses, especially those requiring more advanced methods and sophisticated equipment, in three main laboratories (in Fier, Korca, and Tirana), whilst the others would handle simpler large-scale routine analyses. The agreed attribution of specific analyses to particular laboratories is presented in the table below.
3. **ISUV area of competence** will remain unchanged and will comprise the following:

- (i) Serving as a reference laboratory for all NFA laboratories (in all 3 disciplines, i.e.: food safety, veterinary and plant health);
- (ii) Carrying out more advanced analyses which require specific and sophisticated equipment, methods and competence (such as: marine biotoxins; residues of veterinary medicines and contaminants in food of animal origin; foodborne diseases; etc.);
- (iii) Carrying out rare analyses (e.g. ASF, FMD, TSEs, bluetongue, rabies, etc.);
- (iv) Participating in mass-scale routine analyses (support for the NFA laboratories), especially where it concerns residues of Plant Protection Products in food of non-animal origin.

Division of analytical work within the NFA laboratories network:

Specific type of analyses	Durres	Fier	Gjirokastra	Korca	Tirana	Shkodra	Vlora
Residues of Plant Protection Products		x		x			
Pests on plants – viruses, bacteria, fungi		x		x			
Pests on plants – insects and nematodes	x	x	x	x	x	x	x
<i>Brucellosis</i> and Bovine <i>Tuberculosis</i>	x	x		x		x	
Honeybee health	x			x			



Mass-scale veterinary analyses	x	x	x	x	x	x	x
Zoonoses	x	x	x	x	x	x	x
Parasites (<i>Trichinella</i> , <i>Echinococcus</i> , <i>Anisakis</i>)	x	x	x	x	x	x	x
Mycotoxins and plant toxins	x	x	x	x	x	x	x
Material intended to come into contact with foodstuffs					x		
Metals and nitrogenous compounds					x		
Processing contaminants					x		



ANNEX 4: Summary of Adaptation and Mitigation Benefits under the Project

1. **Climate co-benefits.** The project will support public institutions, service delivery and investment towards the development, adaptation and adoption of climate-smart technologies and practices on a country-wide scale, adjusted for local agro-ecological conditions. Mitigation benefits will be gained through, amongst others, increased energy efficiency and usage of renewable energy for operating irrigation and drainage schemes, and improved production efficiency at the farm level, thereby reducing GHG emissions intensity. The project will support campaigns to raise awareness of climate resilient practices, such as methods to minimize consumer food waste, and improved food storage and preservation (pickling, freezing, canning, or dehydrating). Adaptation benefits are expected to be generated amongst others through the development of information systems that will enable the monitoring of emerging diseases related to climate change and impact of climate on public health. The Results Framework includes climate-sensitive indicators to monitor progress on adaptation and mitigation. Table 3 shows how the project will contribute to specific actions and the percentage of component cost (CC) of each action

Table 3: Summary of project climate co-benefits per activity

Activity	Adaptation	Mitigation
Sub-Component 1.1 Promoting Climate Smart and Resilient Value Chains (US\$15 million)		
<ul style="list-style-type: none"> • Development of short value chains. (33 percent of CC) • Promotion of typical products and value addition (14 percent of CC) • Development of a Climate Smart Agriculture (CSA) IT Platform (53 percent of CC) 	<p>CSA will be applied as a cross-cutting approach along agri-food value chains.</p> <p>Tailored technical assistance will be provided to the participants (especially farmers) of the Micro Food Hubs (MFH) and typical food product clusters to adopt climate-smart technologies and practices.</p> <p>Energy-efficient storage, processing, transportation, and refrigeration equipment, and more generally the improvement of access to market and product diversification will be adopted to develop climate smart value chains.</p> <p>The development of CSA Platform, as well as installation of sensors in the pilot area (estimated 50,000 ha), will collect all the relevant information such as soil type, hydrometeorological data, agriculture practices (i.e. use of fertilizers, pesticides, irrigation, etc.). This will provide institutions with access to key information and data for climate risk assessment, policy programming including CSA policy and adaptation/mitigation planning, and strengthen the extension services in agriculture to improve dissemination of knowledge including on use of new technologies and</p>	<p>The development of MFHs in the peri-urban areas of main cities will decrease cargo flows and congestion by providing a single point of aggregation and purchase for source-identified products from local and regional producers for wholesalers, distributors, retailers, and food-service buyers, which could contribute to GHG emission reduction.</p> <p>MFHs by promoting local supply chains (low carbon footprint of products reaching the market) reduce the share of international products in consumers basket and by consequences reduce total carbon footprint (less products imported through long or global supply chains which higher carbon footprint).</p> <p>The construction of the MFH facilities will adopt climate resilient design guidance²⁹.</p> <p>Within the MFHs, investments in more energy-efficient cold-storage rooms, vegetable and fruit washing and drying equipment, and refrigerated vehicles will result in reduced food waste and emissions per unit of output along value chains. It is expected that the short value chain development will reduce at least 10 percent of food lost or wasted along the food supply chain, which will amount to around 600 tons annually according to the end target of the project Results Framework. With the</p>

²⁹ According to the EC “Technical guidance on the climate proofing of infrastructure in the period 2021-2027” (2021/C 373/01)



	<p>adoption of CSA practices, and guide farmers on both adaption and mitigation best practices.</p>	<p>assumption of 2 kg CO2-eq per kilogram of food on-average, the estimated GHG emission reduction by reducing food and loss waste will be more than 1200 tons CO2-eq annually, which is about US\$0.12 million per year³⁰.</p> <p>Improved access to markets will drive investment in efficiency gains, which in turn contribute to emission intensity reduction.</p> <p>Tailored technical assistance will be provided to the participants of the MFHs and clusters to adopt migration practices where possible along the value chain.</p> <p>All beneficiaries of the project could benefit from the CSA platform and extension services on mitigation strategy and measures.</p>
--	-----------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Sub-Component 1.2 Modernizing Selected Irrigation and Drainage Schemes for High-value Agricultural Production (US\$29 million)		
<ul style="list-style-type: none">Modernization and pressurization of Divjaka Irrigation Scheme (16 percent of CC)Modernization of Mursi Irrigation Scheme downstream of the reservoir (41 percent of CC)Revitalization of Lushnja Irrigation Scheme (8 percent of CC)Modernization of drainage systems (35 percent of CC)	<p>Climate resilience and capacity for drought adaptation will be built through significant investment towards scaling up water efficient irrigation systems, rehabilitation of irrigation infrastructure, and efficient water use. The adaptation co-benefit is realized due to reduced water loss or need and increased water use efficiency</p> <p>The rehabilitation and modernization of Divjaka and Mursi irrigation schemes will increase water use efficiency and productivity, reduces water loss or need, which addresses vulnerability to climate change related water stress.</p> <p>At Lushnja farmers will have access to alternative irrigation water source with better reliability and sustainability of the service thereby reducing farmers vulnerability to climate change related stresses.</p> <p>Upgrading and modernizing drainage systems in the coastal area, including installation of more efficient and flexible modern pumps, SCADA system, and monitoring sensors, will significantly increase Albania's adaptation to</p>	<p>The mitigation co-benefits are expected to be realized due to: (i) reduced pumping requirements and improved energy efficiency, and (ii) replacement the non-renewable energy by renewable solar energy at all of the selected irrigation and drainage sites.</p> <p>The modernization and pressurization of irrigation systems will reduce energy use for farmers, and the significant investment in installation of Solar Photovoltaics (SPV) for operating irrigation and drainage systems supported by the project will increase energy use efficiency and reduce GHG emissions (see the GHG assessment in annex 6).</p> <p>In the project supported area, plans will be put in place to strengthen capacity of farmers on increasing water-use efficiency, water conservation, use of renewable energy (solar irrigation systems), crop rotation, educated tillage practices, etc. with the objective of mitigating GHG emissions.</p> <p>Improvement of energy efficiency and production of renewable energy will be mainstreamed as a target for all in civil works and equipment purchase.</p>

³⁰ The price of carbon fluctuates, and US\$100 per ton was used in this estimation.



	the risk of flooding.	
Component 2: Enhancing Compliance with Food Safety and Quality Standards (indicative amount US\$22 million).		
<ul style="list-style-type: none">Establishment and upgrading of Border Inspection Posts (BIPs) (21 percent of CC)Improvement of diagnostic support in the areas of food safety, veterinary and plant health analyses (77 percent of CC)Development of storage capacity for detained goods which do not comply with food safety, veterinary or plant health standards (2 percent of CC)	<p>Establishment and upgrading of BIPs will increase the competent authority capacity to perform official controls (documentary, identity and physical checks) for live animals, products of animal and non-animal origin, plants and plant products as well as agricultural inputs, which contributes to the control and preparedness for increased foodborne risks and hazards (diseases/pests) for humans, animals, plants and ecosystems caused by climate change.</p> <p>The rehabilitation of the laboratories and provision of lab equipment will enhance the capacity of food safety, veterinary and plant health diagnostic laboratories to enable them to implement the necessary monitoring systems with regard to climate related diseases/pests and follow-on impacts, and enhance emergency preparedness, response and capacity building and contribute to climate adaptation.</p> <p>Furthermore, technical assistance will be provided to support the relevant food quality and safety institutions to strengthen official disease and pests controls, traceability, inspections, risk assessment, risk communication, disease surveillance and standard protocols (including climate-driven contamination risks, climate sensitive risk factors and illnesses) and laboratory capacity and testing in food safety, veterinary and phytosanitary areas.), which will improve institutional capacity to reduce these risks caused by climate change.</p>	<p>The establishment and upgrading of BIPs and rehabilitation of laboratories facilities will adopt climate resilient design guidance³¹.</p> <p>Improvement of BIPs inspection facilities will significantly enhance the effectiveness of import border controls of agricultural produces, thus will allow for more successful prevention of introduction of diseases/pests to the country and their potential establishment. It would therefore have significant impact on avoiding higher production costs (no diseases/pests mean no control measures), would contribute to higher productivity and of a better quality.</p> <p>A good network of diagnostic laboratories will allow for regular monitoring of domestic production where it concerns veterinary, food safety and plant health. Early detection of diseases/pests will allow for a prompt reaction by competent authorities before it spreads and causes significant economic or environmental losses. Food safety monitoring will also allow for detection of food and feed which may pose a threat for human beings and animals. Diagnostic will also allow for routine analyses or risk-based monitoring of imported agricultural produce and therefore it will complement and support the BIP inspectors. Furthermore, reliable and internationally recognized diagnostic network considerably increases potential for export of agricultural produces, and this in turn may allow for significant increase of farmers' incomes and will also be beneficial for the economy of the entire country. Overall, good and effective system of official veterinary, food safety and plant health controls allow for keeping agricultural production at a high level, increases production and significantly contributes to the reduction of food loss and waste.</p> <p>The construction of 4 highly energy efficient storage facilities, will allow for detention and storage of questioned commodities, either at frozen stage or in cooling conditions, and would fulfill the needs in the easiest, cheapest, and most effective way, which will contribute to reduction of food and feed losses</p>

³¹ According to the EC "Technical guidance on the climate proofing of infrastructure in the period 2021-2027" (2021/C 373/01)



		<p>and waste. For the facilities to be energy efficient and environmentally friendly, Solar Photovoltaics (SPV) will be installed on each of the planned construction.</p> <p>This will also allow for application of alternative measures (i.e. not only destruction, but use as biofuel, compost, alternative processing, etc.), and therefore will reduce food and feed losses and waste.</p> <p>It is estimated that thanks to Component 2 investments the amount of food or feed reduction will be between 2,000 and 3,500 tons per year. With the assumption of 2 kg CO₂-eq per kilogram of food on-average, the estimated GHG emission reduction by reducing food and loss waste will be between 4,000 -7,000 tons CO₂-eq annually, which is between US\$0.4 - 0.7 million per year.³²</p>
--	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Component 3: Strengthening Evidence-based Analysis Capacity of MARD and Municipalities (US\$4 million).

<ul style="list-style-type: none">Development of a consistent and comprehensive data collection system and enhancement of the MARD policy effectiveness and efficiency capacity (28 percent of CC)Strengthen of irrigation and drainage performance monitoring and management at central and municipal levels (15 percent of CC)	<p>The establishment of a Business Intelligence (BI) system that will collect and process data from different systems and databases into a single platform will be used for pursuing evidence-based policy analysis and formulation, including climate smart agriculture policies.</p> <p>Scaling up the use of the Irrigation and Drainage Management Information System (IDMIS) and Geographic Information System (GIS) mapping, across all municipalities in Albania, will also increase the country's adaptive capacity to climate change.</p>	Data collected by the BI system will inform the design of the MARD policy on climate change aiming at promoting and supporting activities that will contribute to the reduction of GHG emission from the agriculture sector.
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

³² The price of carbon fluctuates, and US\$100 per ton was used in this estimation.

**ANNEX 5: Economic and Financial Analysis****COUNTRY: Albania**
Climate Resilience and Agriculture Development Project

1. **The proposed project development objective is to increase competitiveness and climate resilience of priority agri-food value chains.** This will be achieved by improving the resilience of the agriculture sector in Albania and by increasing income and reducing poverty among beneficiaries. The expected benefits from the project include: (i) increased agriculture productivity and production 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 and drainage; (ii) water savings and increased water productivity (both in physical and monetary terms); (iii) better farming practices (GAP and IPM), enhanced quality of agricultural produce; (iv) reduced post-harvest losses at field level and along the targeted value chains due to facilitated market access and improved storage capacities and approach; (v) increased average producer prices and greater share of benefits accruing to them thanks to strengthened producers' organizations, market promotion activities, linkage of smallholders with traders/aggregators, value chain platforms, and enhanced technical and managerial capacity of producers/ value chain actors and their organizations; (vi) expanded market opportunities (notably for export to EU and beyond) offering higher and more stable prices and increased volumes, due to legislation adaptation, compliance with international standards and processes and capacity building of producers and value chain actors; (vii) improved food safety benefiting both producers and consumers and associated reduced occurrence and severity of illness caused by food poisoning, zoonotic diseases, residual content in food products (toxins, heavy metals, etc.); (viii) improved plant and animal health and soil health; (ix) additional employment generated at both farm and off-farm level and downstream of the targeted value chains; (x) increased incomes of direct and indirect beneficiaries; (xi) increased fiscal revenues resulting from higher turnover of targeted smallholders and other value chain actors; (xii) net Greenhouse Gas (GHG) emissions as a result of adoption of improved irrigation and farming practices and CSA/climate-resilient technologies; and (xiii) improved agricultural water management in the medium and long run resulted in strengthening technical and institutional capacity of irrigation managing agencies, municipalities etc. including through adoption of digital tools to increase efficiency of public service delivery.

Approach and assumptions for the analysis

2. The financial analysis intends to assess the project impact on increased average producer prices, decreased aggregation cost and avoided post-harvest losses (Sub-component 1.1) and farm performance of water users (Sub-component 1.2), in particular (a) improved crop performances, on the basis of crop budgets before the project and at full development after the project for each of the three irrigation and two drainage schemes, (b) projected impact on household incomes, on the basis of typical farm models.

3. The economic analysis aims to assess the project impact at the national level by aggregating all project costs and projected benefits. The project economic benefits come from two types of capital investments supported by the project:

- (i) Investments in Micro Food Hubs (MFHs). This will be done by extrapolating the results of an indicative MFH to five after converting the financial values into economic.
- (ii) Investments in irrigation and drainage (I&D). The approach is to aggregate costs and benefits for each of the three irrigation and two drainage schemes and adjusting financial prices to get economic values from the models used in the financial analysis.



4. **Unquantifiable benefits.** There also some unquantifiable benefits associated with Sub-component 1.1 and Component 2. In case of Sub-component 1.1, the promotion of typical products and value addition would lead to improvement of quality of products, market access, synergies among the different actors and economy of scales and branding for Albania. Some economic benefits associated with import substitution related to tourism-driven food consumption will be also generated by the investment within this sub-component. The establishment of an effective system of official controls (including laboratory testing) under Component 2 would lead to reduced diseases from food poisoning due to high concentration of contaminants (pesticides, fertilizers, etc.) and livestock products (zoonoses), good reputation of the country and therefore significantly increases possibilities for exportation, compliance with pre-accession standards of the EU. However, such assessment could be considered as too speculative since it is quite difficult to estimate the attribution rate of the project in such indicators. It is expected that the overall quantifiable benefits of the project from Component 1 will compensate the project investments.

5. **The main assumptions are:**

- The financial analysis aims to quantify incremental benefits attributable to the project by comparing projections (based on scenarios) of crop performances, post-harvest losses and aggregation of products with project and without project.
- In calculation of Sub-component 1.1, the without-project scenario derives from the "before project" situation in which the planned five MFHs are not built and farmers experience 20 percent post-harvest losses of production. In the with-project scenario it will be reduced to 10 percent. Also, in the with-project scenario farmers will be offered 15 percent higher prices, which currently stay as a margin of intermediaries.
- In calculation of Sub-component 1.2, the without-project scenario derives from the "before project" situation by applying a modest annual rate of crop performances decrease (about 1.0 percent per year) based on past yield trends due to the continuous deterioration of I&D infrastructure and likely emerged expenditures to access water.
- To avoid errors of comparison of non-average climatic conditions, the "before project" situation corresponds to the yields reported by MARD and INSTAT. The current cropping patterns in the municipalities were used as a proxy for the irrigation and drainage schemes that will be rehabilitated/modernized.
- With-project projections correspond to realistic and conservative estimates of yield increases and modified cropping patterns resulting from improved water supply. The previous World Bank funded I&D projects in Albania reported an increase by about 20 percent, mostly for irrigated maize, vegetables, fruits, and forage crops³³.
- In without project scenario, it is assumed that present cropping patterns and applied agricultural technology continue for the entire project lifetime.
- In with project scenario, it is expected that the full command area under Sub-component 1.2 to be adequately irrigated for the entire project lifetime.
- Values are expressed in constant 2022 prices and exclude inflation.
- Prices were converted into economic values in the analysis by applying conversion factors received from calculating import and export parity prices based on World Bank's Pink Sheet projections and UN ComTrade data. A standard conversion factor used in the analysis – 0.89.
- The crop budgets show incremental revenues and costs generated by the proposed I&D investment. The Financial Discount Rate (FDR) of 10.75 percent³⁴ is used in this analysis to assess the viability and robustness

³³ World Bank. 2021. The Future of Water in Agriculture in Albania - A Broad Sector Rethink.

³⁴ Deposit rate (in Lek) as of November 2022 (2.75 percent) + annual inflation rate (8.0 percent). Bank of Albania

https://www.bankofalbania.org/Statistics/Interest_rates_statistics/



of investments, which is the current Opportunity Cost of Capital (OCC) to a beneficiary. The selection criterion for the IRR is to accept all projects for which the IRR is above the opportunity cost of capital. The economic or social discount rate (SDR) of 6.0 percent³⁵ is applied for the economic analysis, which is a Social Opportunity Cost (SOC).

- The exchange rate used in the financial and economic analysis is fixed at US\$ 1= ALL 113.25, with a strong assumption that future inflation of inputs will be outweighed by increase in output prices.
- Family labor is not assumed as a financial cost however the opportunity cost has the same economic value as hired labor.

Financial Analysis

Sub-component 1.1

6. **Micro Food Hub model.** The financial analysis is based on an illustrative MFH model with a capacity of 1,000 tonnes per year. Such MFH is mainly focused on fruits and vegetables and offers the supplying farmers with a 15 percent price premium, which currently stays as a margin of intermediaries. The financial analysis shows that such model is viable (see Table 1)

Table 1: Results of the MFG Financial Analysis under Sub-component 1.1

Farm Model	Description	Capacity	Investment cost (ALL)	Net Income at Full Capacity (ALL)	NPV (ALL)	IRR (%)
1	MFH	1,000 t	70,554,750	77,489,095	49,809,934	19.52

7. **Farm Models under Sub-component 1.1.** Farm models aim to assess the effect of the MFH on farmers participating in the mechanism of MFH supplying their products. Besides a price premium, farmers would manage to reduce the post-harvest losses from 20 percent to 10 percent.

Table 2: Results of Farm Model Analysis under Sub-component 1.1

Farm Model	Description	Area (in ha per HH)	Net Agricultural Benefit per HH				Change (in %)	
			Before Project		With Project			
			ALL	US\$	ALL	US\$		
1	MFH supplier farm	1.0	164,563	1,453	200,767	1,773	+22%	

Sub-component 1.2

8. **Crop performance.** The financial analysis is based on crop budgets, i.e. typical input-output models of various crops based on observed practices. Table 3 below summarizes crop performances in Project areas before and after

³⁵ The social discount rate used for the economic analysis is based on World Bank's estimations, proposed by a standardized methodology. See Discounting Costs and Benefits in Economic Analysis of World Bank Projects, OPSPQ. May 9, 2016. "Where no country-specific growth projections are available, we suggest using 3 percent as a rough estimate for expected long-term growth rate in developing countries. Given reasonable parameters for the other parameters for the other variables in the standard Ramsey formula linking discount rates to growth rates, this yields a discount rate of 6 percent."



Project. Yields vary somewhat from one scheme to another. Table 3 provides typical yields and financial net returns per hectare.

Table 3: Crop Performances in the Project areas With and Without Project (selected crops)

Crop	Yield (ton/ha)			Net Return per ha (ALL/ha)		
	Before Project	With Project	Change (%)	Before Project	With Project	Change (%)
Wheat (e.g. Divjaka scheme)	4.42	5.08	15.0%	65,378	89,382	36.7%
Maize (e.g. Mursi scheme)	7.23	8.60	19.0%	62,883	92,048	46.4%
Vegetables (field tomatoes) (e.g. Mursi scheme)	25.00	31.75	27.0%	871,546	1,185,600	36.2%
Strawberries (e.g. Divjaka scheme)	1.20	1.46	22.0%	52,970	87,221	64.7%
Potatoes (e.g. Lushnja scheme)	23.00	27.60	20.0%	741,450	956,824	29.0%
Grapes (e.g. Divjaka scheme)	12.00	14.88	24.0%	284,923	411,532	44.4%
White bean (e.g. Mursi)	1.59	1.92	21.0%	232,063	291,944	26.0%
Sunflower (e.g. Lushnja scheme)	2.32	2.76	19.0%	135,857	167,421	23.2%
Fruit trees (apples) (e.g. Divjaka scheme)	25.80	29.41	14.0%	864,132	999,971	15.7%
Forage (alfalfa) (e.g. Lushnja scheme)	13.00	14.82	14.0%	22,849	33,645	47.3%
Olive trees (e.g. Divjaka scheme)	5.00	5.78	15.6%	244,044	323,209	32.4%

9. **Farm Models under Sub-component 1.2.** Farm models aim to assess Project impact at household level. Typical farm models were prepared on the basis of average farm sizes observed in target municipalities where rehabilitation of irrigation and drainage schemes would be introduced: Divjaka Irrigation Scheme (1.2 ha), Mursi Irrigation Scheme (1.2 ha), Lushnja Irrigation Scheme (1.0 ha) and Drainage system in Fier (0.8 ha). Table 4 summarizes farm model analysis results.

Table 4: Results of Farm Model Analysis under Sub-component 1.2

Farm Model	Location	Area (in ha per HH)	Net Agricultural Benefit per HH				Change (in %)	
			Before Project		With Project			
			ALL	US\$	ALL	US\$		
1	Divjaka Irrigation Scheme	1.2	178,350	1,575	343,828	3,036	+93%	
2	Mursi Irrigation Scheme	1.2	203,800	1,800	312,372	2,758	+53%	
3	Lushnja Irrigation Scheme	1.0	133,721	1,181	183,620	1,621	+37%	
4	Drainage Systems in Fier	0.8	106,977	945	159,069	1,405	+49%	

10. Improvement in farm revenues depends upon farm size, cropping pattern, and status of irrigation schemes. However, the increase in net agricultural benefit per households would be in the range of 37-93 percent, which is a significant result for such smallholder farmers with a land plot of 0.8-1.2 ha.

Economic Analysis

11. The economic analysis aims to assess country-level project impact and includes the following six steps: (i) convert financial prices into economic values to assess the real costs and benefits from the country point of view; (ii) estimate the aggregated economic benefits from the investment MFHs; (iii) analyze all the three irrigation schemes and two drainage systems using economic values and aggregating economic costs and benefits at scheme/system level; (iv)



undertake economic analysis of the overall project by aggregating all costs and benefits; (v) conduct GHG analysis and incorporate it to the economic analysis; and (vi) perform a sensitivity analysis.

12. *Financial Prices and Economic Values.* Financial prices were converted into economic values for the economic analysis to correct potential national price distortions. Prices were converted into economic values in the analysis by applying conversion factors received from calculating import and export parity prices based on World Bank's Pink Sheet projections and UN ComTrade data. A standard conversion factor used in the analysis is 0.89.

13. An economic cost-benefit analysis of rehabilitation for each irrigation and drainage scheme/system was undertaken in the following way (see the results in Table 5):

- a. Financial prices were converted into economic as described in the previous section;
- b. MFH investments costs were and benefits were extrapolated to five units (1,000 t capacity each) as it is planned to be established under the project;
- c. Rehabilitation costs (Sub-component 1.2) were spread over a projected construction period during Y2-Y5, while design will be done in Y1;
- d. 20 percent VAT allowance was excluded from the economic analysis because it does not represent national costs, but simply redistribution among national agents.
- e. A conservative adoption rate of 80 percent applied on all benefits streams based on the experience of other projects in the country and region;
- f. Costs and benefits were aggregated over a 20-year period to calculate the Economic Internal Rate of Return (EIRR) and the Economic Net Present Value (ENPV) assuming a 6 percent social discount rate using the following data on the command area of each scheme.

**Table 5: Summary Economic Analysis of three irrigation schemes**

Model/ Irrigation scheme	Main agricultural crops	Command area (ha)/Capacity (t)	Total fin Cost (US\$/ha or unit)	EIRR (%)	ENPV (US\$/ha or unit)	Annual gross agriculture output (US\$ million)
Micro Food Hub	Vegetables and Fruits	1,000 t	750,000/unit	20.8%	845,515	N/A
Divjaka Irrigation Scheme	Wheat, Maize, Veggies, Berries, Potatoes, Grapes, White bean, Sunflower, Fruits, Forage, Olives	500 ha	9,274	10.4%	2,715	1.7
Mursi Irrigation Scheme	Wheat, Maize, Veggies, Potatoes, Grapes, White bean, Fruits, Forage, Olives	2,300 ha	5,211	21.1%	6.639	10.9
Lushnja Irrigation Scheme	Wheat, Maize, Veggies, Berries, Potatoes, Grapes, White bean, Sunflower, Fruits, Forage, Olives	800 ha	3,025	15.3%	3,387	1.8
Drainage Systems in Fier	Wheat, Maize, Veggies, Berries, Potatoes, Grapes, White bean, Sunflower, Fruits, Forage, Olives	9,600 ha	1,061	41.9%	4,431	24.5

Overall Economic Analysis

14. The overall EIRR is calculated at 16 percent and the ENPV (with a 6 percent discount rate) is estimated at around US\$46.8 million. It includes total project costs and all quantifiable benefits streams accrued from the project activities.

Sensitivity Analysis

15. Economic returns were tested against changes in benefits and costs and for various lags in the realization of benefits. In relative terms, the ERR is equally sensitive to changes in costs and benefits. In absolute terms, these changes do not have a significant impact on the ERR, and the economic viability is not threatened by both a 20 percent decline in benefits and by a 20 percent increase in costs, since the ERR in both cases remains well above the discount rate. A two-year delay in Project benefits reduces the ERR to 13 percent. The results are presented in Table 6. The analysis establishes that the estimated benefits will be greater than the costs of the Project.

Table 6: 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
EIRR	16.0%	15%	14%	12%	17%	18%	15%	14%	12%	14%	13%
ENPV (000'USD)	46,805	43,902	40,999	32,289	54,389	61,973	39,222	31,638	24,489	38,651	31,002

**ANNEX 6: Greenhouse Gas Emission Assessment****COUNTRY: Albania**

Climate Resilience and Agriculture Development Project

Methodology and tools used

1. The Ex-Ante Carbon-balance Tool (EX-ACT) is an appraisal system developed by FAO providing estimates of the impact of agriculture and forestry development projects, programs and policies on the carbon-balance. The carbon-balance is defined as the net balance from all greenhouse gases (GHGs) expressed in CO₂ equivalent that were emitted or sequestered due to project implementation as compared to a business-as-usual scenario. Ex-ante analysis assesses future GHG emissions before the project.
2. EX-ACT has been developed using primarily the Intergovernmental Panel on Climate Change 2006 Guidelines for National Greenhouse Gas Inventories (IPCC, 2006) that furnishes EX-ACT with recognized default values for emission factors and carbon values (the so-called Tier 1 level of precision). EX-ACT is also based upon Chapter 8 of the Fourth Assessment Report from Working Group III of the IPCC (Smith et al., 2007) for specific mitigation options not covered in NGGI-IPCC-2006. Other required coefficients are from published reviews or international databases.

Project analysis

3. The net carbon balance is the difference between the gross results of With and Without project scenarios achieved for 20 years, including 5 years of project implementation and 15 years of capitalization periods. The amount of total net carbon balance was estimated at -15,159 tCO₂-eq of mitigated emissions (which means that carbon sequestration outweighs emissions within the project) per year at full development or -303,176 tCO₂-eq during the whole project lifetime.
4. Within Sub-component 1.1, five Micro Food Hubs with an average area of 700 square meters will be constructed. It was estimated that 20 and 80 percent of all materials used in construction works are metal and concrete, respectively. Under Sub-component 1.2, the project will modernize/revitalize about 13,200 ha of irrigation and drainage system, which was also reflected in the Inputs section of the Ex-ACT.
5. It was also assumed that on the abovementioned 13,200 ha of agricultural land farmers will practice improved agronomic techniques due to the improved access to water with an estimated 15 percent less fertilizers and chemicals application. Finally, the solar panels installation under Sub-component 1.2 would generate 4,155 MWh electricity which is a clear mitigation activity. Table 1 sheds a light on the results of the analysis (more details in the Ex-ACT working file).



Table 1. GHG analysis results

Project Name Continent	Albania CRAD Eastern Europe	Climate Dominant Regional Soil Type	Warm Temperate (Moist) HAC Soils	Duration of the Project (Years)	20
				Total area (ha)	12700.2
Components of the project					
Land use changes					
Deforestation	0	0	0	0	0
Afforestation	0	0	0	0	0
Other LUC	0	0	0	0	0
Agriculture					
Annual	0	-246,130	-246,130	0	-12,306
Perennial	0	0	0	0	0
Rice	0	0	0	0	0
Grassland & Livestocks					
Grassland	0	0	0	0	0
Livestocks	0	0	0	0	0
Degradation & Management					
Forest degradation	0	0	0	0	0
Peat extraction	0	0	0	0	0
Drainage organic soil	0	0	0	0	0
Rewetting organic soil	0	0	0	0	0
Fire organic soil	0	0	0	0	0
Coastal wetlands					
Inputs & Investments	379,438	322,393	-57,046	18,972	16,120
Fishery & Aquaculture	0	0	0	0	0
Total	379,438	76,263	-303,176	18,972	3,813
Per hectare	29.9	6.0	-23.9	-4.2	-19.4
Per hectare per year	1.5	0.3	-1.2	-0.2	-1.0

6. Considering the estimated shadow price of carbon (CPI adjusted, 2022) that will evolve from year to year according to the World Bank Shadow Price of Carbon Guidance Note, the EIRR and the ENPV were re-calculated. The results of scenarios with low carbon price (starting from US\$51 and evolving over years), high carbon price (starting from US\$102 and evolving over year) and without carbon are presented in the table below.

	Without carbon benefits scenario	Low carbon price scenario	High carbon price scenario
ENPV (US\$ million)	46.8	57.1	67.5
EIRR	16.0 percent	18.4 percent	21.0 percent

7. The low shadow price of carbon scenario has a potential to improve the EIRR from 16.0 percent to 18.4 percent, while the high shadow price of carbon scenario will improve the EIRR up to 21.0 percent.



ANNEX 7: Map

COUNTRY: Albania
Climate Resilience and Agriculture Development Project